THE DATASHEET OF

SXR151M050ST

Type SXR 105 °C Long Life Aluminum Electrolytic Capacitors

Low ESR, High Ripple, Radial Leaded Aluminum Electrolytic Capacitors

Type SXR is a radial leaded aluminum electrolytic capacitor with a +105 °C, 2000 to 5000 hours long life ratings. The low ESR and high ripple current ratings make it ideal for output filtering applications in switching power supplies.

Highlights

- +105 °C
- 2000 to 5000 hours - long life
- Low ESR
- High ripple current
- Available in T & R and ammo pack

Specifications

Temperature Range

–40 °C to +105 °C

Rated Voltage Range

6.3 to 100 Vdc

Capacitance Range

22 to 15,000 µF

Capacitance Tolerance

± 20%

DC Leakage Current

I ≤ .01CV or 3 µA after 2 minutes @ +20 °C, whichever is greater
C = Capacitance in (µF)
V = Rated voltage
I = Leakage current in µA

Ripple Current Multipliers

Rated WVDC	Ripple Multipliers					
	60Hz	120Hz	400 Hz	1 kHz	10 kHz	100 kHz
10 - 16	0.45	0.60	0.83	0.94	0.98	1.00
25 - 35	0.38	0.50	0.75	0.90	0.97	1.00
50 - 100	0.36	0.46	0.70	0.88	0.94	1.00

Temperature (°C)	+65	+75	+85	+95	+105
Multiplier	2.12	1.92	1.69	1.50	1.00

Dissipation Factor @ 120 Hz, +25 °C

WV (V)	6.3	10	16	25	35	50	63	100
DF(%)	22	19	16	14	12	10	9	8

For capacitors whose capacitance value exceeds 1000 µF, the value of DF (%) is increased 2% for every additional 1000 µF

Load Life Test

Apply WVDC for:

Case Dia.	Lifetime (Hours)
≤ 6.3 mm	2000
8.0 mm	3000
10.0 mm	4000
≥13.0 mm	5000

Capacitance change within 25% of initial value
DC leakage current meets initial limits
DF ≤ 200% of initial limit

Shelf Life

1000 hrs with no voltage applied at +105 °C
Cap change within 25% of initial values
DF ≤ 200% of initial limit
DC leakage current meets initial limits

RoHS Compliant

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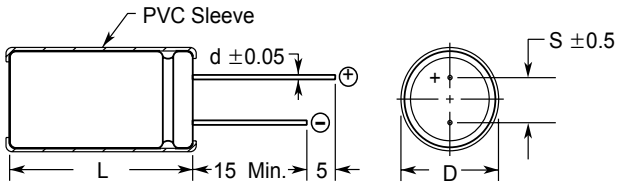
Part Numbering System

SXR	101	M	100	S	T
Type	Capacitance	Capacitance Tolerance	Rated Voltage	Packaging	Lead Configuration
SXR	(µF)	(%)	(Vdc)	A = Tape & Ammo	1 = Lead cut
	1R0 = 1	K = ±10	6R3 = 6.3	E = Different Characteristic	2 = Lead form
	100 = 10	M = ±20	010 = 10	R = Tape & Reel	4 = Lead crimp & cut (form)
	101 = 100		100 = 100	S = Standard	
	102 = 1000				

Outline Drawing



Outline Dimensions
(Millimeters)

Case vented on diameters 6.3 and greater

Vinyl sleeve adds .5 Max. to diameter and 2.0 Max. to length

Ratings

Cap (µF)	Catalog Part Number	Max ESR 100 kHz 25 °C (Ω)	Max Ripple 100 kHz 105 °C (mA)	Size in. (mm) Diameter (D)	Length (L)	Lead Space (S)	Lead Dia. (d)
6.3 Vdc (8 Volts Surge)							
120	SXR121M6R3ST	2.43	154	.197 (5.0)	.433 (11.0)	.079 (2.0)	.0197 (0.5)
150	SXR151M6R3ST	1.95	210	.236 (6.0)	.433 (11.0)	.098 (2.5)	.0197 (0.5)
220	SXR221M6R3ST	1.33	260	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
330	SXR331M6R3ST	0.88	350	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
470	SXR471M6R3ST	0.62	510	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M6R3ST	0.43	635	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M6R3ST	0.36	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M6R3ST	0.29	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
1200	SXR122M6R3ST	0.24	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
1500	SXR152M6R3ST	0.20	1030	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
3300	SXR332M6R3ST	0.10	1280	.472 (12.0)	1.38 (35.0)	.197 (5.0)	.0236 (0.6)
4700	SXR472M6R3ST	0.08	1770	.472 (12.0)	1.38 (35.0)	.197 (5.0)	.0236 (0.6)
6800	SXR682M6R3ST	0.07	1810	.630 (16.0)	1.26 (32.0)	.295 (7.5)	.0315 (0.8)
8200	SXR822M6R3ST	0.06	2030	.630 (16.0)	1.40 (36.0)	.295 (7.5)	.0315 (0.8)
10000	SXR103M6R3ST	0.05	2320	.630 (16.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
15000	SXR153M6R3ST	0.04	2460	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)

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Cap (µF)	Catalog Part Number	Max ESR 100 kHz 25 °C (Ω)	Max Ripple 100 kHz 105 °C (mA)	Size in. (mm) Diameter (D)	Length (L)	Lead Space (S)	Lead Dia. (d)
10 Vdc (13 Volts Surge)							
100	SXR101M010ST	2.52	180	.236 (6.0)	.433 (11.0)	.098 (2.5)	.0197 (0.5)
120	SXR121M010ST	2.10	210	.236 (6.0)	.433 (11.0)	.098 (2.5)	.0197 (0.5)
150	SXR151M010ST	1.68	240	.236 (6.0)	.433 (11.0)	.098 (2.5)	.0197 (0.5)
220	SXR221M010ST	1.15	300	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
330	SXR331M010ST	0.76	400	.315 (8.0)	.472 (12.0)	.138 (3.5)	.0236 (0.6)
470	SXR471M010ST	0.54	500	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M010ST	0.37	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M010ST	0.31	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M010ST	0.25	970	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
1200	SXR122M010ST	0.21	1030	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
1500	SXR152M010ST	0.18	1150	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
2200	SXR222M010ST	0.13	1320	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
3300	SXR332M010ST	0.09	1770	.512 (13.0)	1.42 (36.0)	.197 (5.0)	.0236 (0.6)
4700	SXR472M010ST	0.08	1810	.630 (16.0)	1.26 (32.0)	.295 (7.5)	.0315 (0.8)
6800	SXR682M010ST	0.06	2030	.630 (16.0)	1.42 (36.0)	.295 (7.5)	.0315 (0.8)
10000	SXR103M010ST	0.05	2460	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
16 Vdc (20 Volts Surge)							
100	SXR101M016ST	2.12	230	.315 (8.0)	.630 (16.0)	.138 (3.5)	.0197 (0.5)
120	SXR121M016ST	1.77	260	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
150	SXR151M016ST	1.42	300	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
220	SXR221M016ST	0.97	400	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
330	SXR331M016ST	0.64	500	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
470	SXR471M016ST	0.45	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M016ST	0.31	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M016ST	0.26	1030	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M016ST	0.21	1150	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
1200	SXR122M016ST	0.18	1120	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
1500	SXR152M016ST	0.15	1320	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
2200	SXR222M016ST	0.11	1540	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
3300	SXR332M016ST	0.08	1980	.472 (12.0)	1.57 (40.0)	.197 (5.0)	.0236 (0.6)
4700	SXR472M016ST	0.07	2030	.630 (16.0)	1.42 (36.0)	.295 (7.5)	.0315 (0.8)
6800	SXR682M016ST	0.05	2240	.709 (18.0)	1.42 (36.0)	.295 (7.5)	.0315 (0.8)
8200	SXR822M016ST	0.05	2460	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
25 Vdc (32 Volts Surge)							
100	SXR101M025ST	1.86	300	.315 (8.0)	.630 (16.0)	.138 (3.5)	.0197 (0.5)
120	SXR121M025ST	1.55	350	.315 (8.0)	.433 (11.0)	.138 (3.5)	.0236 (0.6)
150	SXR151M025ST	1.24	400	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
220	SXR221M025ST	0.84	500	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
330	SXR331M025ST	0.56	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
470	SXR471M025ST	0.40	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M025ST	0.27	1150	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M025ST	0.23	1120	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M025ST	0.19	1320	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
1200	SXR122M025ST	0.15	1400	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
1500	SXR152M025ST	0.13	1540	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
2200	SXR222M025ST	0.10	1980	.472 (12.0)	1.57 (40.0)	.197 (5.0)	.0236 (0.6)
3300	SXR332M025ST	0.07	2030	.630 (16.0)	1.42 (36.0)	.295 (7.5)	.0315 (0.8)
4700	SXR472M025ST	0.06	2460	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)

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Cap (µF)	Catalog Part Number	Max ESR 100 kHz 25 ºC (Ω)	Max Ripple 100 kHz 105 ºC (mA)	Size in. (mm) Diameter (D)	Length (L)	Lead Space (S)	Lead Dia. (d)
35 Vdc (44 Volts Surge)							
100	SXR101M035ST	1.59	400	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
120	SXR121M035ST	1.33	510	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
150	SXR151M035ST	1.06	550	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
220	SXR221M035ST	0.72	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
330	SXR331M035ST	0.48	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
470	SXR471M035ST	0.34	1150	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M035ST	0.23	1320	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M035ST	0.19	1400	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M035ST	0.16	1540	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
1200	SXR122M035ST	0.13	1770	.472 (12.0)	1.38 (35.0)	.197 (5.0)	.0236 (0.6)
1500	SXR152M035ST	0.12	1980	.472 (12.0)	1.57 (40.0)	.197 (5.0)	.0236 (0.6)
2200	SXR222M035ST	0.08	2030	.630 (16.0)	1.40 (36.0)	.295 (7.5)	.0315 (0.8)
3300	SXR332M035ST	0.47	2460	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
50 Vdc (63 Volts Surge)							
68	SXR680M050ST	1.95	400	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
100	SXR101M050ST	1.33	635	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
120	SXR121M050ST	1.11	650	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
150	SXR151M050ST	0.88	860	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
220	SXR221M050ST	0.60	1030	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
330	SXR331M050ST	0.40	1150	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
470	SXR471M050ST	0.28	1320	.472(12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M050ST	0.20	1770	.472 (12.0)	1.38 (35.0)	.197 (5.0)	.0236 (0.6)
820	SXR821M050ST	0.16	1980	.472 (12.0)	1.57 (40.0)	.197 (5.0)	.0236 (0.6)
1000	SXR102M050ST	0.13	1810	.630 (16.0)	1.26 (32.0)	.295 (7.5)	.0315 (0.8)
1200	SXR122M050ST	0.11	2030	.630 (16.0)	1.40 (36.0)	.295 (7.5)	.0315 (0.8)
1500	SXR152M050ST	0.10	2320	.630 (16.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
63 Vdc (79 Volts Surge)							
47	SXR470M063ST	2.26	305	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
68	SXR680M063ST	1.56	500	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
100	SXR101M063ST	1.06	550	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
120	SXR121M063ST	0.88	620	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
150	SXR151M063ST	0.71	795	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
220	SXR221M063ST	0.48	890	.472 (12.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
330	SXR331M063ST	0.32	1320	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
470	SXR471M063ST	0.23	1450	.472 (12.0)	1.38 (35.0)	.197 (5.0)	.0236 (0.6)
680	SXR681M063ST	0.16	1790	.630 (16.0)	1.26 (32.0)	.295 (7.5)	.0315 (0.8)
1000	SXR102M063ST	0.11	2200	.709 (18.0)	1.40 (36.0)	.295 (7.5)	.0315 (0.8)
1200	SXR122M063ST	0.09	2370	.709 (18.0)	1.57 (40.0)	.295 (7.5)	.0315 (0.8)
100 Vdc (125 Volts Surge)							
22	SXR220M100ST	4.22	305	.394 (10.0)	.472 (12.0)	.197 (5.0)	.0236 (0.6)
33	SXR330M100ST	2.81	500	.394 (10.0)	.630 (16.0)	.197 (5.0)	.0236 (0.6)
47	SXR470M100ST	1.98	600	.394 (10.0)	.787 (20.0)	.197 (5.0)	.0236 (0.6)
68	SXR680M100ST	1.37	795	.394 (10.0)	.984 (25.0)	.197 (5.0)	.0236 (0.6)
100	SXR101M100ST	0.93	905	.394 (10.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
120	SXR121M100ST	0.77	1040	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
150	SXR151M100ST	0.62	1200	.472 (12.0)	1.18 (30.0)	.197 (5.0)	.0236 (0.6)
220	SXR221M100ST	0.42	1440	.630 (16.0)	1.26 (32.0)	.295 (7.5)	.0315 (0.8)
330	SXR331M100ST	0.28	1790	.709 (18.0)	1.40 (36.0)	.295 (7.5)	.0315 (0.8)

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Taping & Packaging

Fig. 1 - Formed Taping

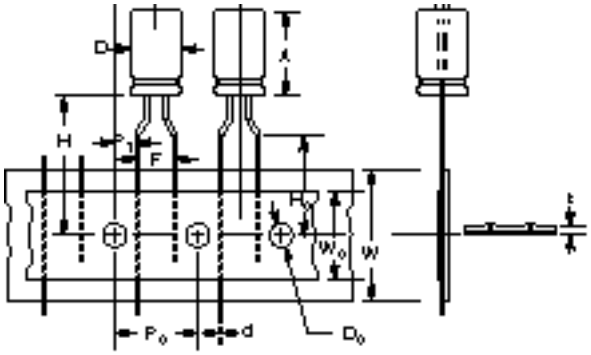


Fig. 2 - Straight Taping (5Φ, 6.3Φ, 8Φ)

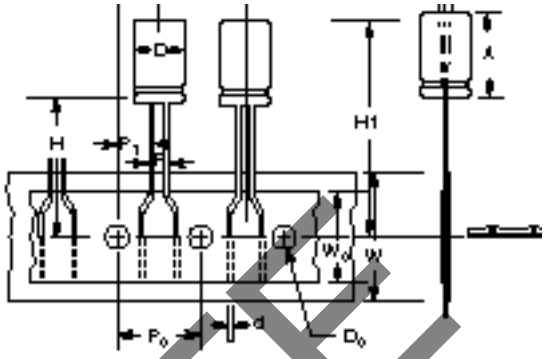


Fig. 3- Straight Taping (Under 10Φ, 12Φ, 13Φ)

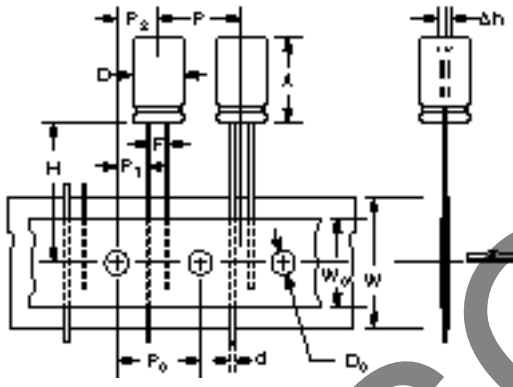
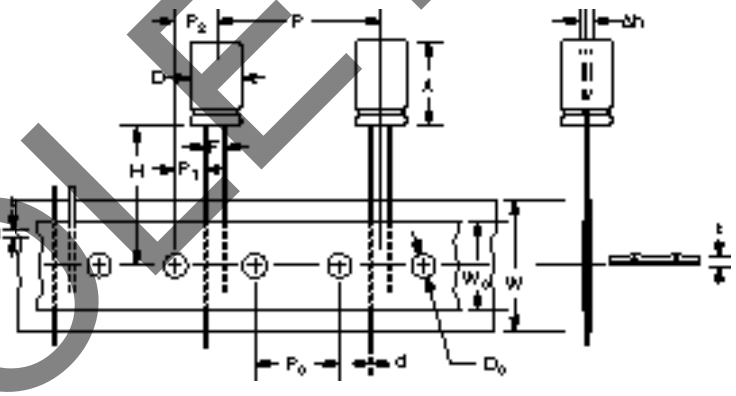


Fig. 4- Straight Taping (16Φ, 18Φ)

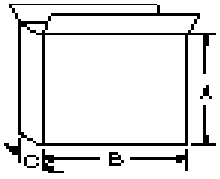


Standard Lead Spacing of Taped Components is 5mm
Other Lead Spacing is Available by Special Order

Code	D	A	d	P	P_0	P_1	P_2	F	W	W_0	H	H_0	D_0	t	ih	Fig.
Tolerance	**0.5**	**1.0**	**±0.05**	**±1.0**	**±0.2**	**±0.7**	**±1.3**	**+0.8 -0.2**	**±0.5**	**Min.**	**±0.75**	**±0.5**	**±0.2**	**±0.2**	**Max.**	
Item	4 ~ 6.3	7.0	0.45	12.7	12.7	3.85	6.35	5.0	18.0	12.5	18.5	16.0	4.0	0.7	2.0	1
	5 ~ 8	12.5	0.5	12.7	12.7	3.85	6.35	5.0	18.0	12.5	18.5	16.0	4.0	0.7	2.0	
	5, 6.3	12.5	0.5	12.7	12.7	5.1	6.35	2.5	18.0	12.5	18.5	—	4.0	0.7	2.0	2
	8	12.5	0.5	12.7	12.7	4.6	6.35	3.5	18.0	12.5	18.5	—	4.0	0.7	2.0	
	10	21.0	0.6	12.7	12.7	3.85	6.35	5.0	18.0	12.5	18.5	—	4.0	0.7	2.0	3
	12, 13	26.0	0.6	15.0	15.0	5.0	7.5	5.0	18.0	12.5	18.5	—	4.0	0.7	2.0	
	16, 18	26.0	0.8	30.0	15.0	3.75	7.5	7.5	18.0	12.5	18.0	—	4.0	0.7	2.0	4

Capacitor Diameter D (mm)	Ammo Pack Box Dimensions (mm)			Quantity Per Ammo Pack Box
	A±5	B Max	C±3	
4	250	340	54	3000
5	250	340	54	2,000
6.3	290	340	54	2,000
8	250	340	54	1,000
10 (12 L)	290	340	54	600
10 (16 L)	350	340	59	600
10 (20 L)	340	340	71	600
12, 13	340	340	71	400
16	340	340	71	300

Ammo Pack



Ammo Pack boxes are shipped 5 to the outer packing carton

Tape And Reel Quantities

Case Diameter D (mm)	Reel Width	Reel Qty. (Pcs.)
4	44	1500
5	44	1200
6	44	1000
8	44	800
10 (12L)	44	600
10 (16L)	50	600
12, 13	-	-
16	-	-

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