



**THE DATASHEET OF  
TMPC 0515HP-1R0MG-D**



# SMD Power Choke Coil

TMPC-Series(G)

## 1. Features

1. Low loss realized with low DCR.
2. High performance realized by metal dust core.
3. Ultra low buzz noise, due to composite construction.
4. 100% Lead(Pb)-Free and RoHS compliant.

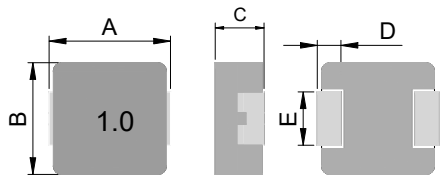


## 2. Applications

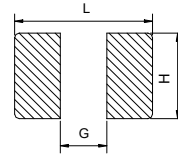
Commercial applications

## 3. Dimensions

### Recommend PC Board Pattern

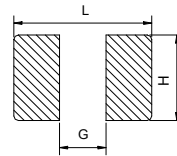
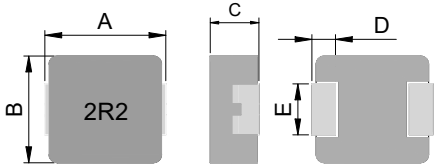


leadframe



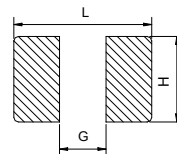
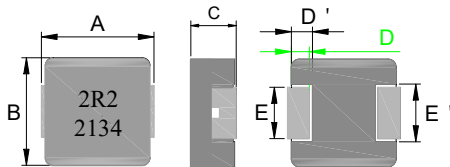
Note: 1.PCB layout is referred to standard IPC-7351B  
 2. The above PCB layout reference only.  
 3. Recommend solder paste thickness at 0.12mm and above.

Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	L(mm)	G(mm)	H(mm)
TMPC0312H	3.5±0.2	3.2±0.2	1.0±0.2	0.7±0.2	1.2±0.2	4.1	1.9	1.45
TMPC0315H	3.5±0.3	3.2±0.2	1.3±0.2	0.7±0.2	1.2±0.2	4.1	1.9	1.45
TMPC0318H	3.5±0.3	3.2±0.2	1.6±0.2	0.7±0.2	1.2±0.2	4.1	1.9	1.45
TMPC0302H	3.5±0.2	3.2±0.2	1.8±0.2	0.7±0.2	1.2±0.2	4.1	1.9	1.45



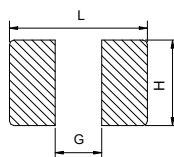
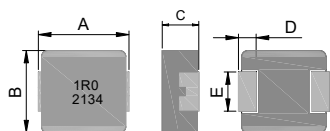
Note: 1.PCB layout is referred to standard IPC-7351B  
 2. The above PCB layout reference only.  
 3. Recommend solder paste thickness at 0.12mm and above.

Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	L(mm)	G(mm)	H(mm)
TMPC0412HP	4.45±0.25	4.06±0.25	1.0±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4
TMPC0415HP	4.45±0.25	4.06±0.25	1.3±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4
TMPC0418HP	4.45±0.25	4.06±0.25	1.6±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.3
TMPC0402HP	4.45±0.25	4.06±0.25	1.8±0.2	0.76±0.30	2.0±0.20	5.2	2.2	2.4



Note: 1.PCB layout is referred to standard IPC-7351B  
 2. The above PCB layout reference only.  
 3. Recommend solder paste thickness at 0.12mm and above.

Series	A(mm)	B(mm)	C(mm)	D(mm)	D'(mm)	E(mm)	E'(mm)	L(mm)	G(mm)	H(mm)
TMPC053T	4.9±0.3	4.7±0.2	2.8±0.2	1.0±0.3	1.5±0.1	1.5±0.3	2.0±0.2	7.0	3.0	2.5



Note1 (TMPC05XX)  
 1. The above PCB layout reference only.  
 2. Recommend solder paste thickness at 0.12mm and above.

Note2 (TMPC06XX)  
 1. The above PCB layout reference only.  
 2. Recommend solder paste thickness at 0.15mm and above.

Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	L(mm)	G(mm)	H(mm)
TMPC0512HP	5.7±0.3	5.2±0.2	1.0±0.2	1.1±0.3	2.5±0.3	6.2	2.2	2.8
TMPC0515HP	5.7±0.3	5.2±0.2	1.3±0.2	1.1±0.3	2.5±0.3	6.2	2.2	2.8
TMPC0518HP	5.7±0.3	5.2±0.2	1.6±0.2	1.1±0.3	2.5±0.3	6.2	2.2	2.8
TMPC0502HP	5.7±0.3	5.2±0.2	1.8±0.2	1.1±0.3	2.5±0.3	6.2	2.2	2.8
TMPC0503H	5.7±0.3	5.2±0.2	2.8±0.2	1.1±0.3	1.5±0.2	6.2	2.5	1.8
TMPC0503HP	5.7±0.3	5.2±0.2	2.8±0.2	1.1±0.3	2.5±0.3	6.5	2.5	2.8
TMPC0612H	7.0±0.3	6.6±0.3	1.0±0.2	1.8±0.3	2.5±0.3	7.7	2.5	3.0
TMPC0615H	7.0±0.3	6.6±0.3	1.3±0.2	1.8±0.3	3.0±0.3	7.7	2.5	3.5
TMPC0618H	7.0±0.3	6.6±0.3	1.6±0.2	1.8±0.3	3.0±0.3	7.7	2.5	3.5
TMPC0602H	7.0±0.3	6.6±0.3	1.8±0.2	1.8±0.3	3.0±0.3	7.7	2.5	3.5
TMPC0624H	7.3±0.3	6.6±0.3	2.2±0.2	1.8±0.3	3.0±0.3	7.7	2.5	3.5
TMPC0603H	7.3±0.3	6.6±0.3	2.8±0.2	1.8±0.3	3.0±0.3	8.4	2.5	3.5
TMPC0604H	7.3±0.3	6.6±0.3	3.8±0.2	1.8±0.30	3.0±0.3	8.4	2.5	3.5
TMPC0605H	7.3±0.3	6.6±0.3	4.8±0.2	1.8±0.3	3.0±0.3	8.4	2.5	3.5

### 4. Part Numbering

**TMPC**   **0302**   **H**   -   **1R0**   **MG**  
 A            B            C                            D            E

A: Series  
 B: Dimension                            BxC  
 C: Type                                    Carbonyl Powder.  
 D: Inductance                            1R0=1.00uH  
 E: Inductance Tolerance                M=±20%,Y=±30%, One-way Black marking

**TMPC**   **0412**   **HP**   -   **2R2**   **MG**   -   **Z02**  
 A            B            C                            D            E                            F

A: Series  
 B: Dimension                            BxC  
 C: Type                                    H: Carbonyl powder; P: PAD broaden  
 D: Inductance                            2R2=2.20uH  
 E: Inductance Tolerance                M=±20%; Y=±30%  
 F: Control S/N                            One-way Black marking

**TMPC**   **053**   **T**   -   **1R0**   **MG**   -   **V01**  
 A            B            C                            D            E                            F

A: Series  
 B: Dimension                            BxC  
 C: Type                                    Carbonyl Powder.  
 D: Inductance                            1R0=1.00uH  
 E: Inductance Tolerance                M= ±20%  
 F: Control S/N                            Marking: Black.1R0 and 2134(21 YY, 34WW, follow production date).

**TMPC**   **0512**   **HP**   -   **2R2**   **MG**   -   **D**  
 A            B            C                            D            E                            F

A: Series  
 B: Dimension                            BxC  
 C: Type                                    H: Carbonyl powder, P: PAD broaden  
 D: Inductance                            2R2=2.2uH  
 E: Inductance Tolerance                M=±20%; Y=±30%  
 F: D/C                                        Marking: Black.2R2 and 2134(21 YY,34WW, follow production date).

**TMPC**   **0624**   **H**   -   **1R0**   **MG**   -   **Z02**   -   **D**  
 A            B            C                            D            E                            F                            G

A: Series  
 B: Dimension                            BxC  
 C: Type                                    Carbonyl Powder.  
 D: Inductance                            1R0=1.00uH  
 E: Inductance Tolerance                M= ±20%  
 F: Control S/N  
 G: Date                                        Marking: Black.1R0 and 2134(21 YY, 34WW, follow production date).

## 5. Specification

Part Number	Inductance L0 (uH) ±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0312H-R15YG	0.15±30%	10	14	9.6	11
TMPC0312H-R22MG	0.22	6.5	10	14	17
TMPC0312H-R33MG	0.33	6.2	9.2	16	20
TMPC0312H-R47MG	0.47	5.0	7.2	25	30
TMPC0312H-R56MG	0.56	4.5	6.6	31	36
TMPC0312H-R68MG	0.68	4.0	6.1	34	40
TMPC0312H-R82MG	0.82	3.5	5.8	41	48
TMPC0312H-1R0MG	1.00	3.3	5.5	50	60
TMPC0312H-1R5MG	1.50	3.0	4.0	71	85
TMPC0312H-2R2MG	2.20	2.7	3.4	98	115
TMPC0312H-3R3MG	3.30	2.0	3.1	191	210
TMPC0312H-4R7MG	4.70	1.6	2.8	266	293
TMPC0312H-5R6MG	5.6	1.5	2.2	310	360
TMPC0312H-6R8MG	6.80	1.4	2.0	360	400
TMPC0312H-8R2MG	8.20	1.2	1.7	420	463
TMPC0312H-100MG	10.0	1.0	1.4	498	550

Part Number	Inductance L0 (uH)±20%	I rms ( A )	I sat ( A )	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0315H-R22MG	0.22	7.0	10.8	14	17
TMPC0315H-R47MG	0.47	5.5	8.0	23.3	28
TMPC0315H-R56MG	0.56	5.0	7.2	28	33
TMPC0315H-R68MG	0.68	4.5	6.5	34	42
TMPC0315H-1R0MG	1.00	3.6	5.8	41	50
TMPC0315H-1R5MG	1.50	3.4	4.0	64	77
TMPC0315H-2R2MG	2.20	3.2	3.8	82	98
TMPC0315H-3R3MG	3.30	2.5	3.2	170	205
TMPC0315H-4R7MG	4.70	1.9	2.8	220	264
TMPC0315H-5R6MG	5.60	1.7	2.3	265	318
TMPC0315H-6R8MG	6.80	1.5	2.0	290	348
TMPC0315H-8R2MG	8.20	1.3	1.8	390	468
TMPC0315H-100MG	10.0	1.2	1.6	435	522

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0318H-R47MG	0.47	6	8.5	21.5	25
TMPC0318H-R56MG	0.56	5	8	21	26
TMPC0318H-R68MG	0.68	5	6.5	29	33.5
TMPC0318H-1R0MG	1.00	3.8	5	38	44
TMPC0318H-1R5MG	1.50	3.5	4	56	65
TMPC0318H-2R2MG	2.20	3.3	3.7	73	85
TMPC0318H-3R3MG	3.30	2.7	3.3	136	158
TMPC0318H-4R7MG	4.70	2.3	2.9	180	208
TMPC0318H-5R6MG	5.60	1.9	2.3	238	275
TMPC0318H-6R8MG	6.80	1.5	2.1	275	320
TMPC0318H-8R2MG	8.20	1.4	1.9	350	405
TMPC0318H-100MG	10.0	1.3	1.6	375	450
TMPC0318H-150MG	15.0	1.2	1.5	520	600

Part Number	Inductance L0 (uH) ±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0302H-R10YG	0.10±30%	10.5	14	6.6	9.0
TMPC0302H-R22YG	0.22±30%	9.0	11.2	11	14
TMPC0302H-R33MG	0.33	8.0	10	17	21
TMPC0302H-R47MG	0.47	7.0	9.0	19.7	23
TMPC0302H-R68MG	0.68	5.5	7.0	25.5	29
TMPC0302H-1R0MG	1.00	4.0	5.0	32	38
TMPC0302H-1R5MG	1.50	3.8	4.0	42	50
TMPC0302H-2R2MG	2.20	3.5	3.7	65	75
TMPC0302H-3R3MG	3.30	3.0	3.5	125	145
TMPC0302H-4R7MG	4.70	2.6	3.0	172	200
TMPC0302H-5R6MG	5.60	2.2	2.6	205	238
TMPC0302H-6R8MG	6.80	1.9	2.2	260	300
TMPC0302H-8R2MG	8.20	1.6	1.9	340	390
TMPC0302H-100MG	10.0	1.4	1.6	366	422

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0412HP-R10YG-Z02	0.10±30%	11.5	25	4.3	5.5
TMPC0412HP-R15YG-Z02	0.15±30%	10	21.5	5.5	6.8
TMPC0412HP-R22MG-Z02	0.22	8.5	20	6.6	8.0
TMPC0412HP-R33MG-Z02	0.33	7.0	11	13.6	16
TMPC0412HP-R47MG-Z02	0.47	6.0	6.5	18	20
TMPC0412HP-R68MG-Z02	0.68	5.0	6.0	32	37
TMPC0412HP-1R0MG-Z02	1.00	4.0	6.0	41	47
TMPC0412HP-1R5MG-Z02	1.50	3.0	4.0	55	63.3
TMPC0412HP-2R2MG-Z02	2.20	2.8	3.5	69.2	80
TMPC0412HP-3R3MG-Z02	3.30	2.3	3.0	84	97
TMPC0412HP-4R7MG-Z02	4.70	2.0	2.5	128	145
TMPC0412HP-5R6MG-Z02	5.60	1.7	2.3	180	208
TMPC0412HP-6R8MG-Z02	6.80	1.5	1.7	300	360
TMPC0412HP-8R2MG-Z02	8.20	1.4	1.6	313	376
TMPC0412HP-100MG-Z02	10.0	1.3	1.4	410	463
TMPC0412HP-220MG-Z02	22.0	0.8	1.0	950	1050

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0415HP-47NMG-Z02	0.047	20.5	48	2.1	2.5
TMPC0415HP-R10YG-Z02	0.10±30%	16	32	3.2	4.0
TMPC0415HP-R22MG-Z02	0.22	10	20	6.5	7.8
TMPC0415HP-R47MG-Z02	0.47	8.0	11	15	19
TMPC0415HP-R56MG-Z02	0.56	7.2	10	17	20.5
TMPC0415HP-R68MG-Z02	0.68	6.5	8.5	19	21.5
TMPC0415HP-1R0MG-Z02	1.00	5.0	7.0	34	40
TMPC0415HP-2R2MG-Z02	2.20	3.2	4.0	63	72
TMPC0415HP-4R7MG-Z02	4.70	2.2	2.8	120	140
TMPC0415HP-6R8MG-Z02	6.80	1.7	2.3	230	276
TMPC0415HP-100MG-Z02	10.0	1.5	1.9	345	400

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0418HP-R22MG-Z02	0.22	12.0	21.0	6.6	7.3
TMPC0418HP-R33MG-Z02	0.33	9.0	16.0	8.5	9.5
TMPC0418HP-R56MG-Z02	0.56	6.0	9.0	16	20
TMPC0418HP-R68MG-Z02	0.68	5.8	8.5	18.5	22
TMPC0418HP-1R0MG-Z02	1.00	4.8	6.9	24.5	30
TMPC0418HP-1R5MG-Z02	1.50	4.1	5.6	33	38
TMPC0418HP-2R2MG-Z02	2.20	3.5	4.2	39	45
TMPC0418HP-3R3MG-Z02	3.30	3.0	3.6	82	100
TMPC0418HP-4R7MG-Z02	4.70	2.3	3.0	106	130
TMPC0418HP-5R6MG-Z02	5.60	2.1	2.8	125	150
TMPC0418HP-6R8MG-Z02	6.80	1.95	2.6	150	180
TMPC0418HP-8R2MG-Z02	8.20	1.80	2.4	198	235
TMPC0418HP-100MG-Z02	10.0	1.65	2.1	220	265

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0402HP-R10YG-Z02	0.10±30%	14.0	35.0	3.2	4.0
TMPC0402HP-R22YG-Z02	0.22±30%	13.0	24.0	6.6	7.3
TMPC0402HP-R33MG-Z02	0.33	10.0	18.0	7.8	8.6
TMPC0402HP-R47MG-Z02	0.47	8.00	12.0	11.2	14
TMPC0402HP-R56MG-Z02	0.56	7.30	10.0	13.5	16
TMPC0402HP-R68MG-Z02	0.68	7.00	10.0	16	19
TMPC0402HP-1R0MG-Z02	1.00	5.00	8.50	22	27
TMPC0402HP-1R5MG-Z02	1.50	4.50	7.00	34.8	42
TMPC0402HP-2R2MG-Z02	2.20	4.00	6.00	51	61
TMPC0402HP-3R3MG-Z02	3.30	3.50	4.00	69	76
TMPC0402HP-4R7MG-Z02	4.70	2.60	3.50	95	105
TMPC0402HP-5R6MG-Z02	5.60	2.20	3.00	112	125
TMPC0402HP-6R8MG-Z02	6.80	2.10	2.80	150	172
TMPC0402HP-8R2MG-Z02	8.20	2.00	2.50	158	180
TMPC0402HP-100MG-Z02	10.0	1.80	2.30	215	243
TMPC0402HP-150MG-Z02	15.0	1.50	1.90	325	374
TMPC0402HP-220MG-Z02	22.0	1.20	1.40	470	500

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC053T-R10MG-V01	0.10	20.0	34.0	2.0	2.5
TMPC053T-R22MG-V01	0.22	14.0	20.0	3.5	3.9
TMPC053T-R33MG-V01	0.33	13.0	19.0	4.7	5.4
TMPC053T-R47MG-V01	0.47	10.0	16.0	7.1	8.1
TMPC053T-R56MG-V01	0.56	9.5	15.0	7.3	8.4
TMPC053T-R68MG-V01	0.68	8.5	14.0	8.1	9.0
TMPC053T-1R0MG-V01	1.00	7.0	11.0	12.5	14.0
TMPC053T-1R5MG-V01	1.50	6.0	10.0	17.0	22.0
TMPC053T-2R2MG-V01	2.20	5.5	9.0	24.0	27.0
TMPC053T-3R3MG-V01	3.30	5.0	7.0	32.0	38.0
TMPC053T-4R7MG-V01	4.70	4.5	5.0	50.0	60.0
TMPC053T-100MG-V01	10.0	3.3	3.7	104.0	125.0

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0512HP-R10YG-D	0.10±30%	14	14.5	4.3	5.2
TMPC0512HP-R15YG-D	0.15±30%	12	14.2	4.5	6.0
TMPC0512HP-R22MG-D	0.22	10.7	14.0	5.5	6.7
TMPC0512HP-R33MG-D	0.33	8.5	13.5	7.8	9.4
TMPC0512HP-R47MG-D	0.47	7.0	11	13.6	15.8
TMPC0512HP-R68MG-D	0.68	6.0	9.0	21.5	24.5
TMPC0512HP-1R0MG-D	1.00	5.0	6.0	26	30
TMPC0512HP-1R5MG-D	1.50	4.0	5.0	38	44
TMPC0512HP-2R2MG-D	2.20	3.5	4.0	65	75
TMPC0512HP-3R3MG-D	3.30	3.0	3.8	75	86
TMPC0512HP-4R7MG-D	4.70	2.5	3.2	100	115
TMPC0512HP-5R6MG-D	5.60	2.4	3.2	175	201
TMPC0512HP-6R8MG-D	6.80	2.0	3.0	193	222
TMPC0512HP-8R2MG-D	8.20	1.7	2.8	327	378
TMPC0512HP-100MG-D	10.0	1.5	1.8	335	385
TMPC0512HP-150MG-D	15.0	1.3	1.6	410	470

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0515HP-R10YG-D	0.10±30%	16.0	35.0	2.75	3.10
TMPC0515HP-R15YG-D	0.15±30%	16.0	25.0	3.6	4.1
TMPC0515HP-R22YG-D	0.22±30%	12.0	20.0	5.0	6.5
TMPC0515HP-R33MG-D	0.33	9.0	16.0	8.5	9.8
TMPC0515HP-R47MG-D	0.47	8.0	15.0	12.0	13.8
TMPC0515HP-R68MG-D	0.68	7.0	13.0	14	16.2
TMPC0515HP-1R0MG-D	1.00	6.0	9.0	22	25.3
TMPC0515HP-1R5MG-D	1.50	4.5	7.0	39	45
TMPC0515HP-2R2MG-D	2.20	4.0	6.0	45	52
TMPC0515HP-3R3MG-D	3.30	3.2	4.5	78	90
TMPC0515HP-4R7MG-D	4.70	2.7	4.0	103	118
TMPC0515HP-5R6MG-D	5.60	2.4	3.2	126	152
TMPC0515HP-6R8MG-D	6.80	2.3	3.0	142	171
TMPC0515HP-8R2MG-D	8.20	2.1	2.6	175	210
TMPC0515HP-100MG-D	10.0	2.0	2.3	210	235
TMPC0515HP-150MG-D	15.0	1.6	2.0	310	380
TMPC0515HP-220MG-D	22.0	1.2	1.7	405	466

Part Number	Inductance L0 (uH) ±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0518HP-R10YG-D	0.10±30%	17.0	40.0	2.5	2.8
TMPC0518HP-R15YG-D	0.15±30%	15.5	27.0	3.5	3.9
TMPC0518HP-R22MG-D	0.22	13	22	4.2	5.0
TMPC0518HP-R33MG-D	0.33	11	15	7.5	8.6
TMPC0518HP-R47MG-D	0.47	10	14	9.8	11.3
TMPC0518HP-R56MG-D	0.56	9.5	13.5	11	13
TMPC0518HP-R68MG-D	0.68	9	13	12.4	14.3
TMPC0518HP-1R0MG-D	1.0	6.8	10	18.2	21
TMPC0518HP-1R5MG-D	1.5	6.0	9.0	26	30
TMPC0518HP-2R2MG-D	2.2	4.5	7.5	42	48.3
TMPC0518HP-3R3MG-D	3.3	3.5	5.0	60	69
TMPC0518HP-4R7MG-D	4.7	3.0	4.5	85	98
TMPC0518HP-5R6MG-D	5.6	2.5	4.0	110	127
TMPC0518HP-6R8MG-D	6.8	2.4	3.5	118	137
TMPC0518HP-8R2MG-D	8.2	2.3	3.0	143	165
TMPC0518HP-100MG-D	10	2.3	2.8	165	190
TMPC0518HP-150MG-D	15.0	1.7	2.3	275	318

Part Number	Inductance L0 (uH) ±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0502HP-R10YG-D	0.10±30%	18	45	3.6	4.0
TMPC0502HP-R15YG-D	0.15±30%	16	27	3.8	4.6
TMPC0502HP-R22MG-D	0.22	15	25	4.0	5.5
TMPC0502HP-R33MG-D	0.33	12	21.3	6.3	7.3
TMPC0502HP-R47MG-D	0.47	11.5	18	7.3	8.6
TMPC0502HP-R68MG-D	0.68	10	12.8	11	12.4
TMPC0502HP-1R0MG-D	1.00	7.0	13.7	17.5	20
TMPC0502HP-1R5MG-D	1.50	5.5	9.8	26.5	30.5
TMPC0502HP-2R2MG-D	2.20	4.2	9.0	42.0	50.0
TMPC0502HP-3R3MG-D	3.30	3.3	7.3	66.0	76
TMPC0502HP-4R7MG-D	4.70	2.8	5.0	103	116
TMPC0502HP-5R6MG-D	5.60	2.5	4.0	112	122
TMPC0502HP-6R8MG-D	6.80	2.4	3.8	130	150
TMPC0502HP-8R2MG-D	8.20	2.3	3.5	148	171
TMPC0502HP-100MG-D	10.0	2.3	3.4	180	199
TMPC0502HP-150MG-D	15.0	1.9	2.8	240	270
TMPC0502HP-220MG-D	22.0	1.5	1.8	350	390

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0503H-R10YG-D	0.10±30%	23	27	2.5	3.0
TMPC0503H-R22MG-D	0.22	15.5	21	3.7	4.4
TMPC0503H-R33MG-D	0.33	14	18	4.3	5.0
TMPC0503H-R47MG-D	0.47	12	16	6.4	7.4
TMPC0503H-R56MG-D	0.56	10	15	8.0	10
TMPC0503H-R68MG-D	0.68	8.5	14	10	12
TMPC0503H-1R0MG-D	1.00	7.0	11	13	14
TMPC0503H-1R5MG-D	1.50	6.0	10	16	25
TMPC0503H-2R2MG-D	2.20	5.5	9.0	25	35
TMPC0503H-3R3MG-D	3.30	5.0	8.0	32	38
TMPC0503H-4R7MG-D	4.70	4.6	6.0	50	53
TMPC0503H-5R6MG-D	5.60	4.25	4.50	55	63
TMPC0503H-6R8MG-D	6.80	4.0	4.3	68	76.2
TMPC0503H-100MG-D	10.0	2.75	3.50	110	128
TMPC0503H-150MG-D	15.0	2.1	2.6	165	190
TMPC0503H-220MG-D	22.0	1.9	1.7	220	250
TMPC0503H-330MG-D	33.0	1.6	1.6	380	440

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0503HP-R10YG-D02	0.10±30%	24.0	40.0	2.20	2.60
TMPC0503HP-R15YG-D02	0.15±30%	22.0	37.0	2.50	3.00
TMPC0503HP-R22MG-D02	0.22	19.0	32.0	3.20	3.80
TMPC0503HP-R33MG-D02	0.33	15.0	20.0	4.30	5.00
TMPC0503HP-R47MG-D02	0.47	13.0	18.0	6.30	7.10
TMPC0503HP-R56MG-D02	0.56	12.0	17.0	7.80	8.60
TMPC0503HP-R68MG-D02	0.68	11.0	15.5	8.0	9.0
TMPC0503HP-1R0MG-D02	1.00	9.0	13.0	11.0	12.7
TMPC0503HP-1R5MG-D02	1.50	8.0	11.5	14.4	16.6
TMPC0503HP-2R2MG-D02	2.20	7.0	11.0	26.0	29.2
TMPC0503HP-3R3MG-D02	3.30	6.0	9.0	33.0	38.0
TMPC0503HP-4R7MG-D02	4.70	5.5	8.0	48.0	53.0
TMPC0503HP-5R6MG-D02	5.60	4.7	7.3	54.0	62.0
TMPC0503HP-6R8MG-D02	6.80	4.2	6.0	68.0	76.2
TMPC0503HP-8R2MG-D02	8.20	3.8	5.0	85.0	97.0
TMPC0503HP-100MG-D02	10.0	3.5	4.0	104.0	120.0
TMPC0503HP-150MG-D02	15.0	2.7	3.2	165.0	190.0
TMPC0503HP-220MG-D02	22.0	2.2	2.7	217.0	250.0

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0612H-R10YG-D	0.10±30%	16	30	3.3	4.0
TMPC0612H-R15YG-D	0.15±30%	14	24	4.9	5.7
TMPC0612H-R22YG-D	0.22±30%	11	19	6.5	7.5
TMPC0612H-R33MG-D	0.33	9.5	16	9.0	10
TMPC0612H-R47MG-D	0.47	8.5	12	13	17
TMPC0612H-R68MG-D	0.68	7	9	17	19
TMPC0612H-1R0MG-D	1.00	6	7	27	30
TMPC0612H-1R5MG-D	1.50	4.5	6.5	35	40
TMPC0612H-2R2MG-D	2.20	4.0	5.0	53	61
TMPC0612H-3R3MG-D	3.30	3.2	4.0	90	103
TMPC0612H-4R7MG-D	4.70	2.5	3.8	130	150
TMPC0612H-6R8MG-D	6.80	2.1	3.0	172	198
TMPC0612H-100MG-D	10.0	1.8	2.5	280	290
TMPC0612H-180MG-D	18.0	1.35	2.0	490	540
TMPC0612H-220MG-D	22.0	1.2	1.7	540	600

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR (mΩ) Typ	DCR (mΩ) Max
TMPC0615H-R10YG-D	0.10±30%	17.5	35.0	2.5	3.1
TMPC0615H-R15YG-D	0.15±30%	16	25	3.7	4.5
TMPC0615H-R22YG-D	0.22±30%	14	22	4.3	5.2
TMPC0615H-R33MG-D	0.33	11	18	6.6	7.6
TMPC0615H-R47MG-D	0.47	9.5	16	9.0	10.3
TMPC0615H-R56MG-D	0.56	9	15.5	12.5	14
TMPC0615H-R68MG-D	0.68	7.5	15	13.8	15.2
TMPC0615H-R82MG-D	0.82	7	14	20	24
TMPC0615H-1R0MG-D	1.00	6.5	12	23	25.8
TMPC0615H-1R5MG-D	1.50	5.0	9.5	37	42.5
TMPC0615H-2R2MG-D	2.20	4.5	6.5	48	55
TMPC0615H-3R3MG-D	3.30	4.2	6.0	62	74
TMPC0615H-4R7MG-D	4.70	3.8	5.0	96	111
TMPC0615H-5R6MG-D	5.60	3.0	4.5	115	138
TMPC0615H-6R8MG-D	6.80	2.6	3.5	128	148
TMPC0615H-8R2MG-D	8.20	2.4	3.2	153	184
TMPC0615H-100MG-D	10.0	2.3	2.8	180	216
TMPC0615H-220MG-D	22.0	1.5	2.5	420	504

Part Number	Inductance L0 (uH) $\pm 20\%$	I rms ( A ) Typ	I sat ( A ) Typ	DCR (m $\Omega$ ) Typ	DCR (m $\Omega$ ) Max
TMPC0618H-R10YG-D	0.10 $\pm 30\%$	18	45	2.1	2.5
TMPC0618H-R15MG-D	0.15	18	34	2.2	2.6
TMPC0618H-R22MG-D	0.22	16	26	2.5	3
TMPC0618H-R33MG-D	0.33	14	22	4.8	5.8
TMPC0618H-R47MG-D	0.47	12	18	6.4	7.4
TMPC0618H-R56MG-D	0.56	11	17.5	8.5	10
TMPC0618H-R68MG-D	0.68	10	17	9.5	11.0
TMPC0618H-R82MG-D	0.82	8.5	15.5	11.5	14.0
TMPC0618H-1R0MG-D	1.00	7.0	14	14.5	17.0
TMPC0618H-1R5MG-D	1.50	6.0	13	21	25.2
TMPC0618H-2R2MG-D	2.20	6.0	11	31	35
TMPC0618H-3R3MG-D	3.30	5.0	9.0	40	46
TMPC0618H-4R7MG-D	4.70	4.0	7.0	68	76
TMPC0618H-5R6MG-D	5.60	3.5	6.0	78	86
TMPC0618H-6R8MG-D	6.80	3.0	5.5	93	104
TMPC0618H-8R2MG-D	8.20	2.6	4.5	123	140
TMPC0618H-100MG-D	10.0	2.3	3.5	143	160
TMPC0618H-150MG-D	15.0	2.0	3.0	240	280
TMPC0618H-220MG-D	22.0	1.8	2.5	300	360
TMPC0618H-330MG-D	33.0	1.3	2.1	550	650

Part Number	Inductance L0 (uH) $\pm 20\%$	I rms ( A ) Typ	I sat ( A ) Typ	DCR (m $\Omega$ ) Typ	DCR (m $\Omega$ ) Max
TMPC0602H-R10YG-D	0.10 $\pm 30\%$	21	40	2.0	2.4
TMPC0602H-R15YG-D	0.15 $\pm 30\%$	18	39	2.3	2.7
TMPC0602H-R22YG-D	0.22 $\pm 30\%$	15	32	3.5	4.0
TMPC0602H-R33MG-D	0.33	14	25	4.5	5.0
TMPC0602H-R47MG-D	0.47	11.7	20	7.1	8.3
TMPC0602H-R56MG-D	0.56	11.0	18	7.9	9.3
TMPC0602H-R68MG-D	0.68	10.5	16	8.3	10
TMPC0602H-1R0MG-D	1.00	8.0	14	16.5	18
TMPC0602H-1R5MG-D	1.50	7	12	23	27
TMPC0602H-2R2MG-D	2.20	6.0	10	32	37
TMPC0602H-3R3MG-D	3.30	5.0	8.0	43	48
TMPC0602H-4R7MG-D	4.70	4.5	7.0	53	60
TMPC0602H-5R6MG-D	5.60	4.0	6.0	59	68
TMPC0602H-6R8MG-D	6.80	4.0	5.5	63	73
TMPC0602H-8R2MG-D	8.20	3.2	5.0	101	116
TMPC0602H-100MG-D	10.0	2.8	4.0	134	154
TMPC0602H-150MG-D	15.0	2.1	3.3	190	210
TMPC0602H-220MG-D	22.0	1.5	2.5	236	280

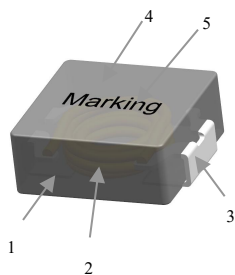
Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0624H-R10YG-D	0.10±30%	30	70	1.4	1.7
TMPC0624H-R15YG-D	0.15±30%	30	45	1.8	2.3
TMPC0624H-R22MG-D	0.22	21	34	2.0	3.2
TMPC0624H-R33MG-D	0.33	18	30	3.6	4.4
TMPC0624H-R47MG-D	0.47	15	26	4.8	5.1
TMPC0624H-R56MG-D	0.56	13	24	5.5	6.5
TMPC0624H-R68MG-D	0.68	13	21	6.4	7.2
TMPC0624H-R82MG-D	0.82	11	17	8.0	9.5
TMPC0624H-1R0MG-D	1.00	11	16	10.5	13.5
TMPC0624H-1R5MG-D	1.50	9	15	17	20
TMPC0624H-2R2MG-D	2.20	7	14	23	28
TMPC0624H-3R3MG-D	3.30	6	10	34	39
TMPC0624H-4R7MG-D	4.70	5.5	9	41	50
TMPC0624H-5R6MG-D	5.60	5	8	56	62
TMPC0624H-6R8MG-D	6.80	4	7	65	72
TMPC0624H-8R2MG-D	8.20	3.6	6.0	81	95
TMPC0624H-100MG-D	10.0	3.2	5.0	92	101
TMPC0624H-150MG-D	15.0	2.5	3.5	150	180
TMPC0624H-220MG-D	22.0	1.8	3.0	185	215

Part Number	Inductance L0 (uH)±20%	I rms ( A ) Typ	I sat ( A ) Typ	DCR(mΩ) Typ	DCR(mΩ) Max
TMPC0603H-R10YG-D	0.10±30%	32.5	60.0	1.2	1.7
TMPC0603H-R15YG-D	0.15±30%	27	45	1.5	1.9
TMPC0603H-R15MG-0R907-D	0.15±20%	37.0	46.0	0.90±7%	(打扁式)
TMPC0603H-R22YG-D	0.22±30%	23.0	40.0	2.1	2.8
TMPC0603H-R33MG-D	0.33	20.0	32.0	3.5	3.9
TMPC0603H-R47MG-D	0.47	17.5	26.0	4.0	4.2
TMPC0603H-R56MG-D	0.56	16.5	25.5	4.7	5.0
TMPC0603H-R68MG-D	0.68	15.5	25.0	4.8	5.5
TMPC0603H-R82MG-D	0.82	13.0	24.0	6.7	8.0
TMPC0603H-1R0MG-D	1.00	11.0	22.0	8.3	10
TMPC0603H-1R5MG-D	1.50	9.0	18.0	13	15
TMPC0603H-2R2MG-D	2.20	8.0	14.0	18	20
TMPC0603H-3R3MG-D	3.30	6.0	13.5	28	30
TMPC0603H-4R7MG-D	4.70	5.5	10.0	37	40
TMPC0603H-5R6MG-D	5.60	5.0	9.0	43	48
TMPC0603H-6R8MG-D	6.80	4.5	8.0	54	60
TMPC0603H-8R2MG-D	8.20	4.0	7.5	64	68
TMPC0603H-100MG-D	10.0	3.5	6.0	75	85
TMPC0603H-150MG-D	15.0	3.00	4.00	107	123
TMPC0603H-220MG-D	22.0	2.0	3.5	165	190
TMPC0603H-330MG-D	33.0	2.0	2.5	200	240
TMPC0603H-470MG-D	47.0	1.75	2.0	302	363

Part Number	Inductance L0 (uH) $\pm 20\%$	I rms ( A ) Typ	I sat ( A ) Typ	DCR(m $\Omega$ ) Typ	DCR(m $\Omega$ ) Max
TMPC0604H-R15YG-D	0.15 $\pm 30\%$	30	55	0.9	1.2
TMPC0604H-R15MG-R6705-D	0.15	40.0	60.0	0.67 $\pm 5\%$	(打扁式)
TMPC0604H-R22MG-D	0.22	25	34	1.85	2.1
TMPC0604H-R22MG-M98-D	0.22	32	50	0.98 $\pm 7\%$	(打扁式)
TMPC0604H-R33MG-D	0.33	25	34	2.0	2.6
TMPC0604H-R47MG-D	0.47	23	28	3.0	3.4
TMPC0604H-R56MG-D	0.56	20	26	3.8	4.3
TMPC0604H-R68MG-D	0.68	16	24	4.1	4.5
TMPC0604H-1R0MG-D	1.00	14	22	6.8	8.0
TMPC0604H-1R5MG-D	1.50	12	20	10	12
TMPC0604H-2R2MG-D	2.20	9.0	14	11.5	14
TMPC0604H-3R3MG-D	3.30	8.0	12	24	27
TMPC0604H-4R7MG-D	4.70	6.0	11	28	32.5
TMPC0604H-5R6MG-D	5.60	5.0	9.0	33	38
TMPC0604H-6R8MG-D	6.80	4.5	8.5	44	50
TMPC0604H-8R2MG-D	8.20	4.5	8.0	55	64
TMPC0604H-100MG-D	10.0	4.0	7.0	64	72
TMPC0604H-150MG-D	15.0	3.0	3.5	80	90
TMPC0604H-220MG-D	22.0	2.5	3.5	120	145
TMPC0604H-330MG-D	33.0	1.8	3.2	180	210
TMPC0604H-470MG-D	47.0	1.8	2.5	295	350

Part Number	Inductance L0 (uH) $\pm 20\%$	I rms ( A ) Typ	I sat ( A ) Typ	DCR(m $\Omega$ ) Typ	DCR(m $\Omega$ ) Max
TMPC0605H-R10YG-D	0.10 $\pm 30\%$	32	65	0.65	0.78
TMPC0605H-R15YG-D	0.15 $\pm 30\%$	30	50	1.3	1.7
TMPC0605H-R22MG-D	0.22	25	35	1.6	1.9
TMPC0605H-R33MG-D	0.33	25	32	2.5	3.0
TMPC0605H-R47MG-D	0.47	22	30	3.5	3.9
TMPC0605H-R56MG-D	0.56	20	27	3.6	4.2
TMPC0605H-R68MG-D	0.68	18	24	4.0	4.5
TMPC0605H-1R0MG-D	1.00	15	20	6.1	6.5
TMPC0605H-1R5MG-D	1.50	12	16.5	8.6	9.0
TMPC0605H-2R2MG-D	2.20	10	14	11.2	12.0
TMPC0605H-3R3MG-D	3.30	8	12	19	20.9
TMPC0605H-4R7MG-D	4.70	6.5	10	28	30.8
TMPC0605H-5R6MG-D	5.60	6.0	9.0	43.5	49
TMPC0605H-6R8MG-D	6.80	5.5	8.5	46	51.5
TMPC0605H-8R2MG-D	8.20	5.0	8.0	56	63
TMPC0605H-100MG-D	10.0	4.0	7.5	60	69
TMPC0605H-150MG-D	15.0	3.5	6.0	81	92
TMPC0605H-220MG-D	22.0	2.5	5.5	140	170
TMPC0605H-330MG-D	33.0	2.0	3.5	173	200
TMPC0605H-470MG-D	47.0	1.9	2.7	290	330
TMPC0605H-560MG-D	56.0	1.6	2.1	342	396
TMPC0605H-680MG-D	68.0	1.2	2.0	386	445
TMPC0605H-820MG-D	82.0	1.1	1.8	430	500
TMPC0605H-101MG-D	100.0	1.0	1.6	460	552

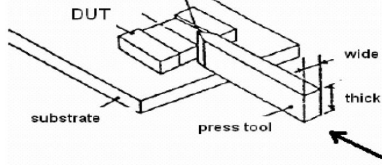
### 6. Material List



NO	Items	Materials
1	Core	Carbonyl Powder.
2	Wire	Polyester Wire or equivalent.
3	Clip	100% Pb free solder(Ni+Sn)
4	Ink	Halogen-free ketone
5	paint	Epoxy resin

### 7. Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40~+125°C (Including self - temperature rise)	
Storage temperature	1. -10~+40°C,50~60%RH (Product with taping) 2. -40~+125°C (on board)	
<b>Electrical Performance Test</b>		
Inductance	Refer to standard electrical characteristics list.	HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter.
DCR		CH16502,Agilent33420A Micro-Ohm Meter.
Saturation Current (Isat)	Approximately ΔL30%.	Saturation DC Current (Isat) will cause L0 to drop ΔL(%)
Heat Rated Current (Irms)	Approximately ΔT40°C	Heat Rated Current (Irms) will cause the coil temperature rise ΔT(°C). 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer
<b>Reliability Test</b>		
Life Test	Appearance: No damage. Inductance: within ±10% of initial value Q: Shall not exceed the specification value. RDC: within ±15% of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 3times. ( IPC/JEDECJ-STD-020E Classification Reflow Profiles) Temperature: 125±2°C(Inductor, ambient + temp rise) Applied current: rated current Duration: 1000±12hrs Measured at room temperature after placing for 24±2 hrs.
Load Humidity		Preconditioning: Run through IR reflow for 3times. ( IPC/JEDECJ-STD-020E Classification Reflow Profiles) Humidity: 85±2% R.H. Temperature: 85°C ±2°C Duration: 1000hrs Min. Bead:with 100% rated current, Inductance: with 100% rated current Measured at room temperature after placing for 24±2 hrs.
Moisture Resistance		Preconditioning: Run through IR reflow for 3 times. ( IPC/JEDECJ-STD-020E Classification Reflow Profiles) 1. Baked at50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65 ± 2 °C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3. Raise temperature to 65 ± 2 °C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs,keep at 25°C for 2 hrs then keep at -10°C for 3 hrs 4. Keep at 25 °C 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Thermal shock		Preconditioning: Run through IR reflow for 3 times. ( IPC/JEDECJ-STD-020E Classification Reflow Profiles) Condition for 1 cycle Step1: -40±2°C 30±5min Step2: 125±2°C ≅0.5min Step3: 125±2°C 30±5minNumber of cycles: 500 Measured at room fempraturc after placing for 24±2 hrs.
Vibration		Preconditioning: Run through IR reflow for 3 times. ( IPC/JEDECJ-STD-020E Classification Reflow Profiles) Oscillation Frequency: 10Hz~2KHz~10Hz for 20 minutes Equipment: Vibration checker Total Amplitude: 10g Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations).

Item	Performance	Test Condition															
Bending	Appearance: No damage.	Shall be mounted on a FR4 substrate of the following dimensions: $\geq 0.805$ inch(2012mm):40x100x1.2mm $< 0.805$ inch(2012mm):40x100x0.8mm Bending depth: $\geq 0.805$ inch(2012mm):1.2mm $< 0.805$ inch(2012mm):0.8mm duration of 10 sec.															
Shock	Inductance: within $\pm 10\%$ of initial value Q: Shall not exceed the specification value. RDC: within $\pm 15\%$ of initial value and shall not exceed the specification value	<table border="1" data-bbox="979 338 1422 472"> <thead> <tr> <th>Type</th> <th>Peak value (g's)</th> <th>Normal duration (D) (ms)</th> <th>Wave form</th> <th>Velocity change (V)/ft/sec</th> </tr> </thead> <tbody> <tr> <td>SMD</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> <tr> <td>Lead</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> </tbody> </table> 3 shocks in each direction along 3 perpendicular axes(18 shocks).	Type	Peak value (g's)	Normal duration (D) (ms)	Wave form	Velocity change (V)/ft/sec	SMD	50	11	Half-sine	11.3	Lead	50	11	Half-sine	11.3
Type	Peak value (g's)	Normal duration (D) (ms)	Wave form	Velocity change (V)/ft/sec													
SMD	50	11	Half-sine	11.3													
Lead	50	11	Half-sine	11.3													
Solderability	More than 95% of the terminal electrode should be covered with solder .	a. Method B1, 4 hrs @155°C dry heat @255°C $\pm 5^\circ\text{C}$ Test time:5 +0/-0.5 seconds. b. Method D category 3. (steam aging 8hours $\pm 15$ min)@260°C $\pm 5^\circ\text{C}$ Test time: 30 +0/-0.5 seconds.															
Resistance to Soldering Heat		Depth: completely cover the termination <table border="1" data-bbox="979 674 1410 786"> <thead> <tr> <th>Temperature(<math>^\circ\text{C}</math>)</th> <th>Time(s)</th> <th>Temperature ramp/immersion and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260 <math>\pm 5</math> (solder temp)</td> <td>10 <math>\pm 1</math></td> <td>25mm/s <math>\pm 6</math> mm/s</td> <td>1</td> </tr> </tbody> </table>	Temperature( $^\circ\text{C}$ )	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260 $\pm 5$ (solder temp)	10 $\pm 1$	25mm/s $\pm 6$ mm/s	1							
Temperature( $^\circ\text{C}$ )	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles														
260 $\pm 5$ (solder temp)	10 $\pm 1$	25mm/s $\pm 6$ mm/s	1														
Terminal Strength	Appearance: No damage. Inductance: within $\pm 10\%$ of initial value Q: Shall not exceed the specification value. RDC: within $\pm 15\%$ of initial value and shall not exceed the specification value e	Preconditioning: Run through IR reflow for 3 times.( IPC/JEDEC J-STD-020E Classification Reflow Profiles With the component mounted on a PCB with the device to be tested,apply a force( $> 0.805$ inch(2012mm):1kg, $\leq 0.805$ inch(2012mm):0.5kg)to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested. 															

Note : When there are questions concerning measurement result : measurement shall be made after 48  $\pm 2$  hours of recovery under the standard condition.

## 8.Soldering Specifications

### (1) Soldering

Mildly activated rosin fluxes are preferred. TAI-TECH terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

### (2) Soldering Reflow:

Recommended temperature profiles for lead free re-flow soldering in Figure 1. Table 1.1&1.2 (J-STD-020E)

### (3) Iron Reflow:

Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.(Fig. 2)

- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 355°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 4~5sec.

Fig.1 Soldering Reflow

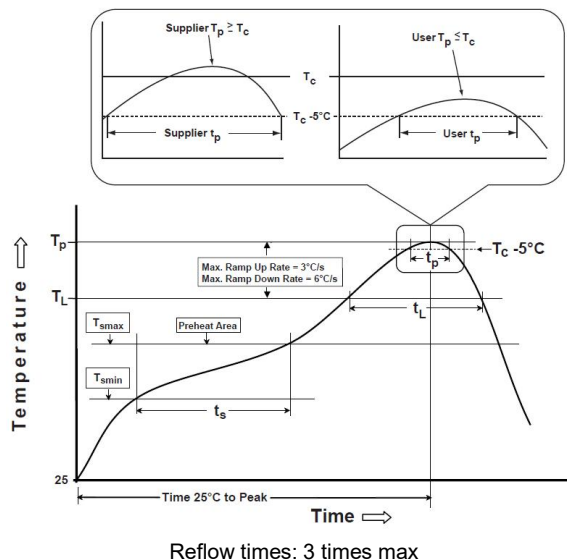


Fig.2 Iron soldering temperature profiles

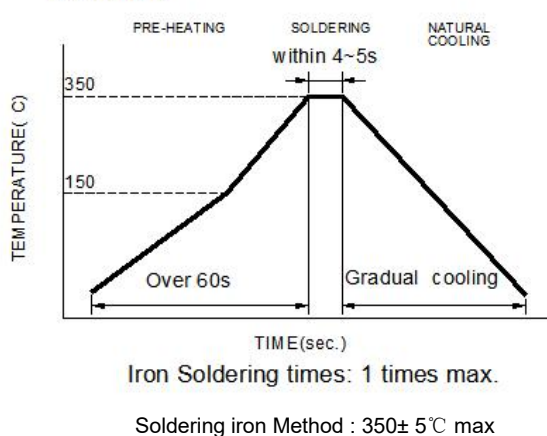


Table (1.1): Reflow Profiles

Profile Type:	Pb-Free Assembly
Preheat	
-Temperature Min( $T_{smin}$ )	150°C
-Temperature Max( $T_{smax}$ )	200°C
-Time( $t_s$ )from( $T_{smin}$ to $T_{smax}$ )	60-120seconds
Ramp-up rate( $T_L$ to $T_p$ )	3°C/second max.
Liquidus temperature( $T_L$ )	217°C
Time( $t_L$ )maintained above $T_L$	60-150 seconds
Classification temperature( $T_c$ )	See Table (1.2)
Time( $t_p$ ) at $T_c - 5^\circ C$ ( $T_p$ should be equal to or less than $T_c$ .)	* < 30 seconds
Ramp-down rate( $T_p$ to $T_L$ )	6°C /second max.
Time 25°C to peak temperature	8 minutes max.

**T<sub>p</sub>**: maximum peak package body temperature, **T<sub>c</sub>**: the classification temperature.

For user (customer) **T<sub>p</sub>** should be equal to or less than **T<sub>c</sub>**.

\* Tolerance for peak profile temperature (T<sub>p</sub>) is defined as a supplier minimum and a user maximum.

Table (1.2) Package Thickness/Volume and Classification Temperature (T<sub>c</sub>)

	Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

Reflow is referred to standard IPC/JEDEC J-STD-020E.

## 9. Notes

- (1) When there are questions concerning measurement result : measurement shall be made after  $48 \pm 2$  hours of recovery under the standard condition
- (2) This power choke coil itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc. Therefore, it shall be confirmed as the end product that there is no risk of smoking, fire, dielectric withstand voltage, insulation resistance, etc. in abnormal conditions to provide protective devices and/or protection circuit in the end product.
- (3) When this power choke coil was used in a similar or new product to the original one, sometimes it might not be able to satisfy the specifications due to different condition of use.
- (4) Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.
- (5) This power choke coil must not be used in wet condition by water, coffee or any liquid because insulation strength becomes very low in this condition.
- (6) Please consult our company to confirm the reliability of the process required to wash or use or exposure to a chemical solvent used in this product. PCB washing tested to MIL-STD-202 Method, and dry it off immediately.
- (7) The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- (8) If this power choke is dipped in the cleaning agent, such as toluene, xylene, ketone, and ether system, there is a possibility that the performance decreases greatly, and marking disappears.
- (9) The high power ultrasonic washing may damage the choke body.
- (10) Before use, the user should determine whether this product is suitable for their own design, Our company only guarantees that the product meets the requirements of this specification.

### **Application Notice**

#### · Storage Conditions

To maintain the solderability of terminal electrodes:

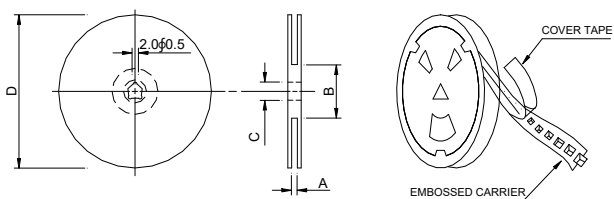
1. TAI-TECH products meet IPC/JEDEC J-STD-020E standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months from the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

#### · Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

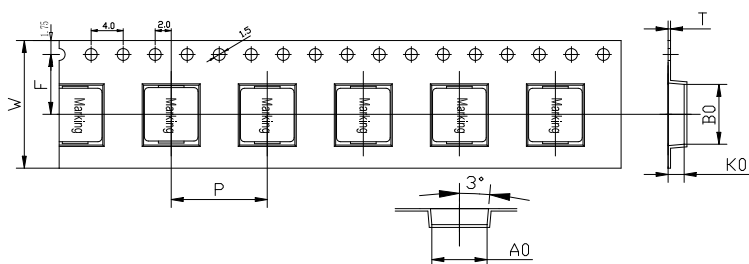
### 10. Packaging Information

(1) Reel Dimension

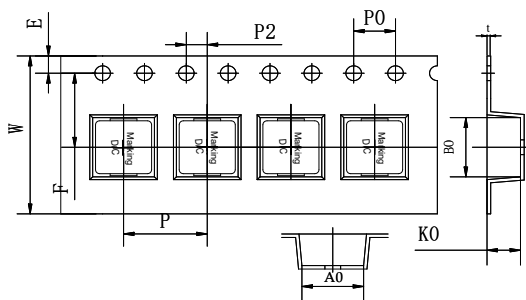


Size	Type	A(mm)	B(mm)	C(mm)	D(mm)
0312/15/18/02	13"x12mm	12.4+2/-0	100±2	13+0.5/-0.2	330
0412/15/18/02	13"x12mm	12.4+2/-0	100±2	13+0.5/-0.2	330
0512/15/18/02/03	13"x12mm	12.4+2/-0	100±2	13+0.5/-0.2	330
053T/0612/15/18/02/24/03/04/05	13"x16mm	16.4+2/-0	100±2	13+0.5/-0.2	330

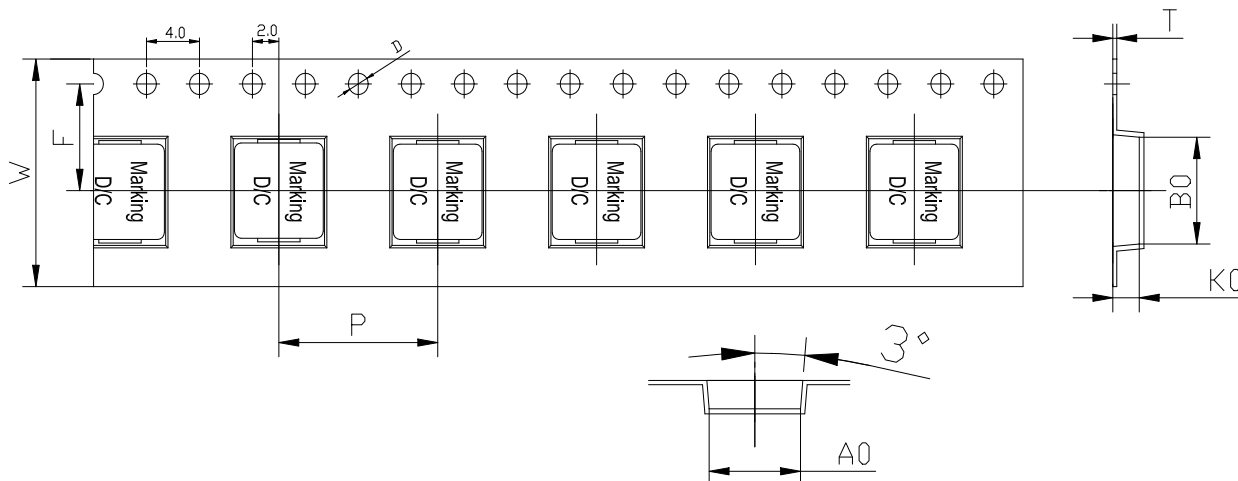
(2) Tape Dimension



Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)	Reel
TMPC	0312	3.8±0.1	3.5±0.1	1.5±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	4000
TMPC	0315	3.8±0.1	3.5±0.1	1.8±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3000
TMPC	0318	3.8±0.1	3.5±0.1	2.0±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3000
TMPC	0302	3.8±0.1	3.5±0.1	2.3±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3000
TMPC	0412	5.0±0.1	4.4±0.1	1.5±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	4000
TMPC	0415	5.0±0.1	4.4±0.1	1.8±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3500
TMPC	0418	5.0±0.1	4.4±0.1	2.1±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3000
TMPC	0402	5.0±0.1	4.4±0.1	2.3±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	3000

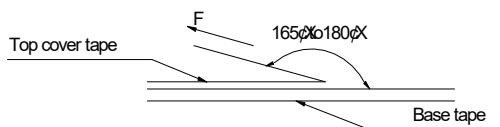


Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)	D(mm)	E(mm)	P2(mm)	P0(mm)	Reel/PCS
TMPC	053T	5.3±0.1	5.0±0.1	3.3±0.1	12.0±0.1	16.0±0.3	7.5±0.1	0.35±0.05	1.5±0.1	1.75±0.1	2.0±0.1	4.0±0.1	1000



Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	T(mm)	D(mm)	Reel/PCS
TMPC	0512	6.2±0.1	5.5±0.1	1.5±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1	4000
TMPC	0515	6.2±0.1	5.5±0.1	1.8±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1	3500
TMPC	0518	6.2±0.1	5.5±0.1	2.1±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1	3000
TMPC	0502	6.2±0.1	5.5±0.1	2.3±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1	3000
TMPC	0503	6.2±0.1	5.5±0.1	3.3±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1	2000
TMPC	0612	7.7±0.1	7.0±0.1	1.5±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	3000
TMPC	0615	7.7±0.1	7.0±0.1	1.8±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	2000
TMPC	0618	7.7±0.1	7.0±0.1	2.1±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	2000
TMPC	0602	7.7±0.1	7.0±0.1	2.3±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	1500
TMPC	0624	7.7±0.1	7.0±0.1	2.7±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	1500
TMPC	0603	7.7±0.1	7.0±0.1	3.3±0.1	12.0±0.1	16.0±0.3	7.5±0.1	0.35±0.05	1.5±0.1	1000
TMPC	0604	7.7±0.1	7.0±0.1	4.3±0.1	12.0±0.1	16±0.3	7.5±0.1	0.35±0.05	1.5±0.1	1000
TMPC	0605	7.7±0.1	7.0±0.1	5.3±0.1	12.0±0.1	16.0±0.3	7.5±0.1	0.35±0.05	1.5±0.1	800

**(3) Tearing Off Force**

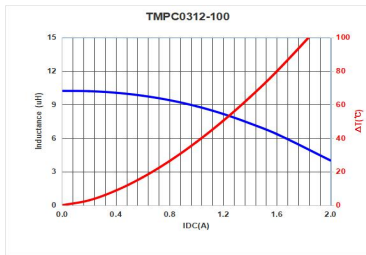
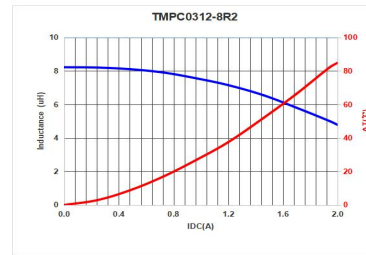
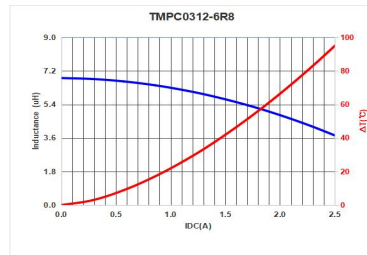
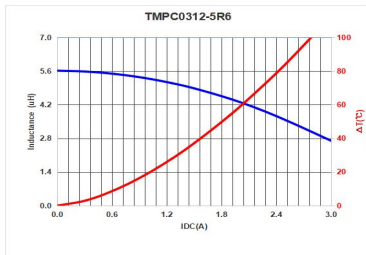
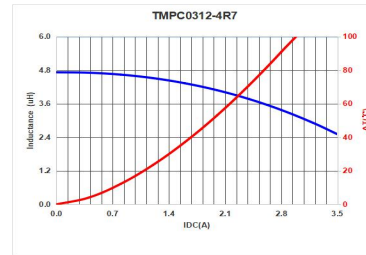
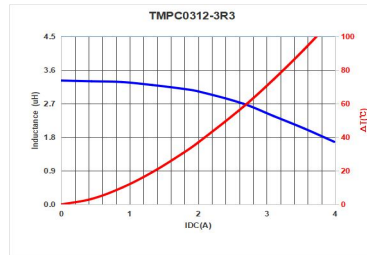
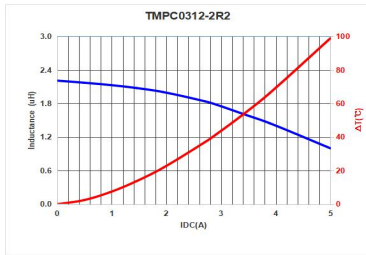
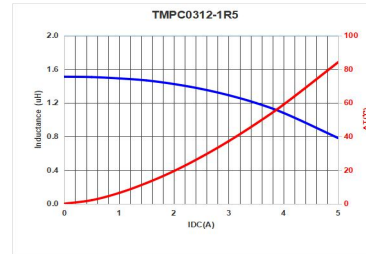
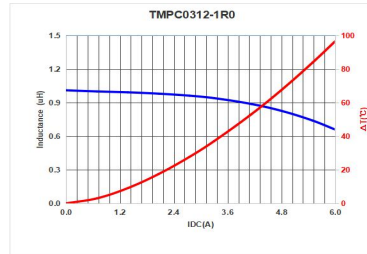
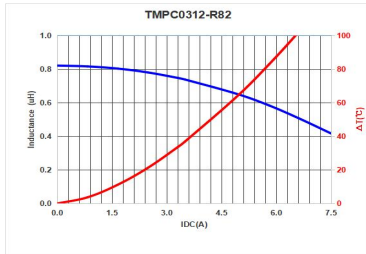
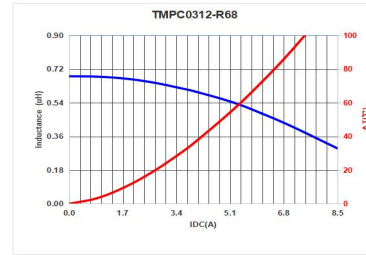
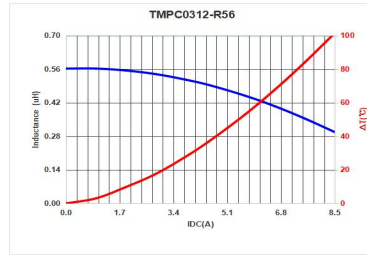
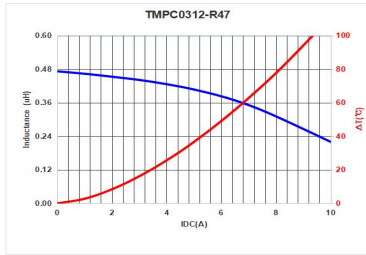
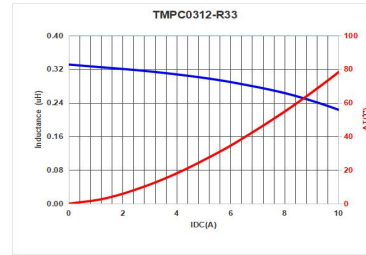
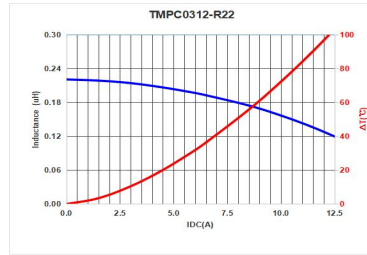
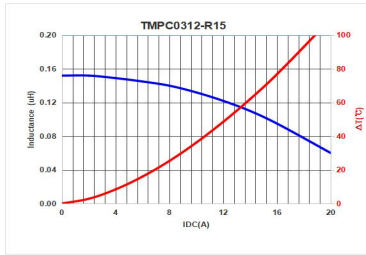


The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions(referenced ANSI/EIA-481-D-2008 of 4.11 standard).

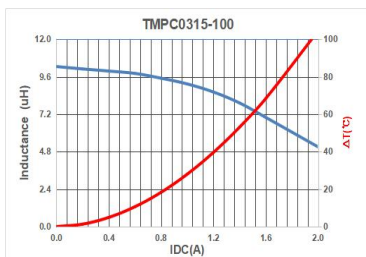
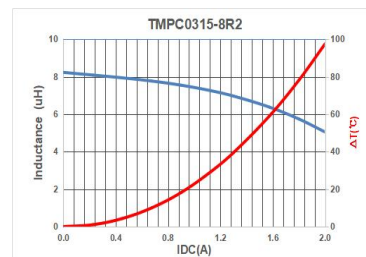
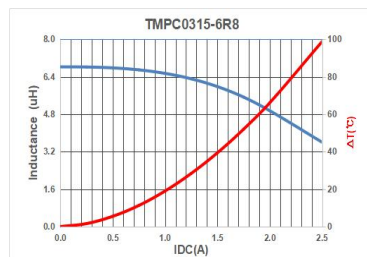
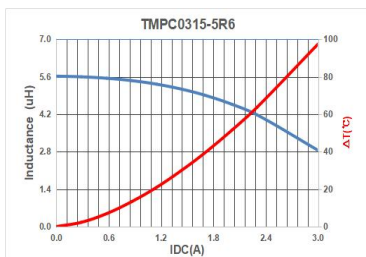
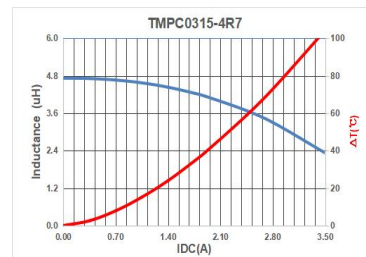
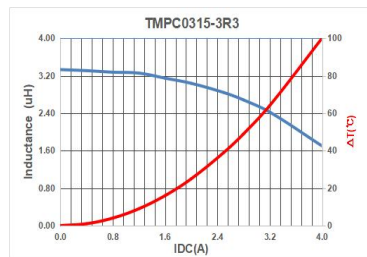
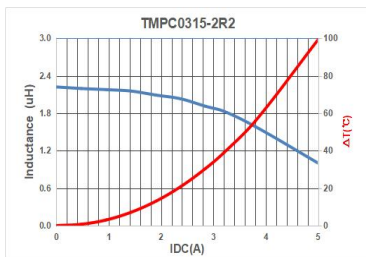
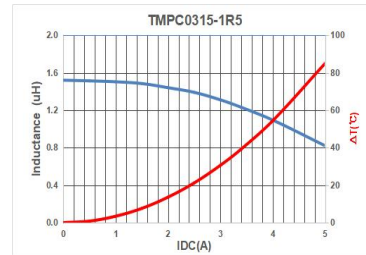
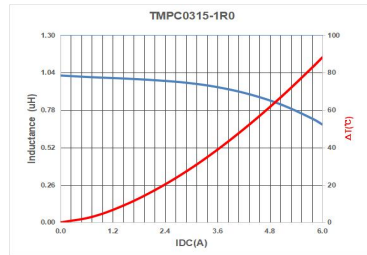
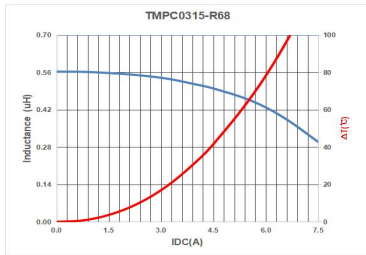
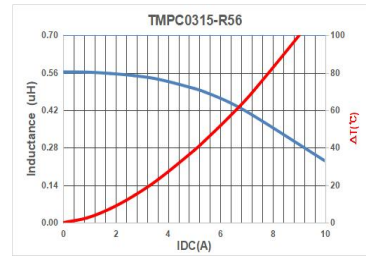
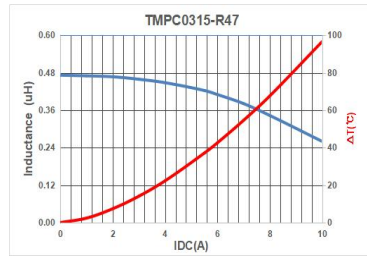
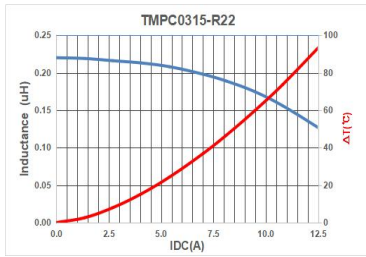
Tearing Speed mm	Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)
300±10	5~35	45~85	860~1060

# 11. Typical Performance Curves

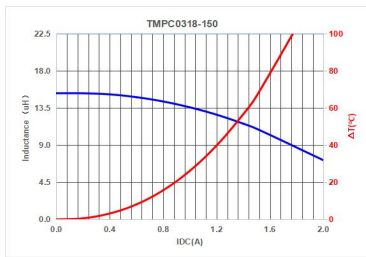
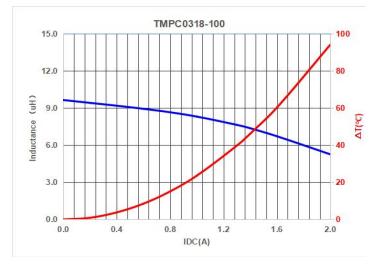
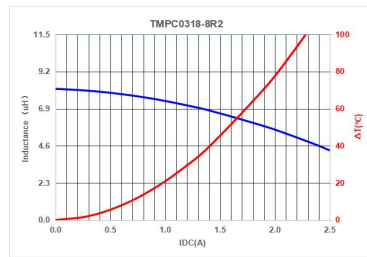
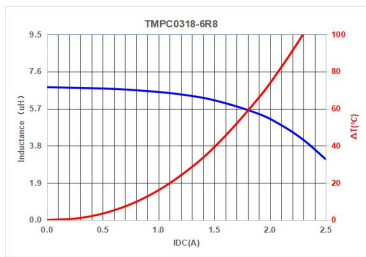
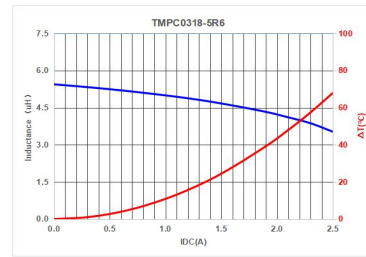
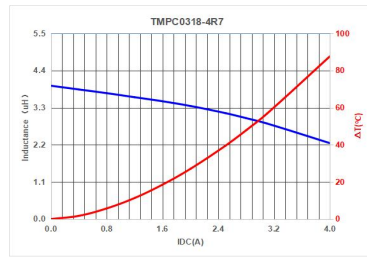
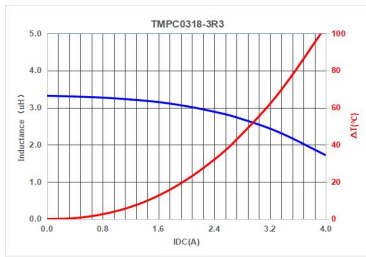
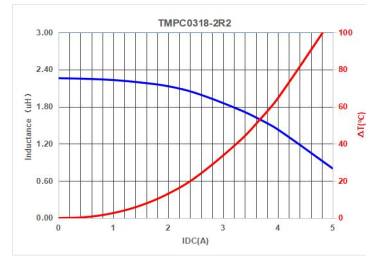
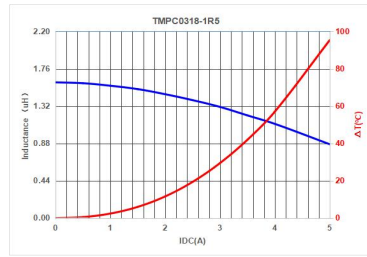
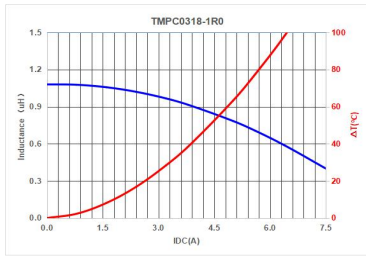
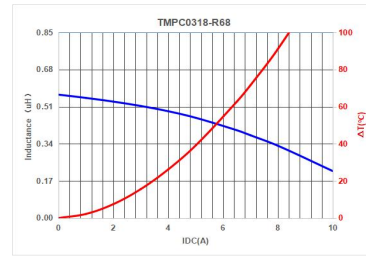
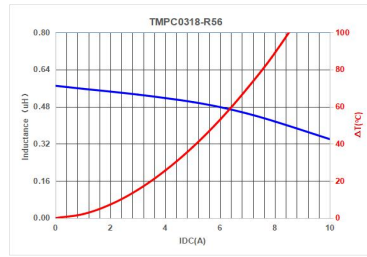
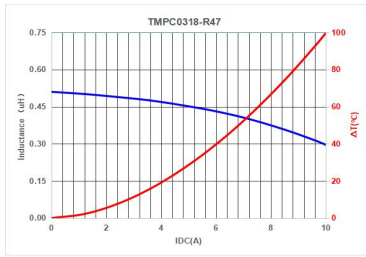
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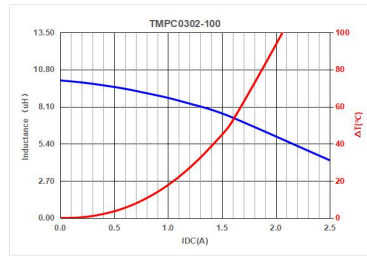
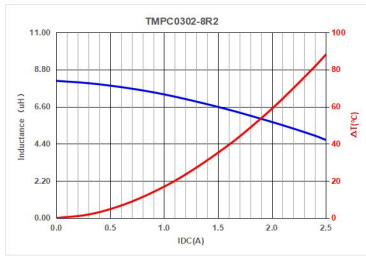
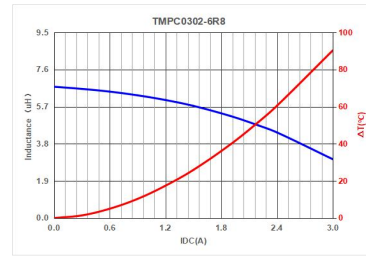
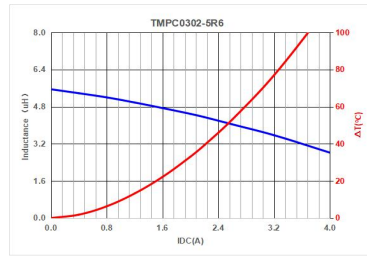
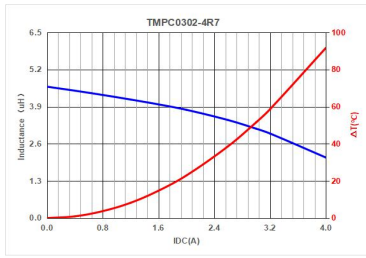
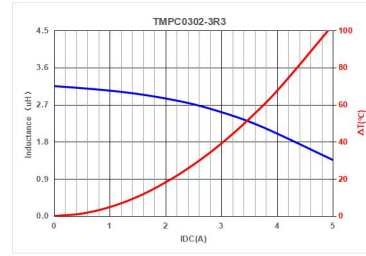
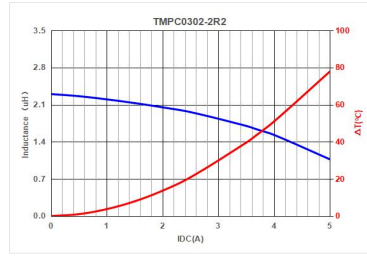
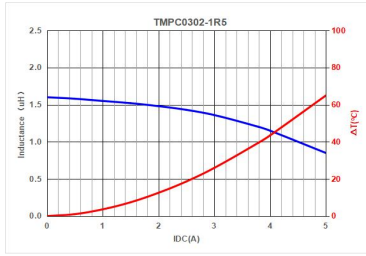
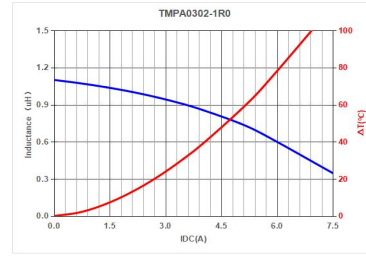
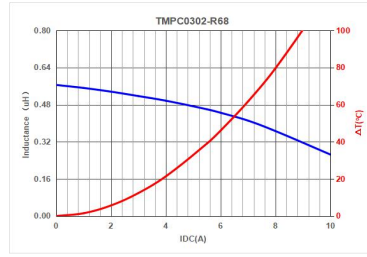
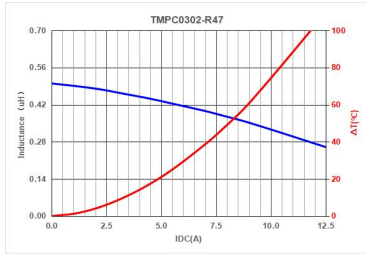
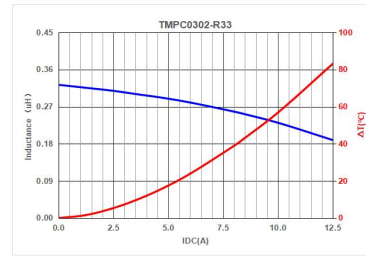
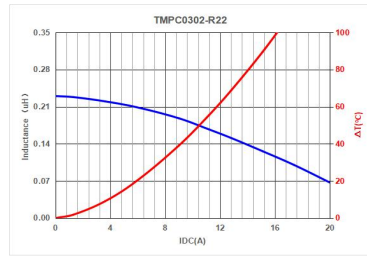
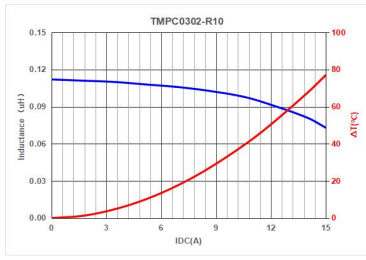
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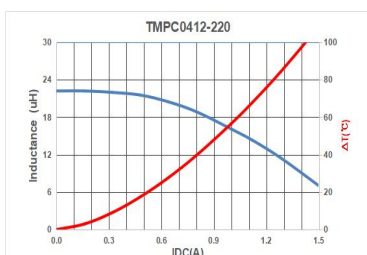
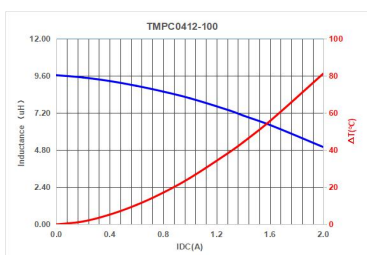
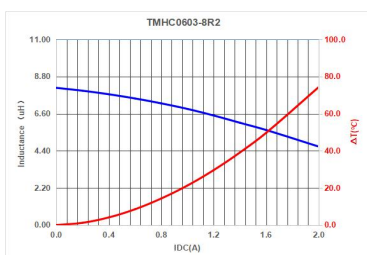
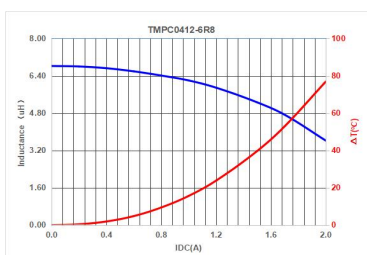
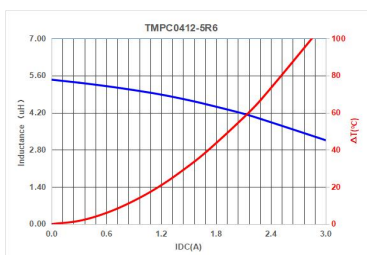
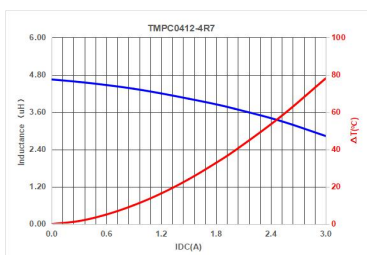
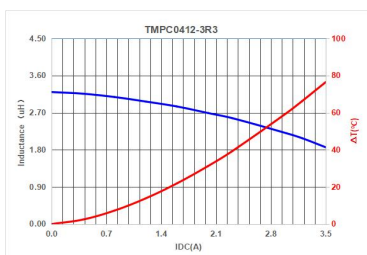
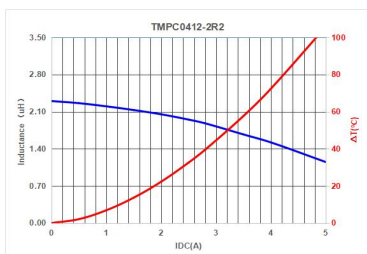
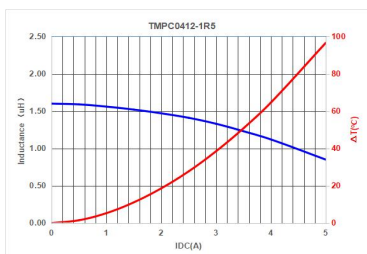
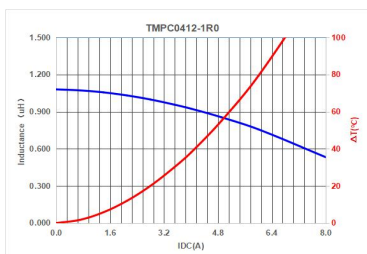
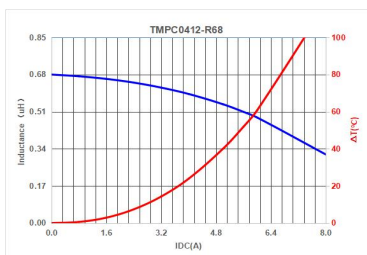
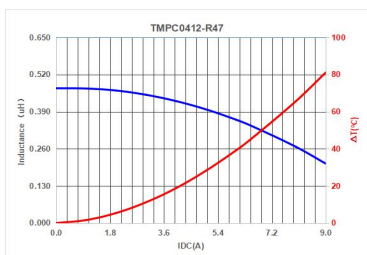
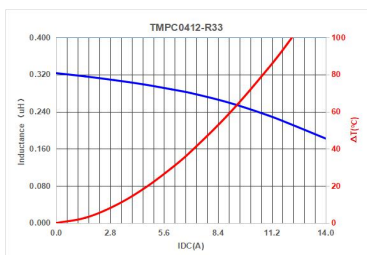
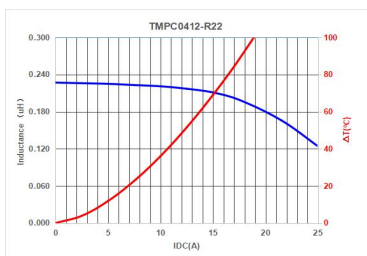
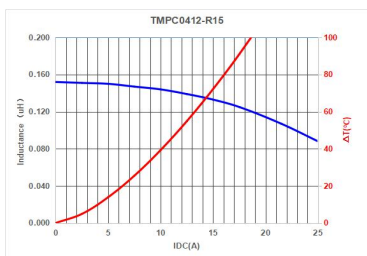
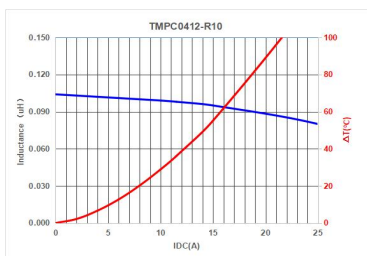
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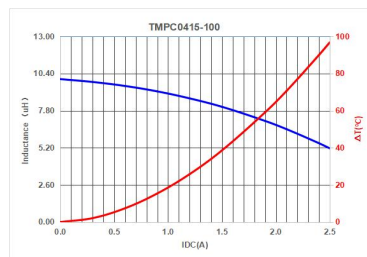
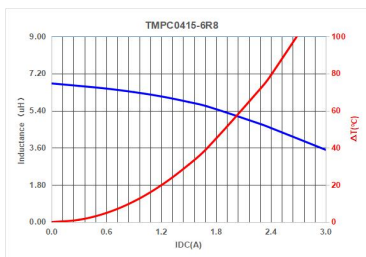
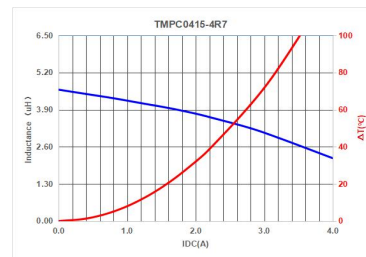
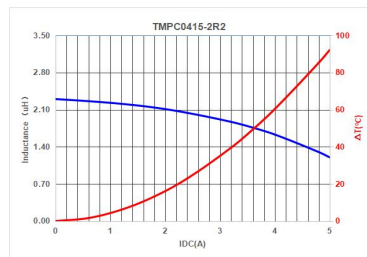
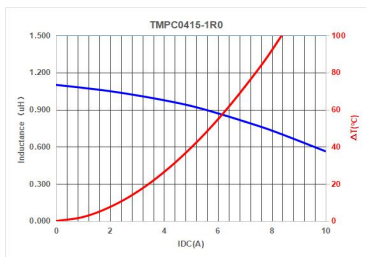
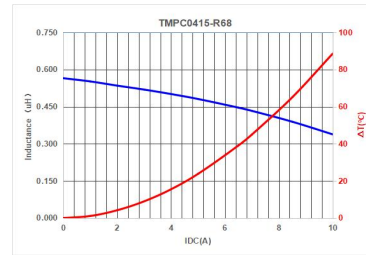
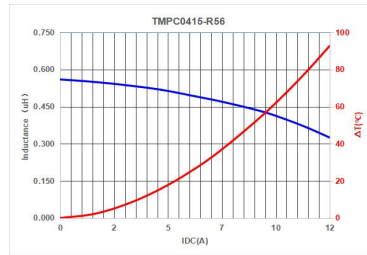
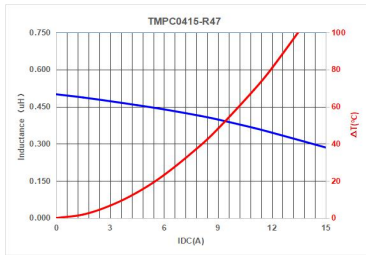
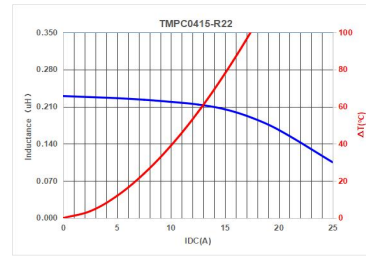
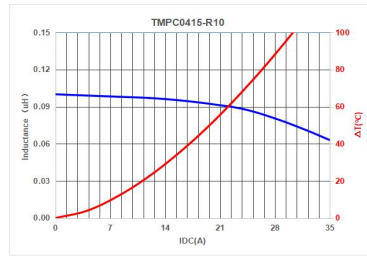
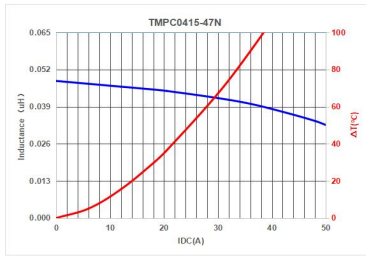
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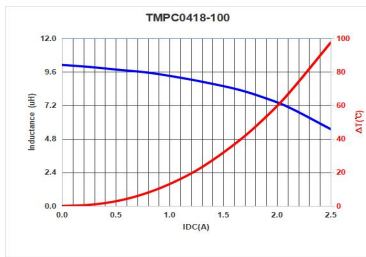
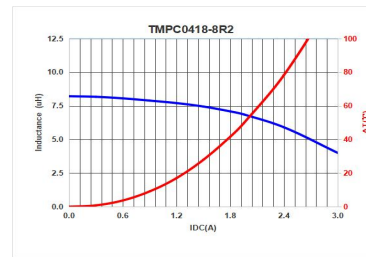
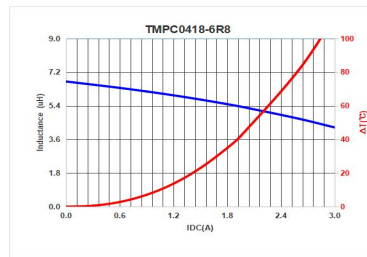
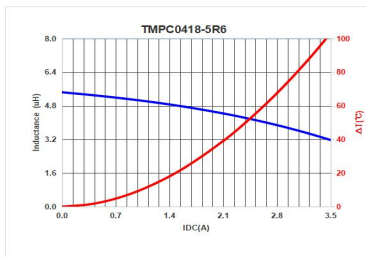
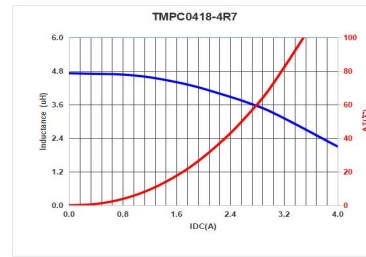
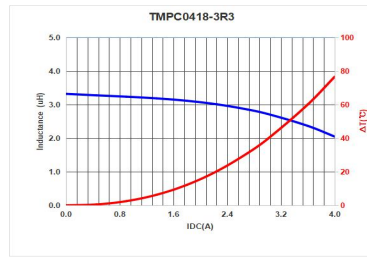
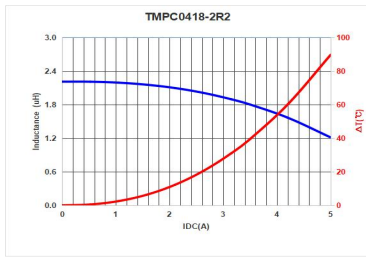
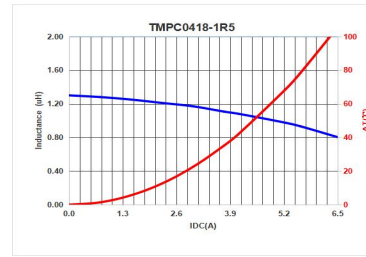
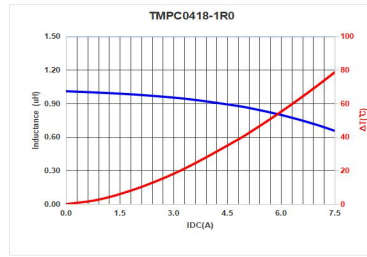
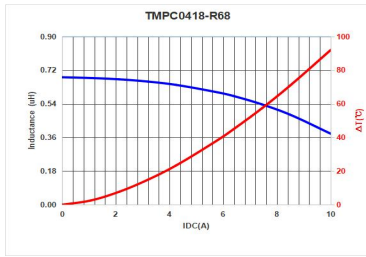
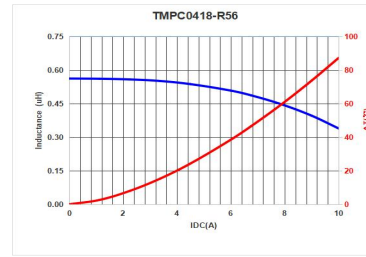
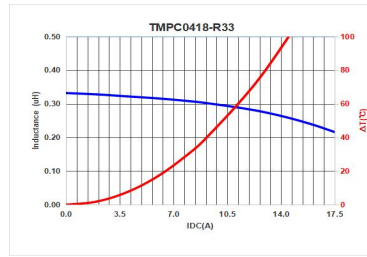
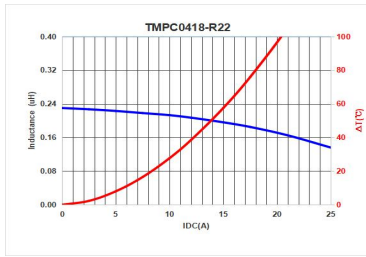
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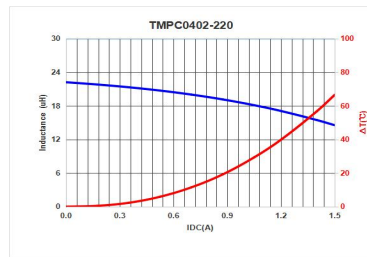
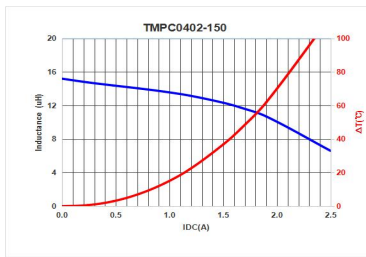
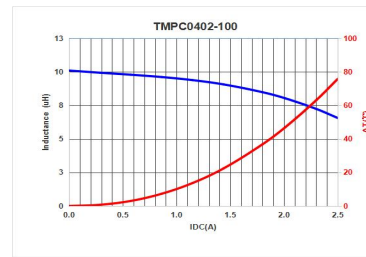
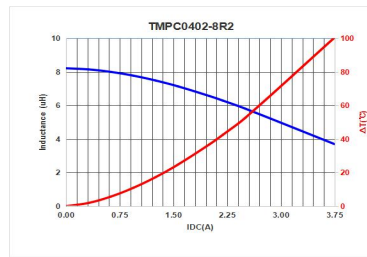
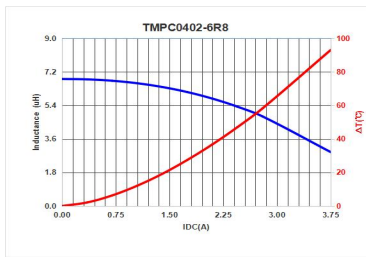
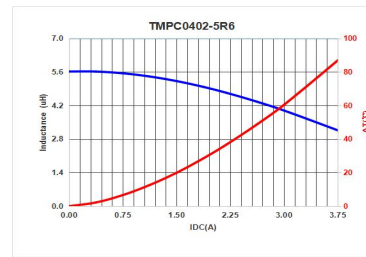
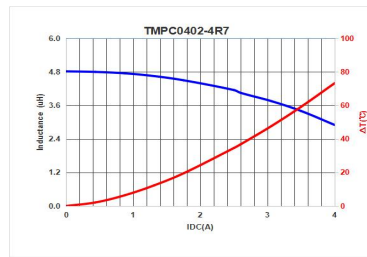
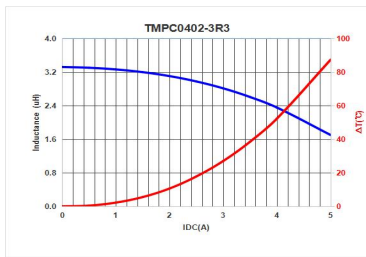
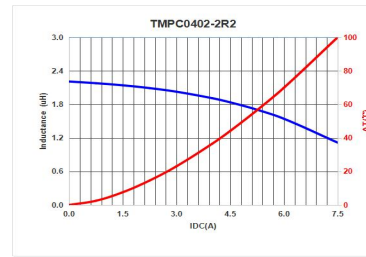
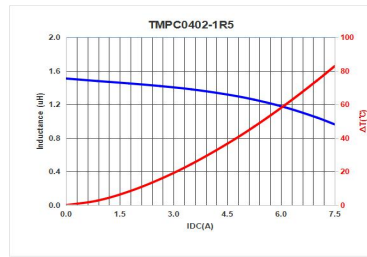
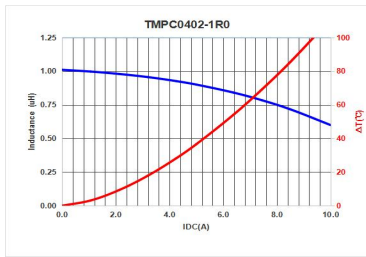
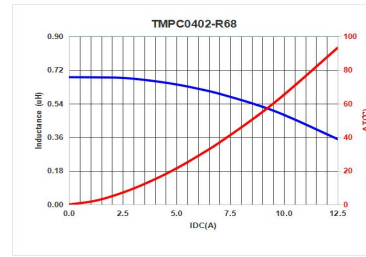
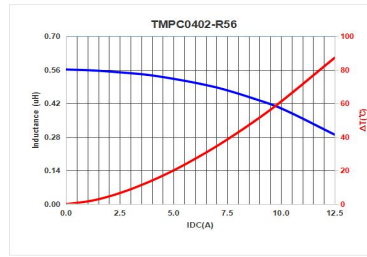
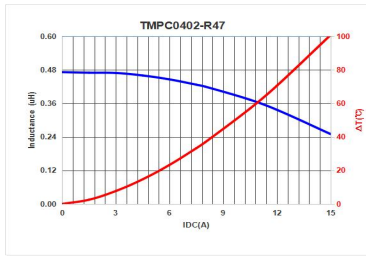
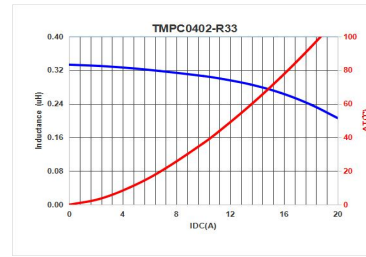
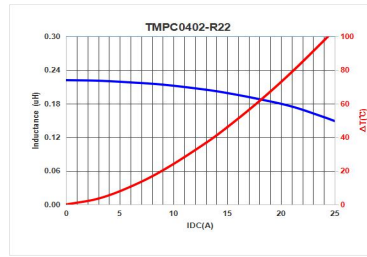
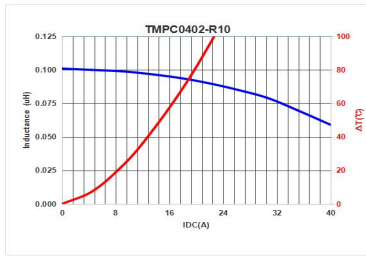
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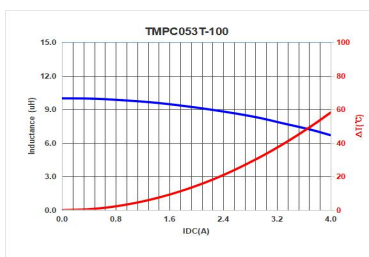
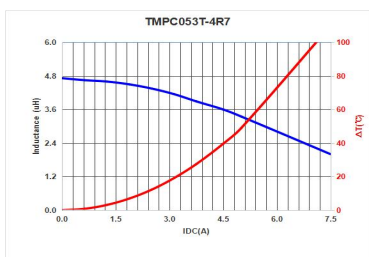
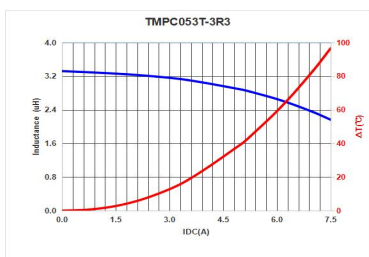
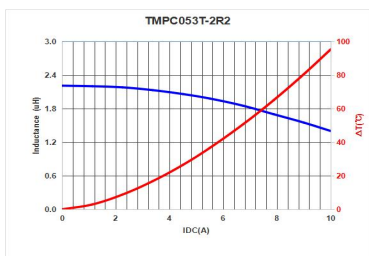
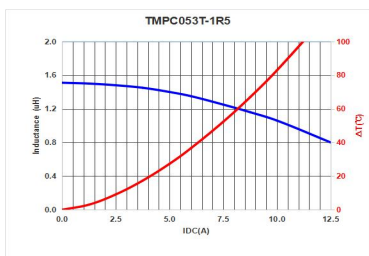
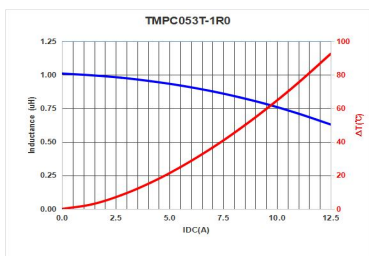
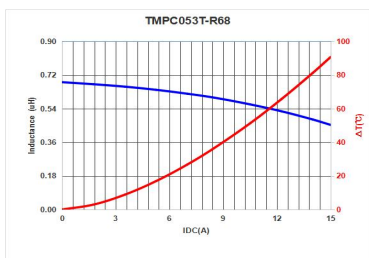
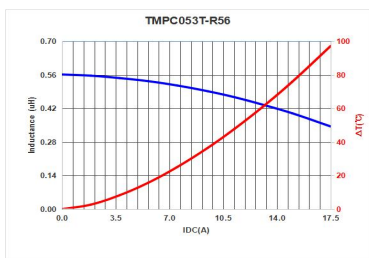
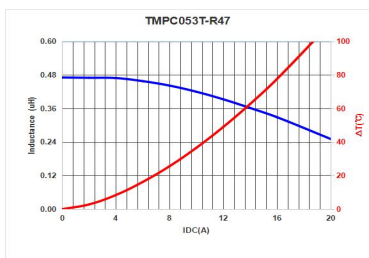
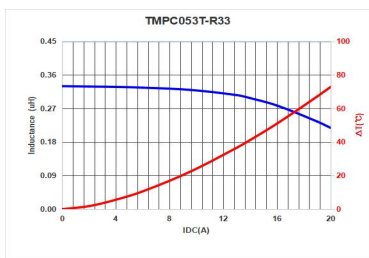
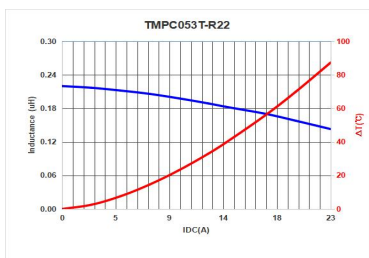
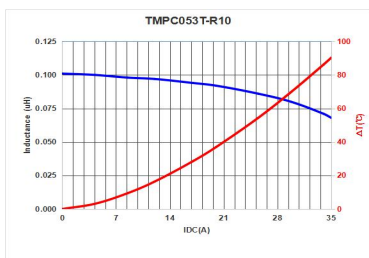
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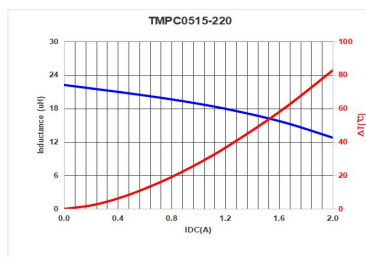
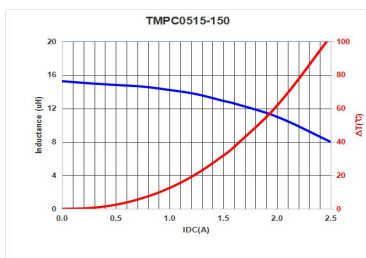
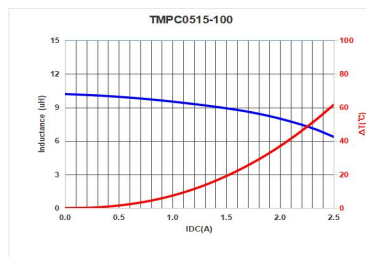
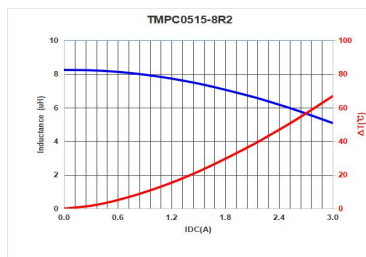
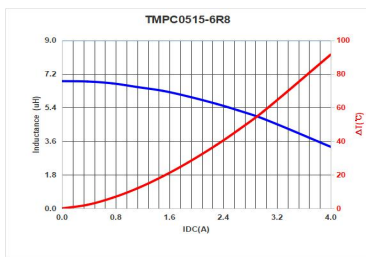
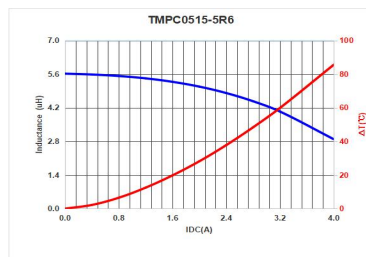
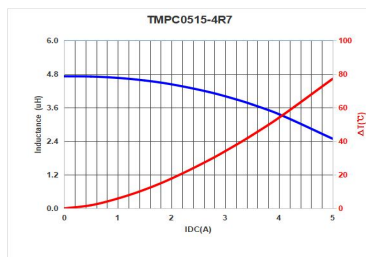
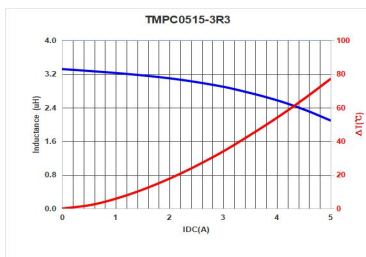
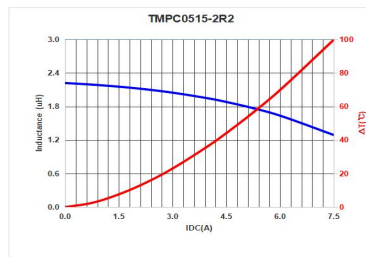
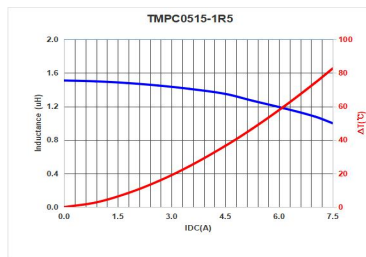
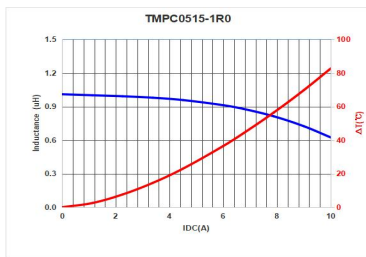
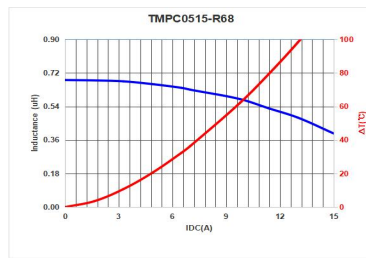
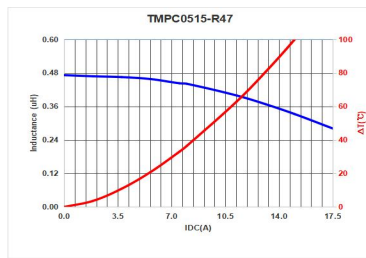
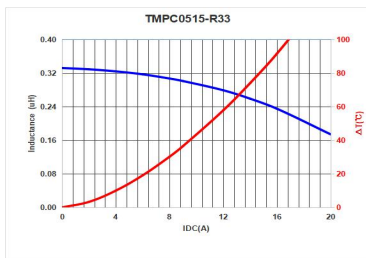
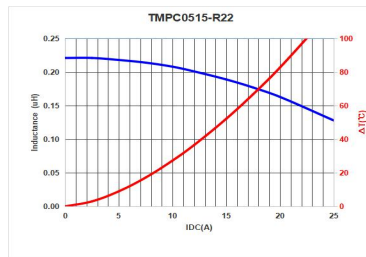
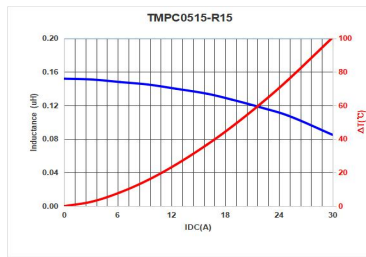
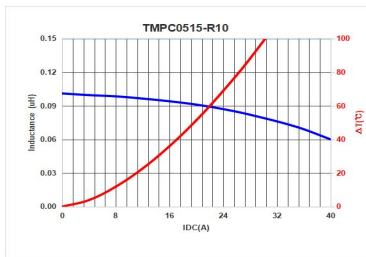


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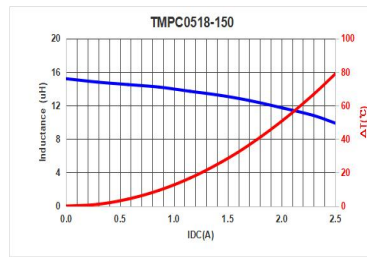
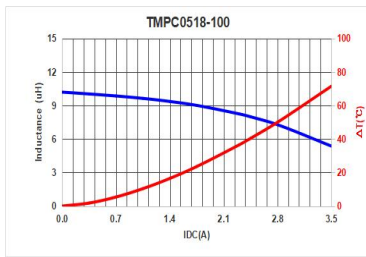
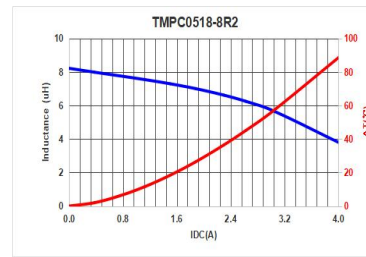
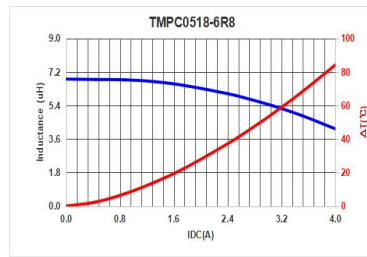
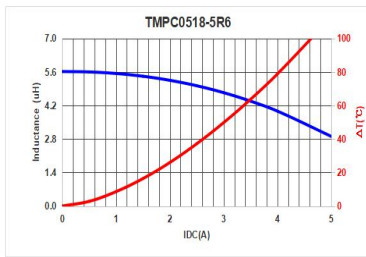
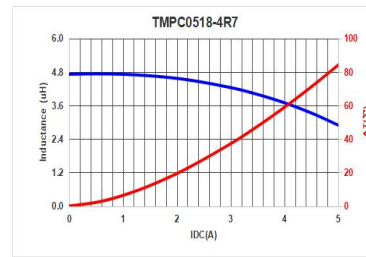
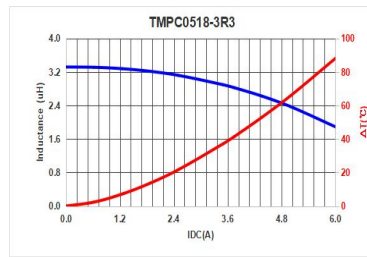
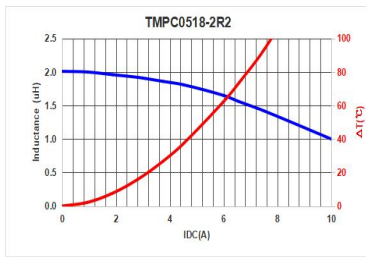
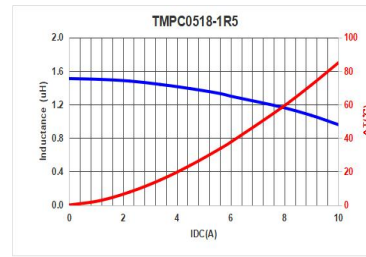
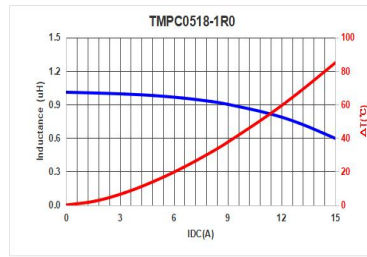
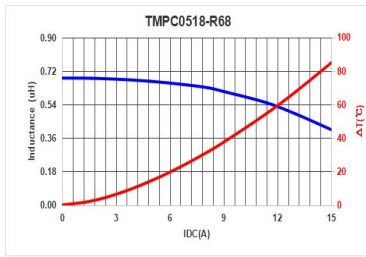
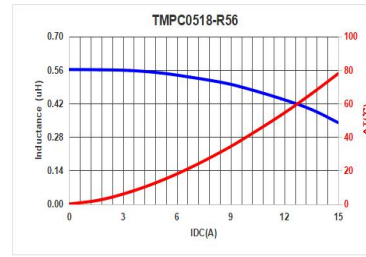
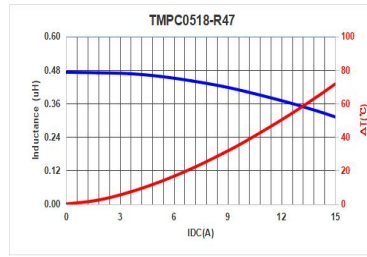
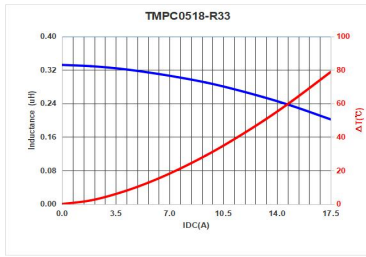
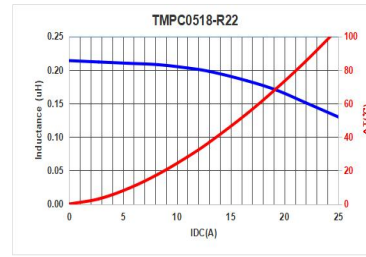
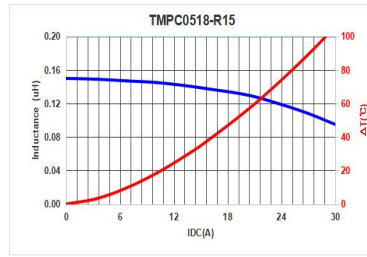
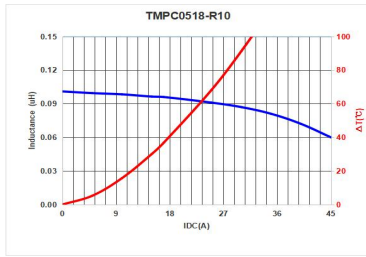




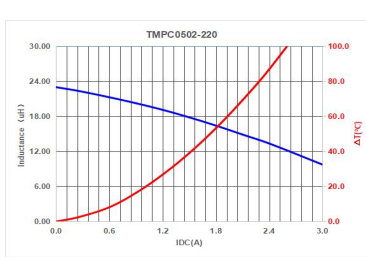
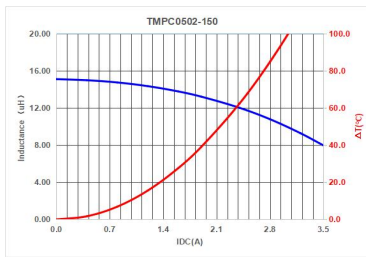
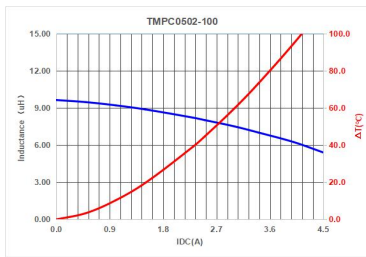
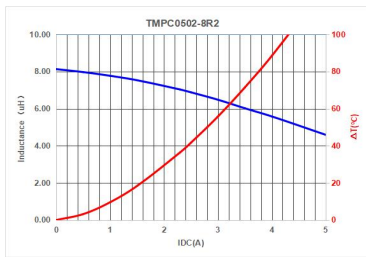
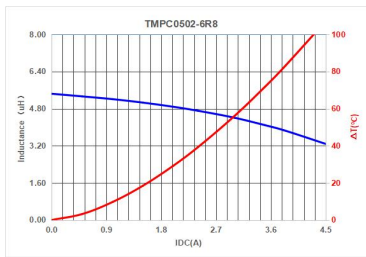
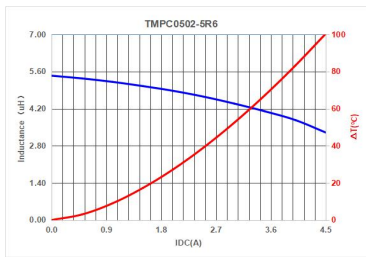
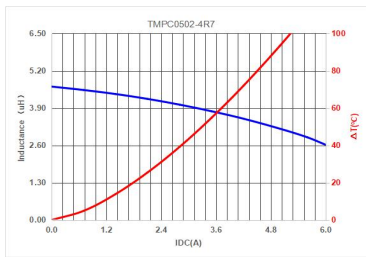
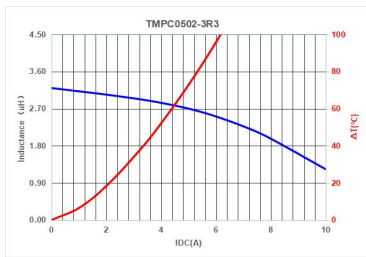
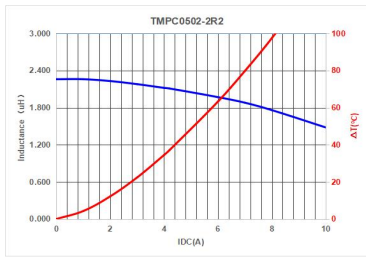
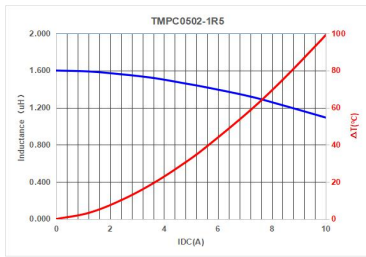
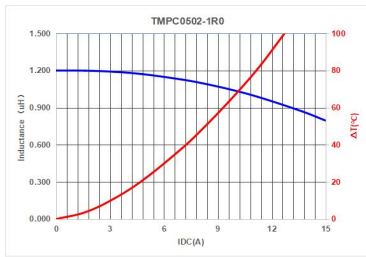
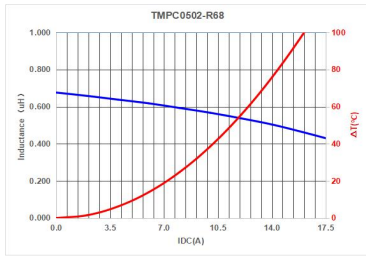
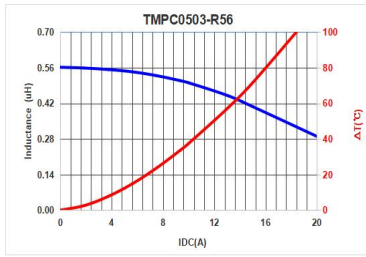
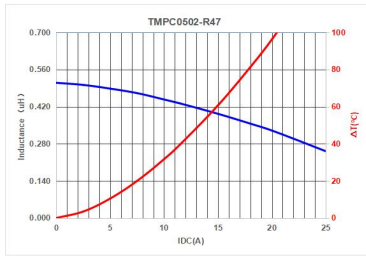
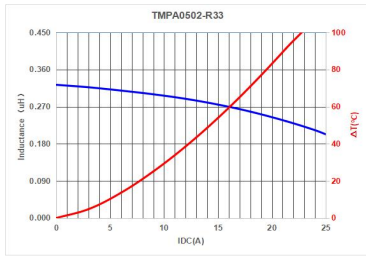
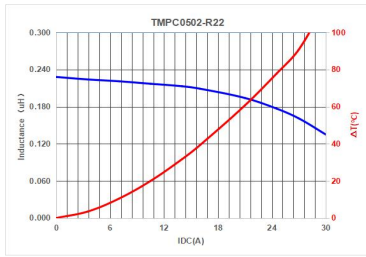
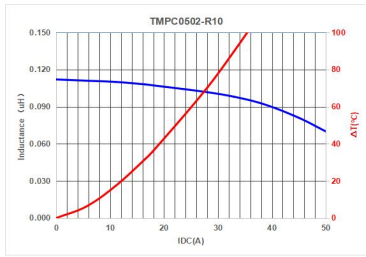
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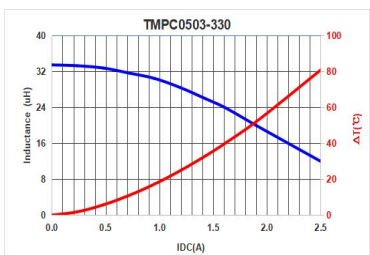
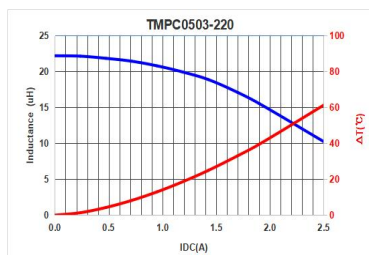
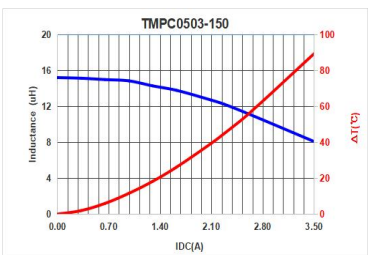
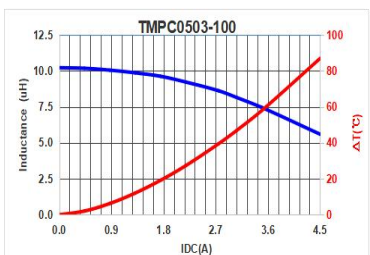
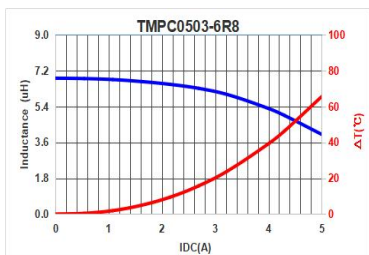
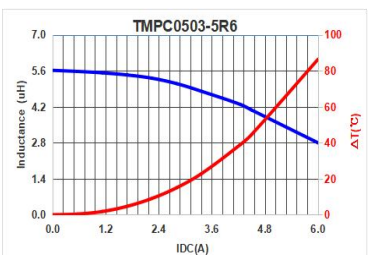
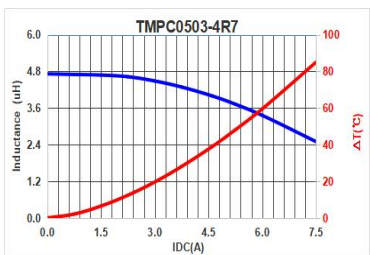
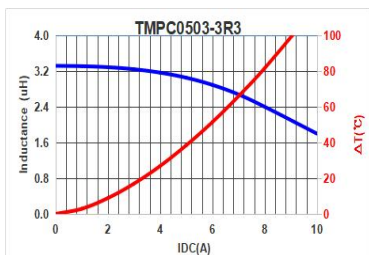
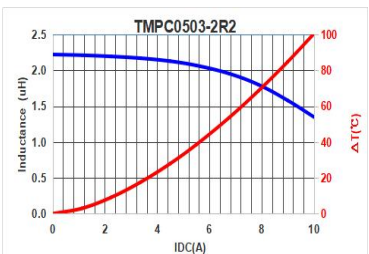
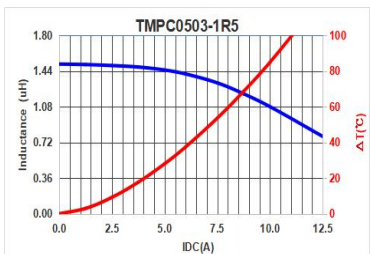
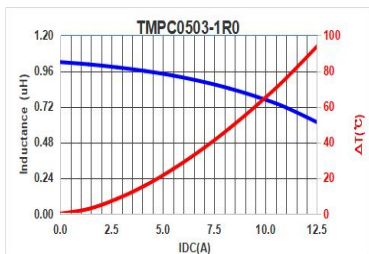
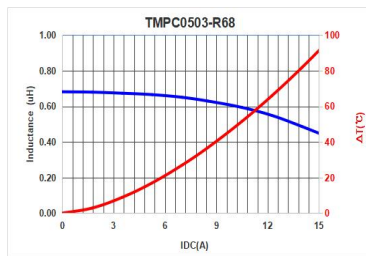
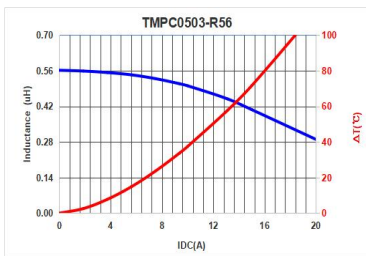
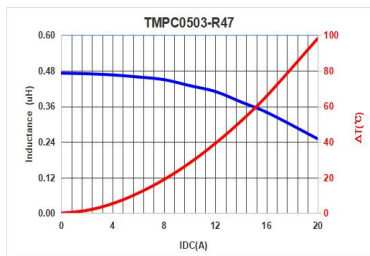
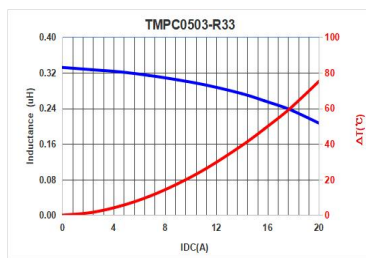
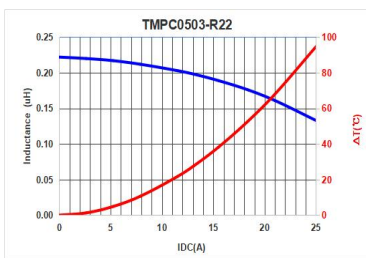
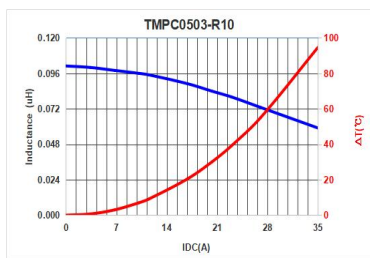
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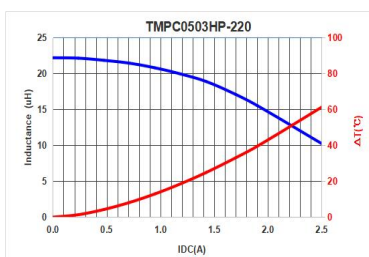
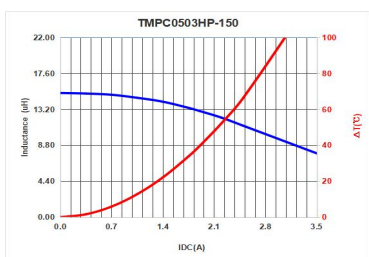
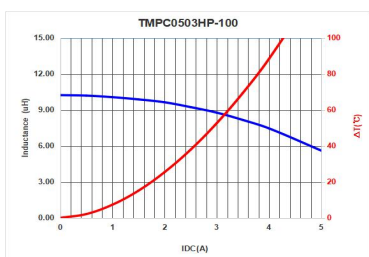
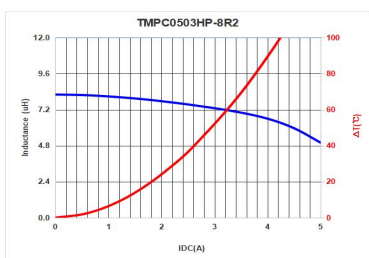
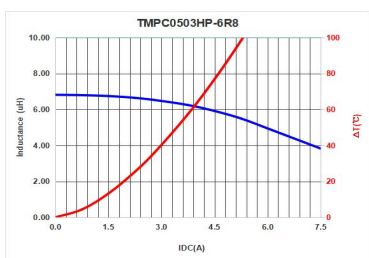
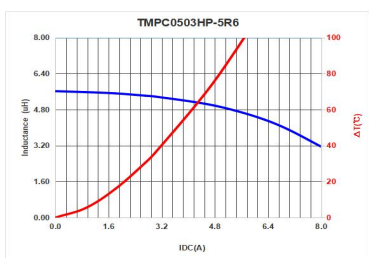
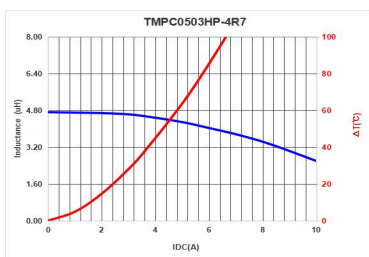
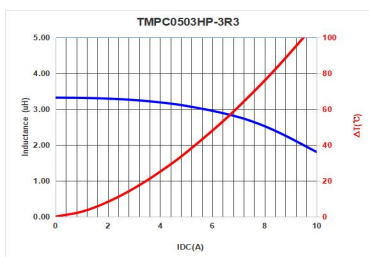
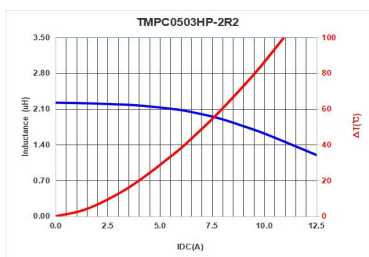
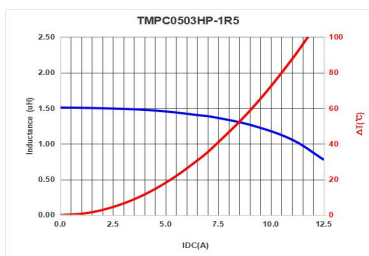
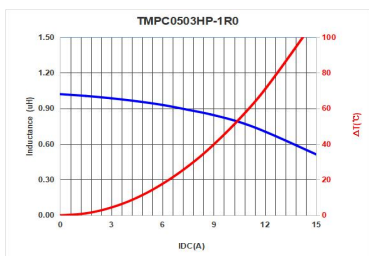
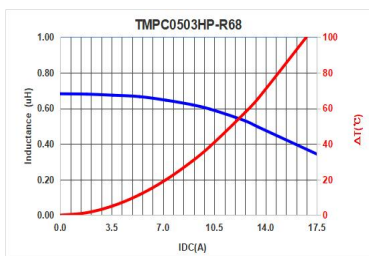
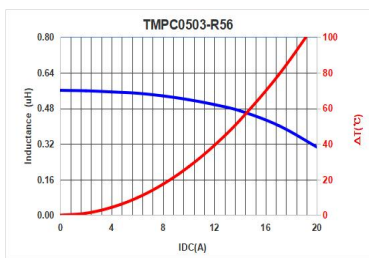
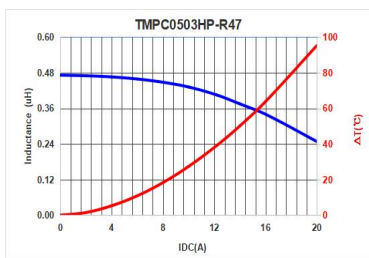
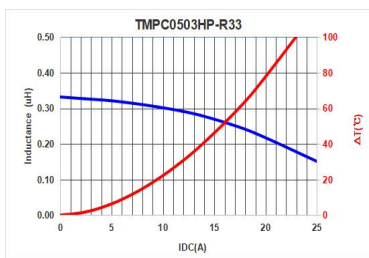
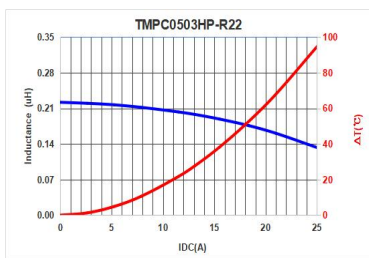
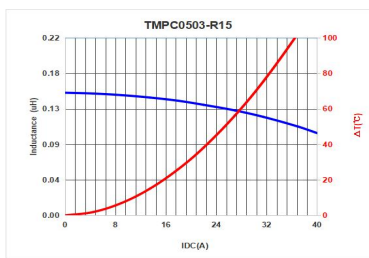
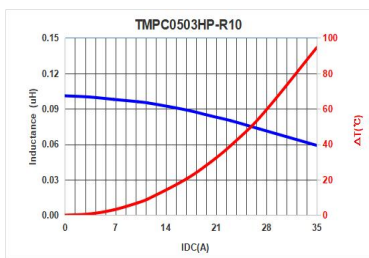
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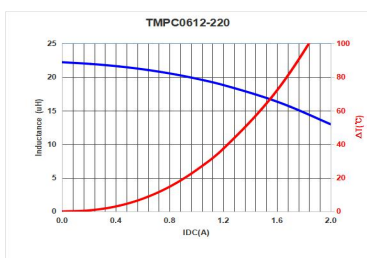
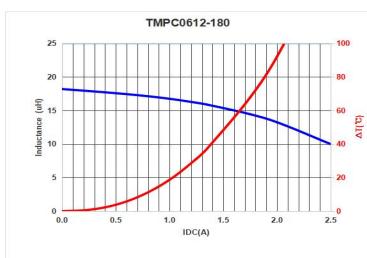
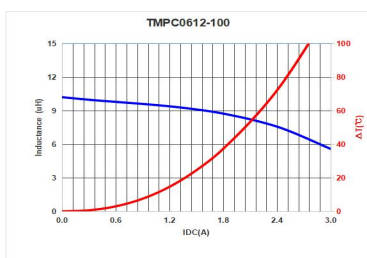
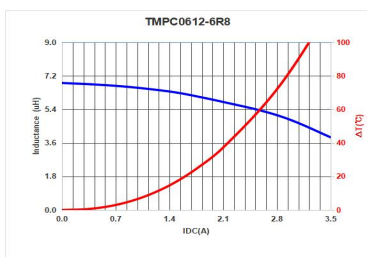
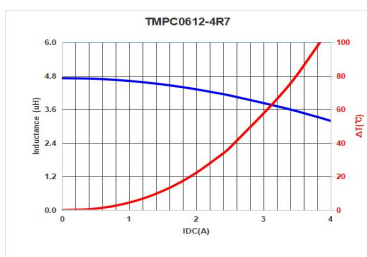
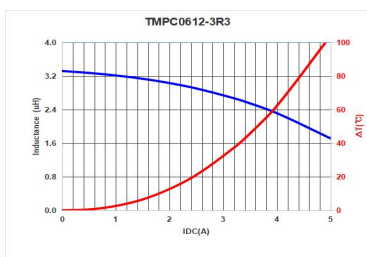
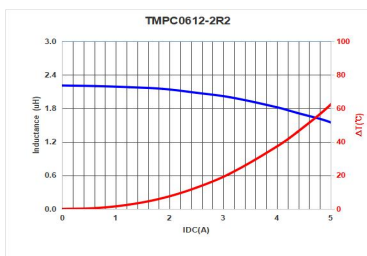
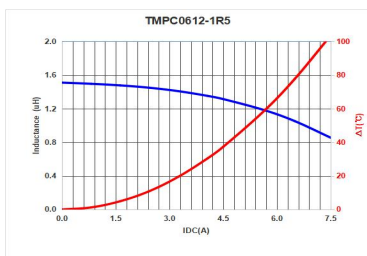
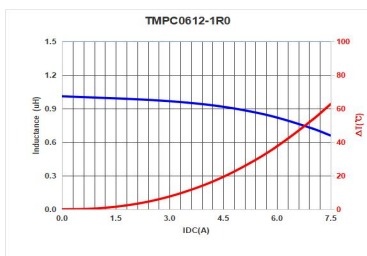
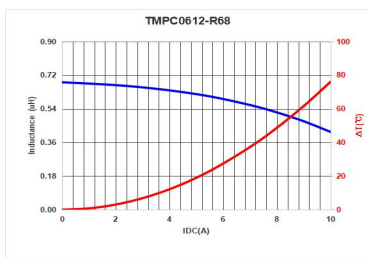
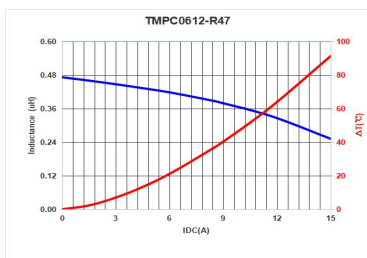
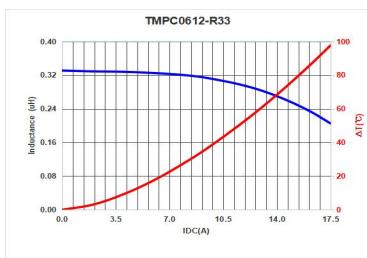
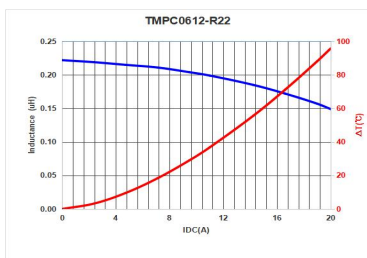
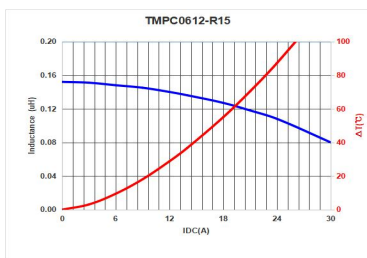
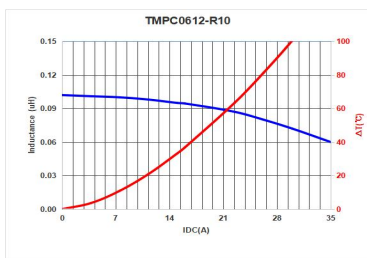
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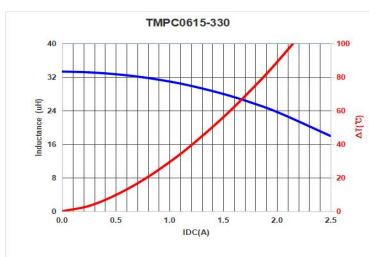
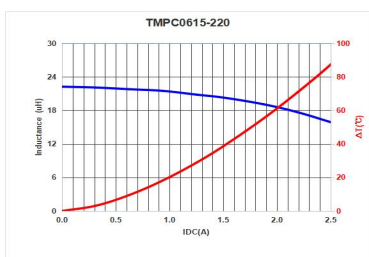
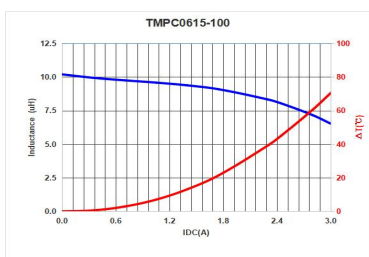
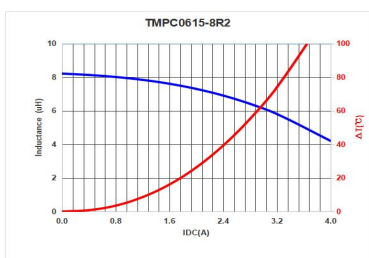
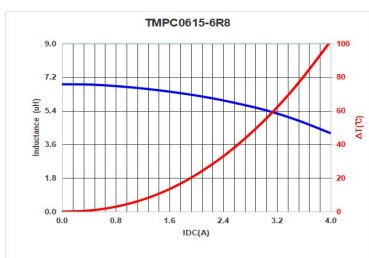
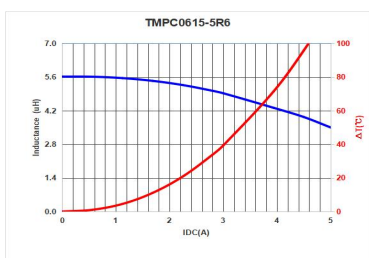
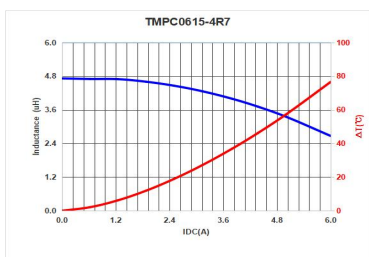
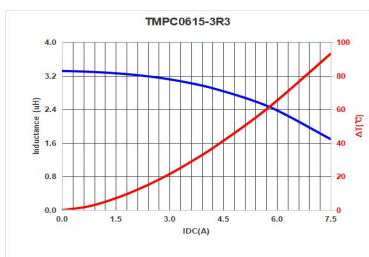
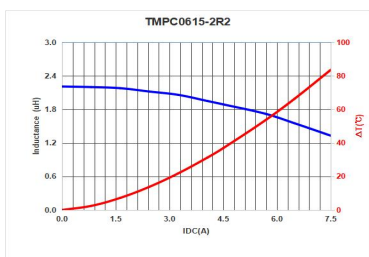
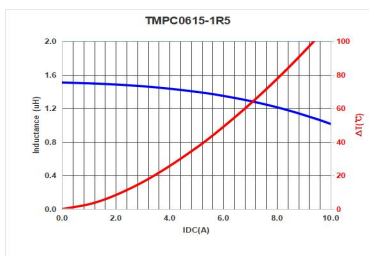
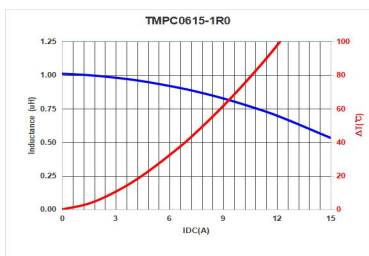
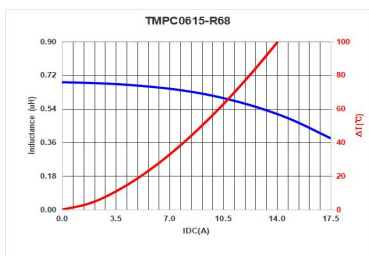
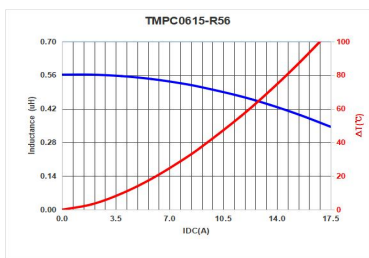
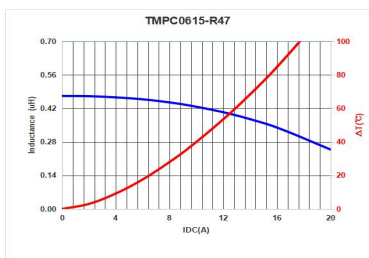
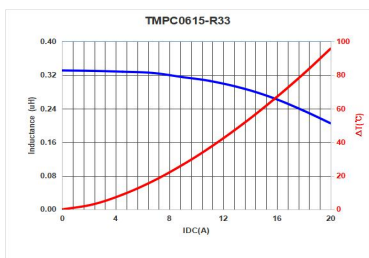
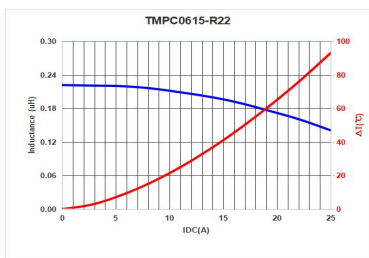
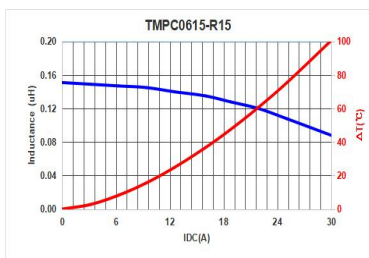
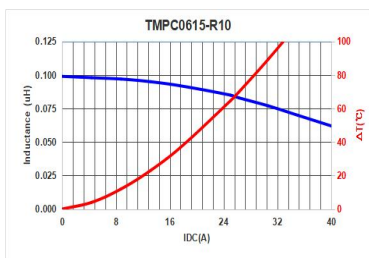
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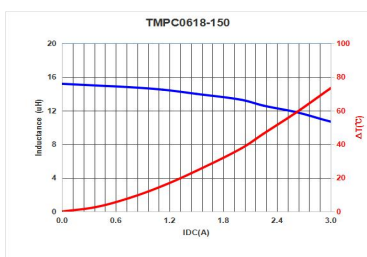
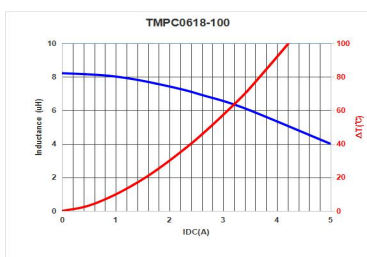
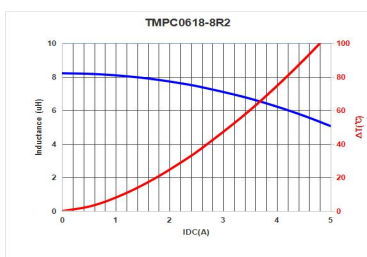
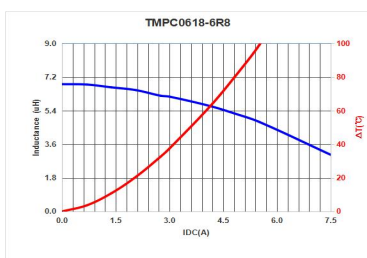
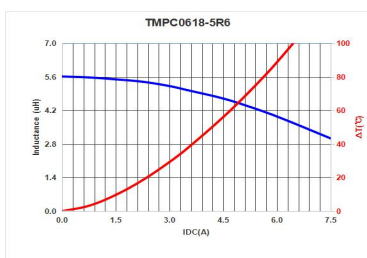
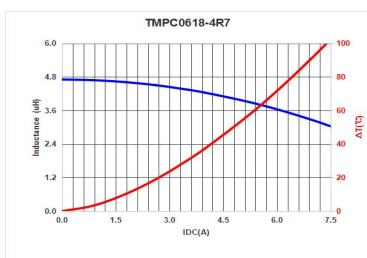
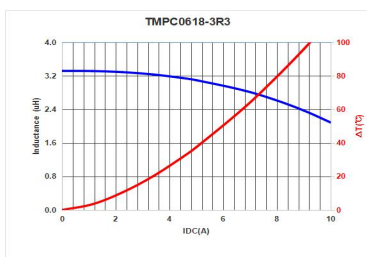
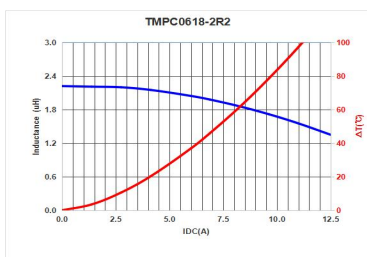
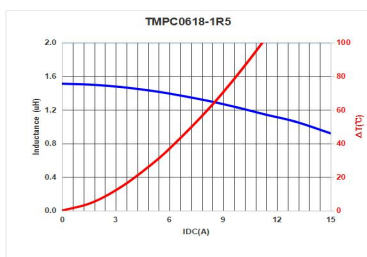
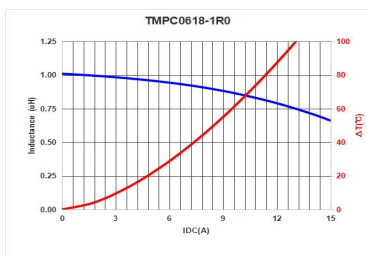
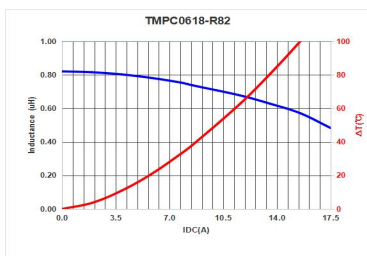
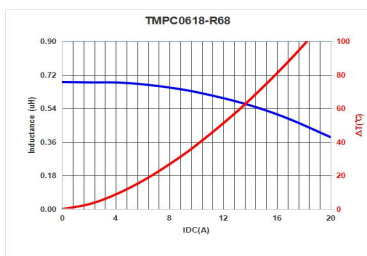
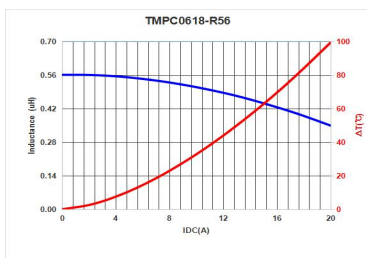
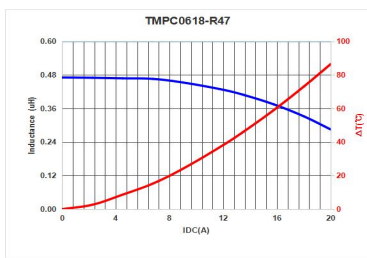
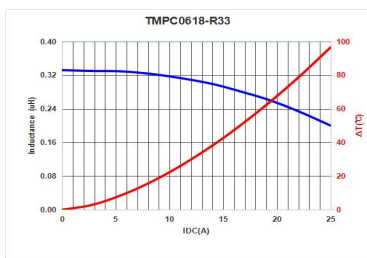
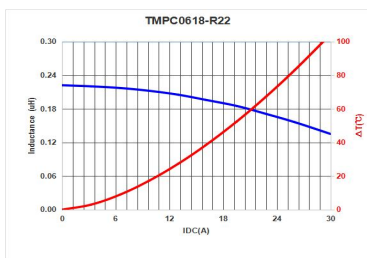
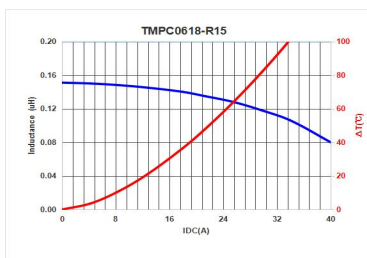
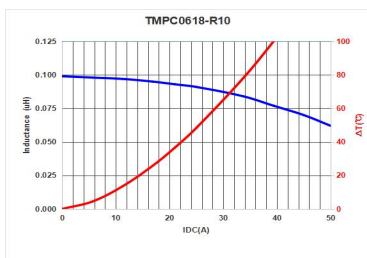
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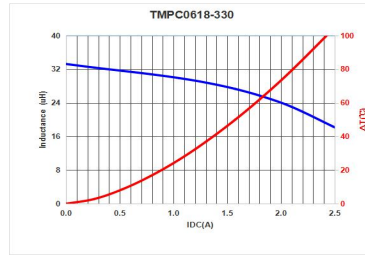
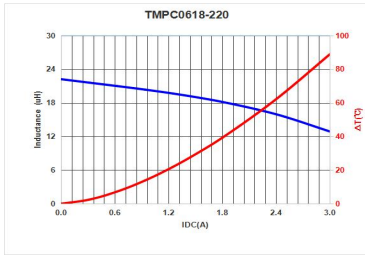


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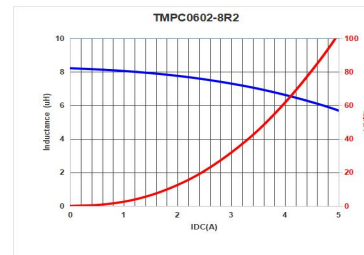
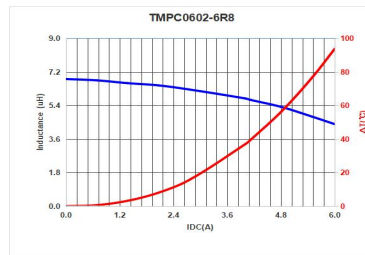
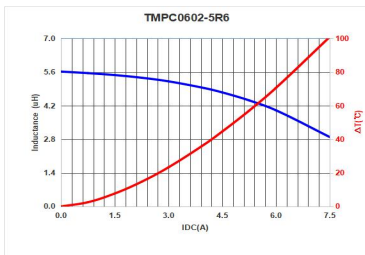
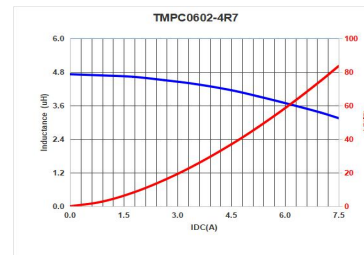
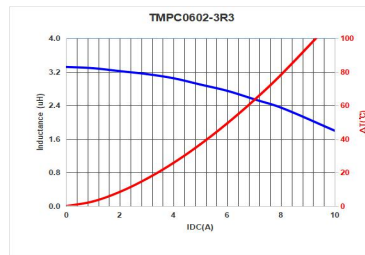
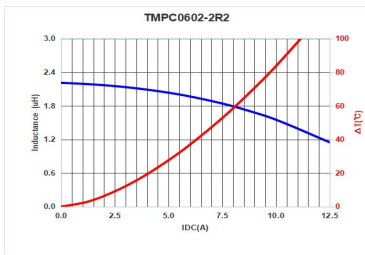
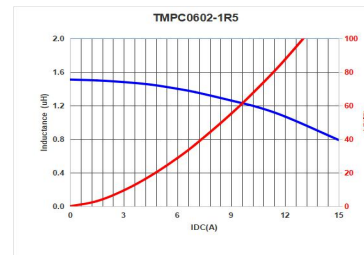
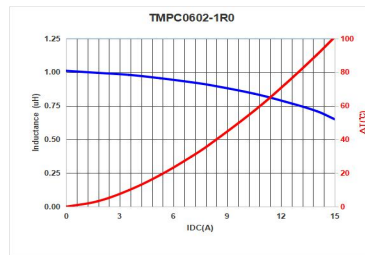
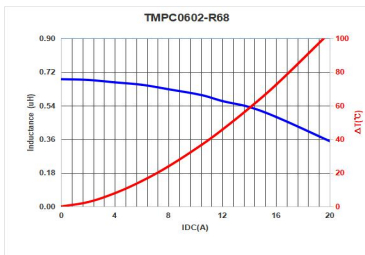
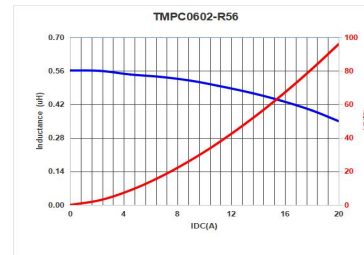
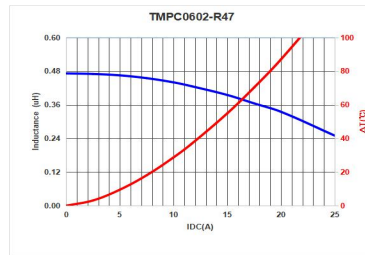
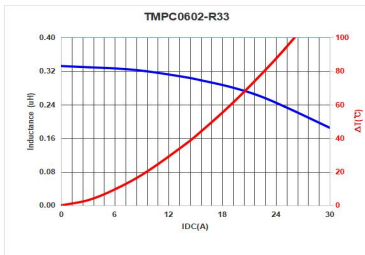
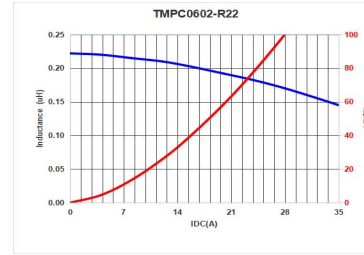
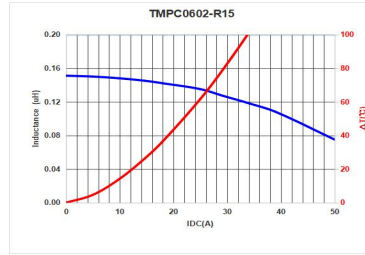
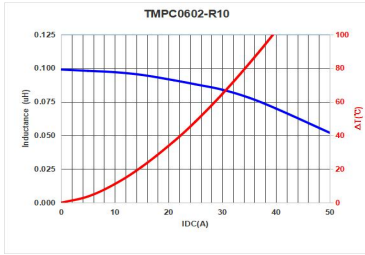


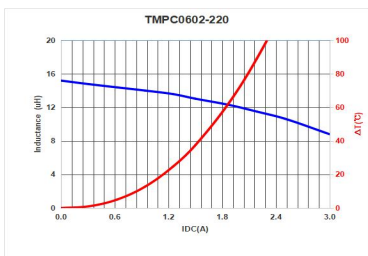
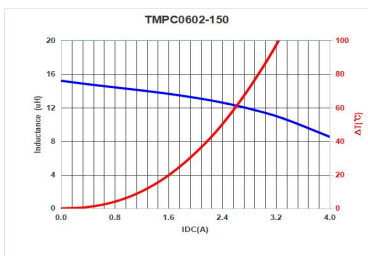
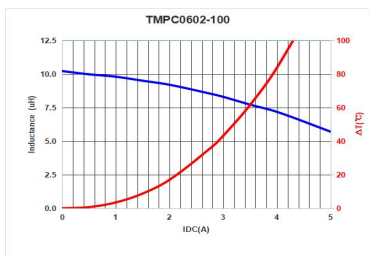
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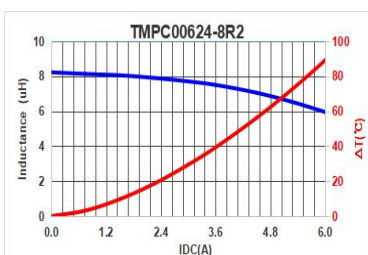
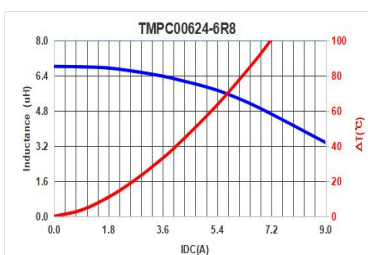
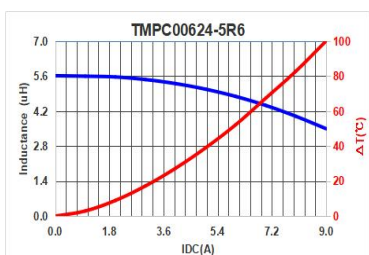
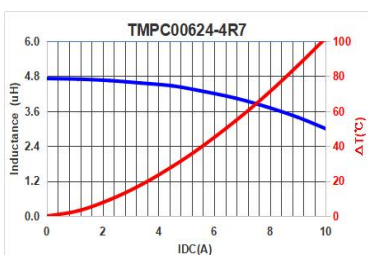
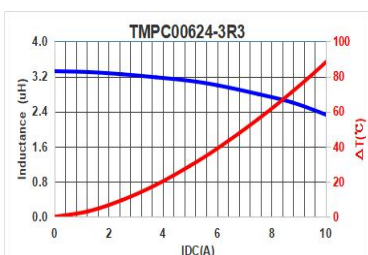
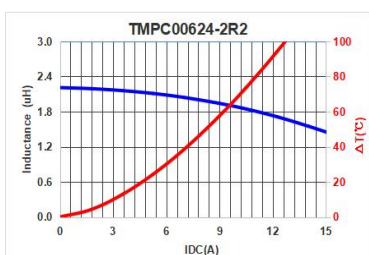
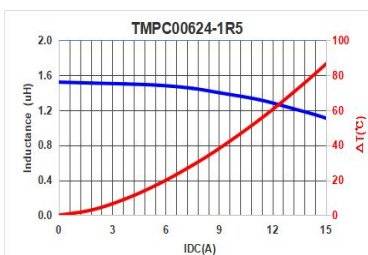
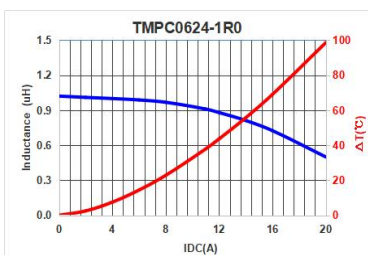
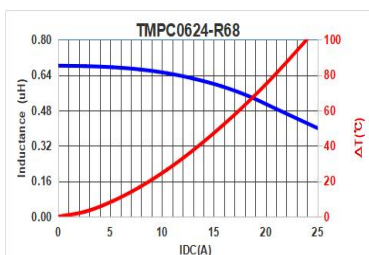
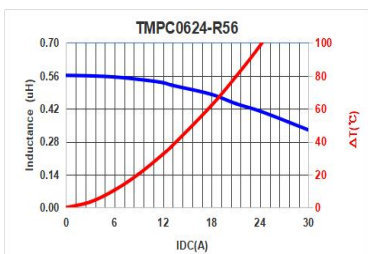
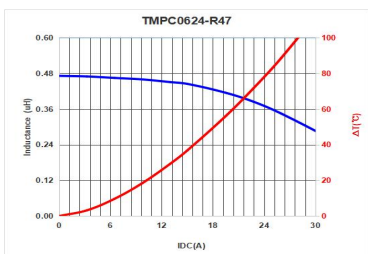
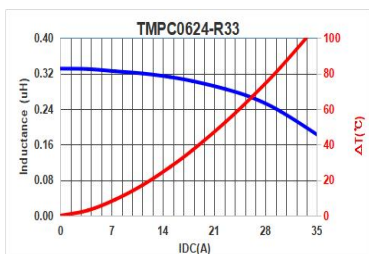
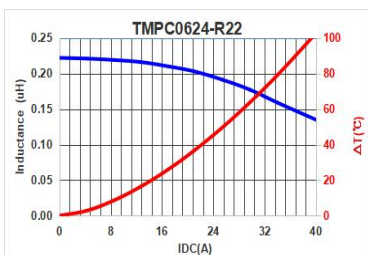
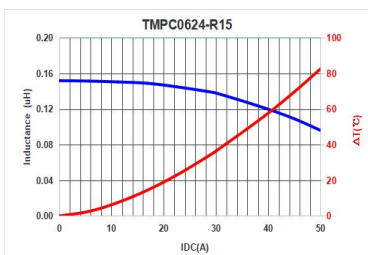
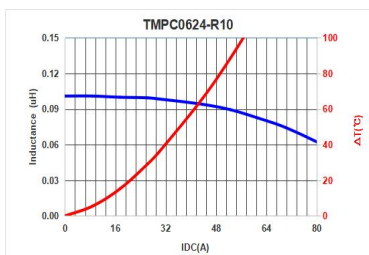


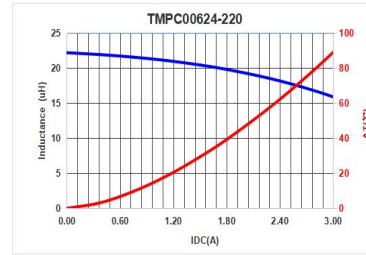
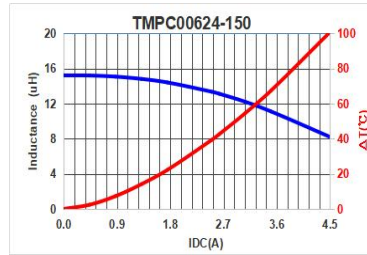
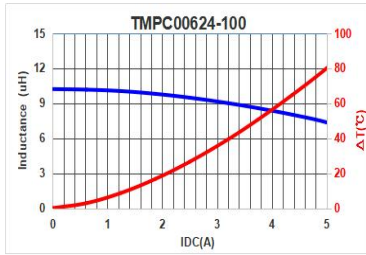
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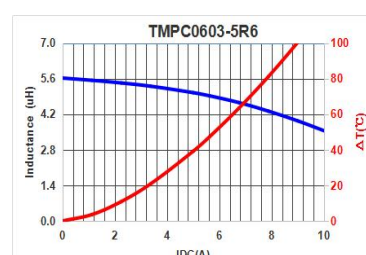
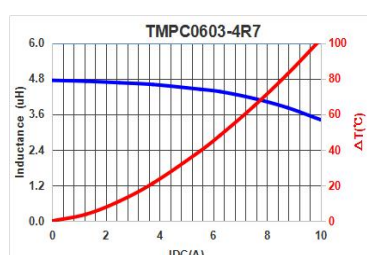
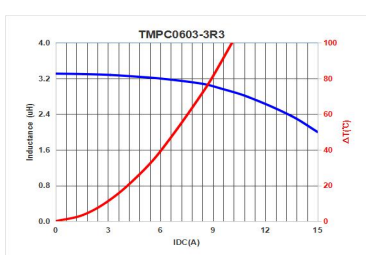
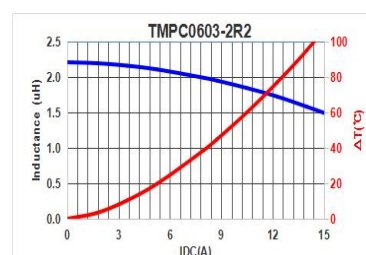
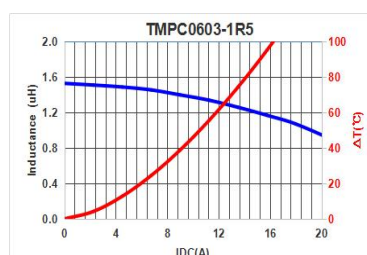
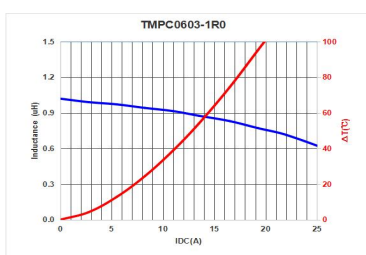
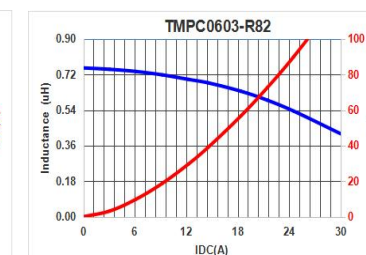
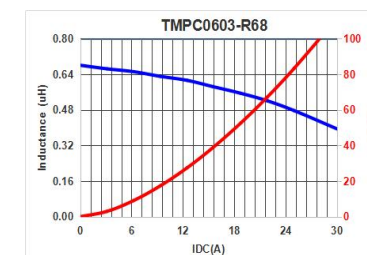
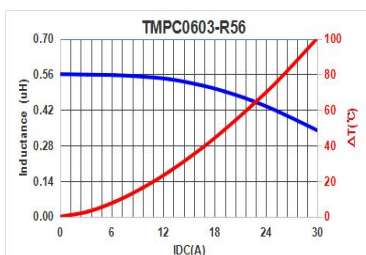
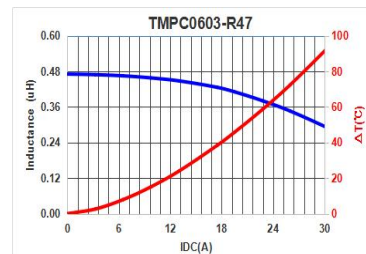
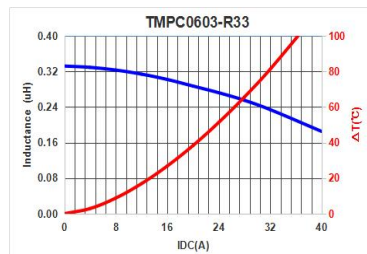
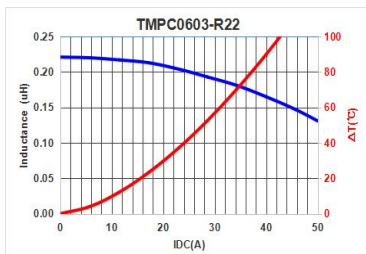
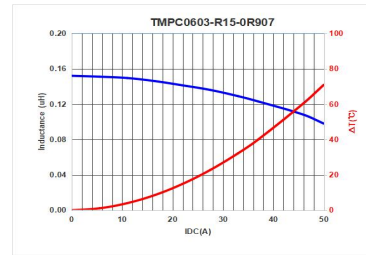
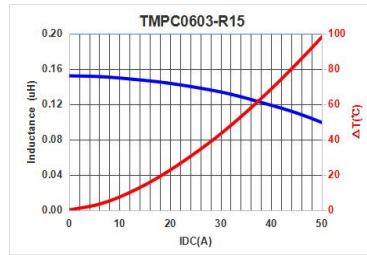
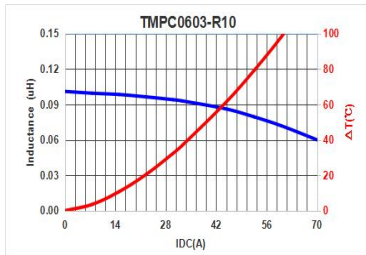


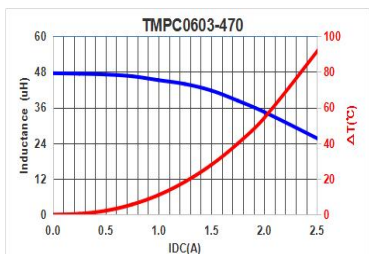
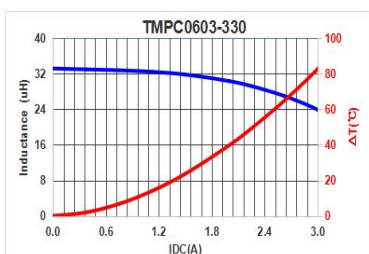
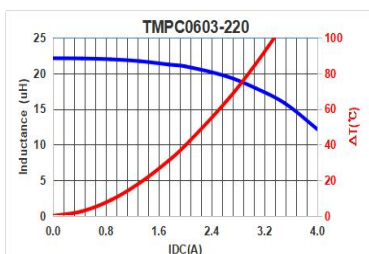
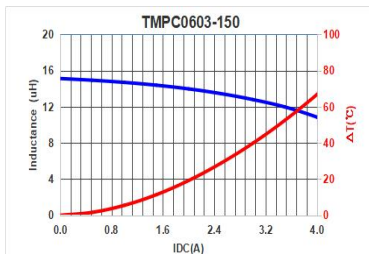
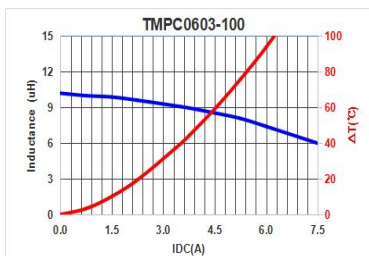
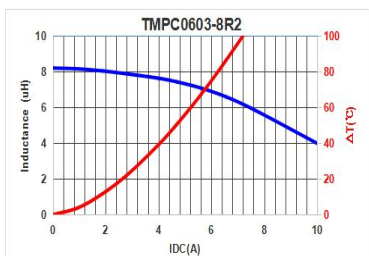
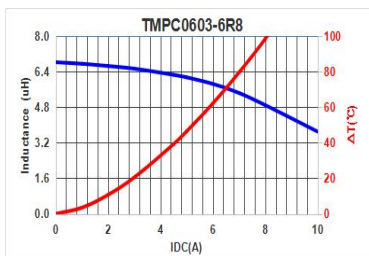
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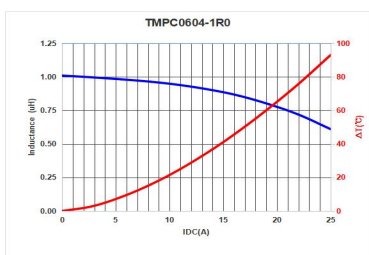
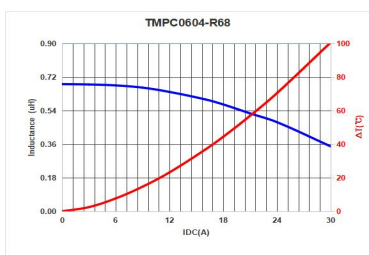
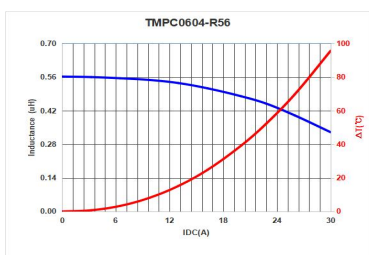
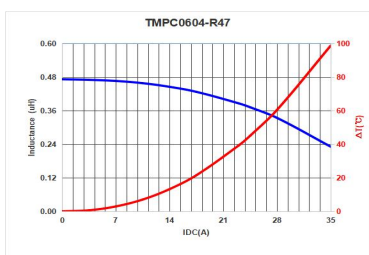
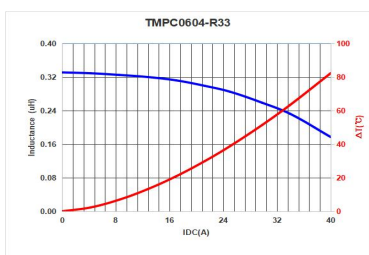
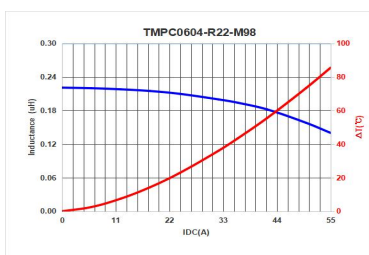
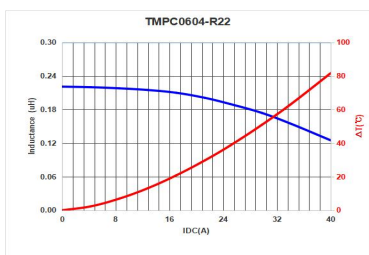
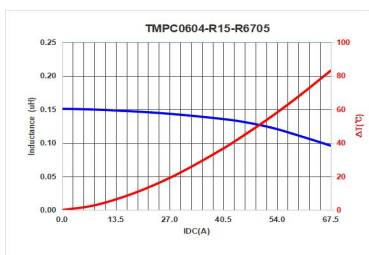
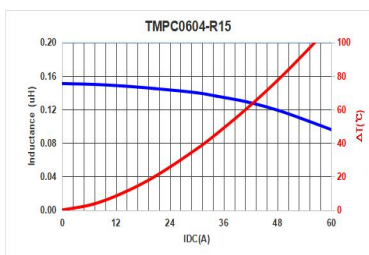


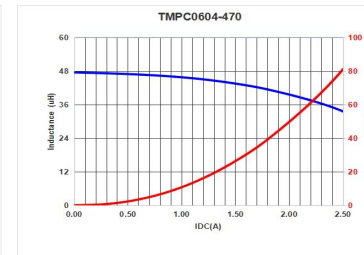
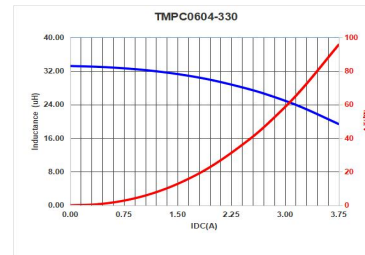
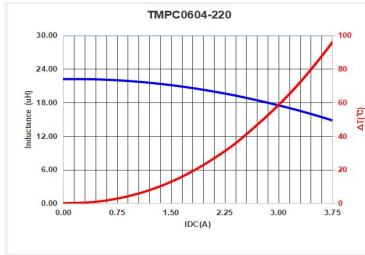
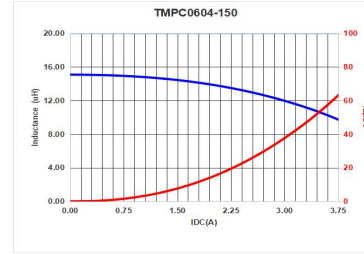
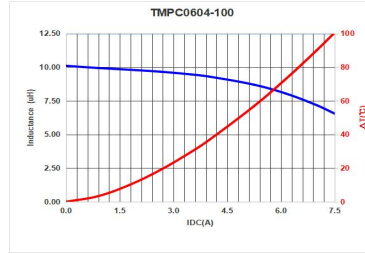
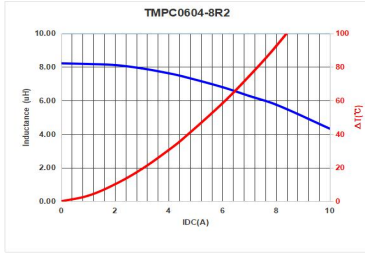
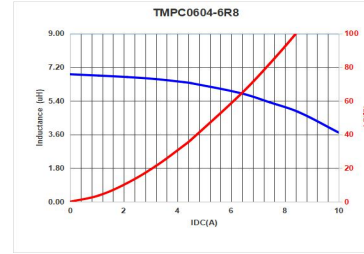
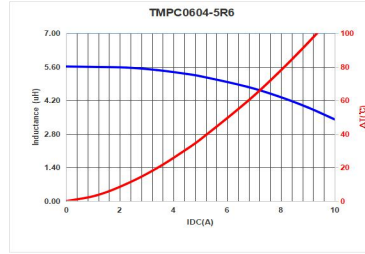
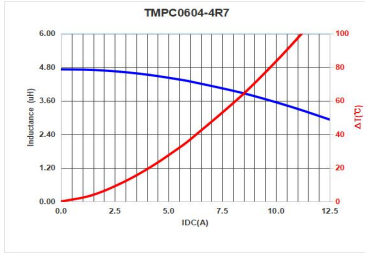
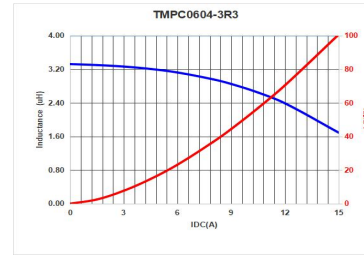
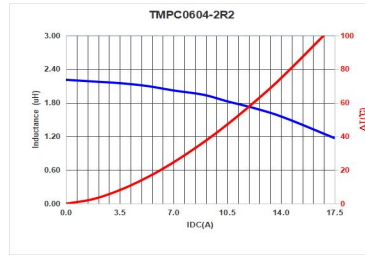
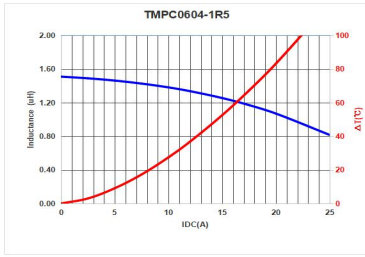
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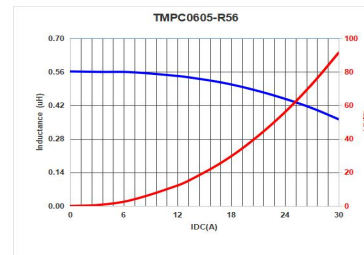
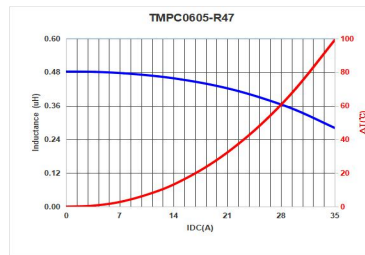
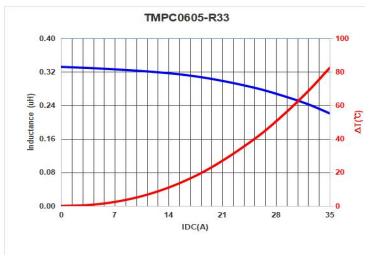
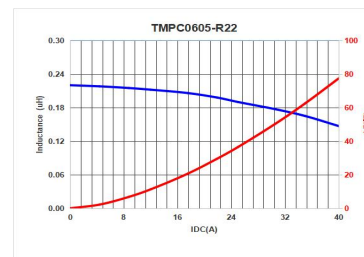
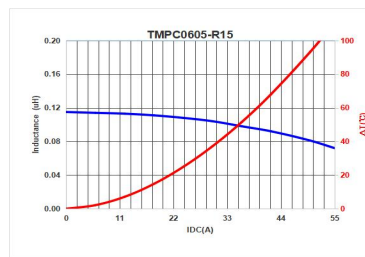
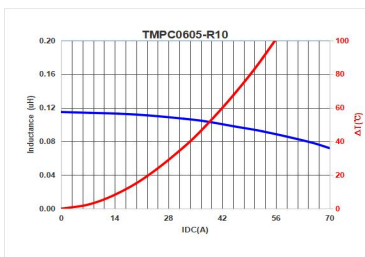


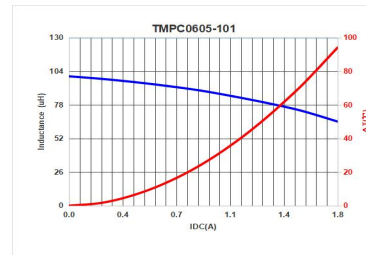
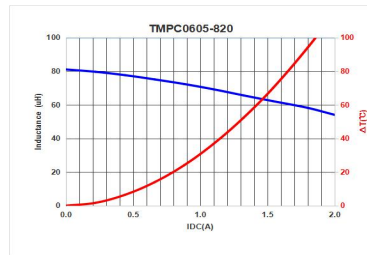
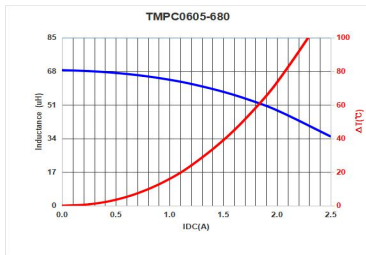
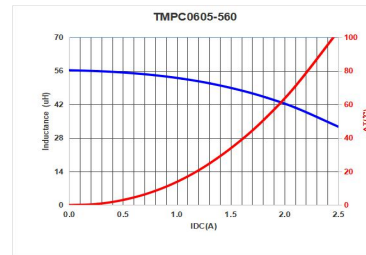
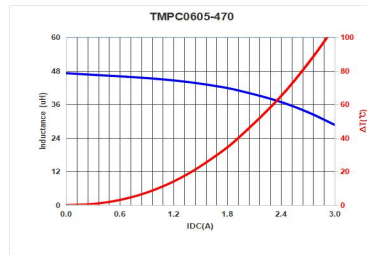
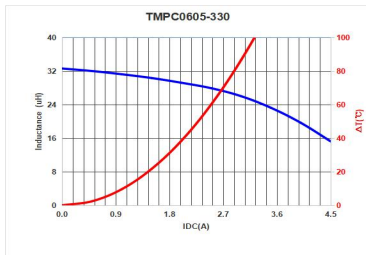
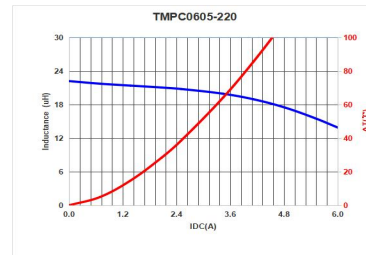
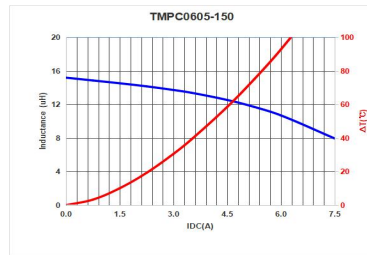
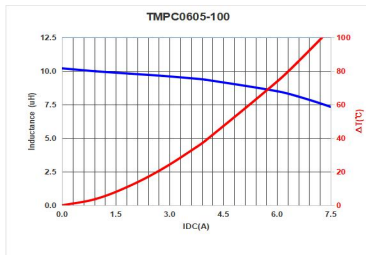
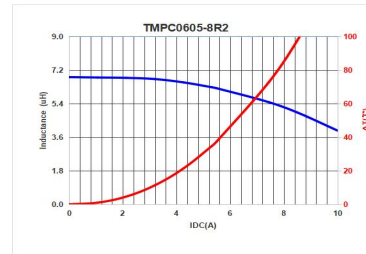
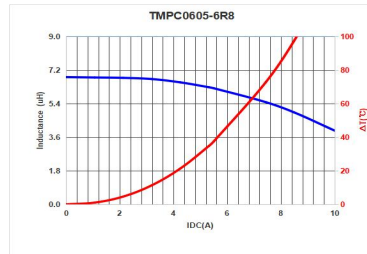
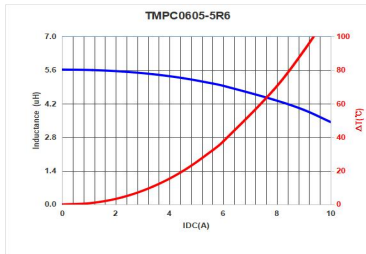
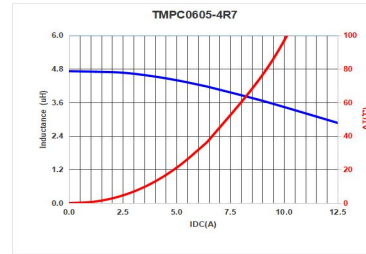
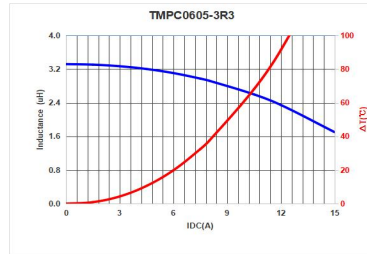
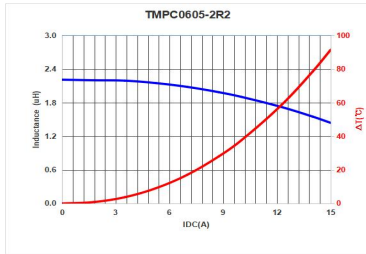
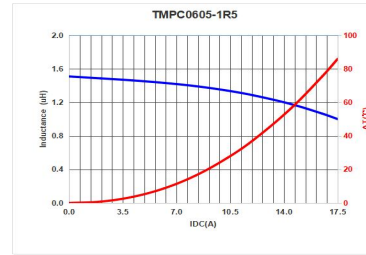
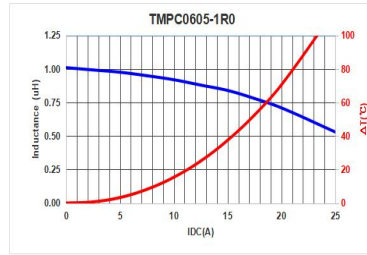
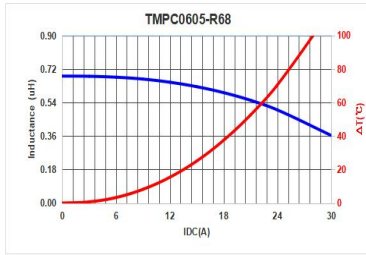
### TMPC0604





**TMPC0605**





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