



**THE DATASHEET OF  
FAR-F5KB-836M50-B4ER-Z**



## Notice for TAIYO YUDEN products

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Please read this notice before using the TAIYO YUDEN products.

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REFLOW

## ORDERING CODE

(A) Previous Rule (applied to products registered on March 31, 2010 or before.)

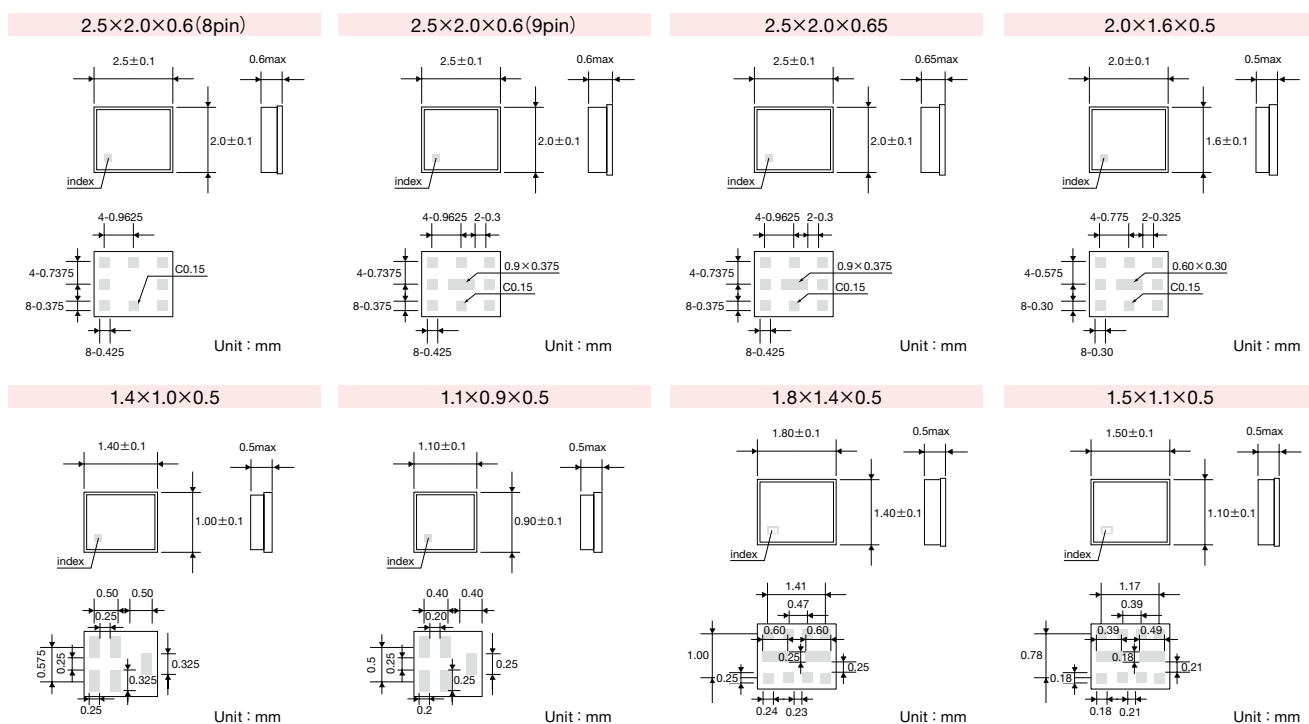


(B) New Rule (applied to products registered on April 1, 2010 or later.)



\* For further details, please contact to TAIYO YUDEN Co.,Ltd.

## EXTERNAL DIMENSIONS/STANDARD QUANTITY



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## PART NUMBERS

### Duplexers

System	Part number	Package Size (mm)	Insertion Loss (dB)	Isolation (dB)	Remarks
W-CDMA Band 1	D6PE2G140P3AW	2.0×1.6×0.5	1.5/1.6	59/47	9 Pin, B Type Rx : Bal.100ohm
	D6RB2G140E1AJ	1.8×1.4×0.5	1.7/1.8	57/48	8 Pin, B Type Rx : Bal.100ohm
PCS/W-CDMA Band 2	FAR-D6NH-1G9600-M1Z9	2.5×2.0×0.65	2.2/3.1	55/50	9 Pin, B Type
	FAR-D6NH-1G9600-M1Z6	2.5×2.0×0.65	2.3/2.7	55/53	9 Pin, B Type Low Rx IL
	FAR-D6NF-1G9600-P1BT	2.5×2.0×0.65	2.5/2.8	54/55	9 Pin, B Type 100ohm, Low Rx IL
	D6NF1G960P1BR	2.5×2.0×0.65	2.5/3.4	58/53	9 Pin, B Type Rx : Bal.100ohm High GPS Att. & Rx Isol.
	D6HH1G960BH95	2.5×2.0×0.65	2.3/2.5	56/53	9 Pin, B Type 100ohm
	D6PE1G960P3BY	2.0×1.6×0.57	2.0/3.1	57/53	9 Pin, B Type Rx : Bal.100ohm
W-CDMA Band 4	D6PE2G132P3DWB	2.0×1.6×0.5	1.8/1.8	55/50	9 Pin, B Type Rx : Bal.100ohm
	FAR-D5NG-881M50-M11Z	2.5×2.0×0.6	1.45/1.8	66/52	9 Pin, B Type
	FAR-D5PF-881M50-M3E9	2.0×1.6×0.5	1.5/1.8	58/51	9 Pin, B Type
CDMA/W-CDMA Band 5	FAR-D5NE-881M50-P1A9	2.5×2.0×0.6	1.6/1.8	57/51	9 Pin, B Type Rx : Bal.100ohm
	FAR-D5NE-881M50-P1A6Q	2.5×2.0×0.6	1.6/1.7	60/53	9 Pin, B Type 100ohm
	FAR-D5PE-881M50-P3EZ	2.0×1.6×0.5	1.4/1.7	59/52	9 Pin, B Type Rx : Bal.100ohm
	FAR-D5PE-881M50-P3EY	2.0×1.6×0.5	1.4/1.7	59/52	9 Pin, A Type Rx : Bal.100ohm
	D5NL881M5P1HY	3.0×2.5×0.7	1.6/2.6	60/51	SV-LTE
	FAR-D5NH-942M50-M1Y9	2.5×2.0×0.65	1.8/2.3	58/50	9 Pin, B Type
W-CDMA Band 8	FAR-D5NF-942M50-P1GWQ	2.5×2.0×0.65	1.9/2.3	59/54	9 Pin, B Type 100ohm, GPS High Att.
	D5PF942M5M3G9	2.0×1.6×0.5	1.9/2.2	60/52	9 Pin, B Type
	D5PE942M5P3GT	2.0×1.6×0.5	1.7/2.2	58/54	9 Pin, B Type Rx : Bal.100ohm
	D5PE782M0M3P9	2.0×1.6×0.5	1.6/2.0	53/64	9 Pin, B Type
LTE Band 13	D5NL782M0P1JZ	3.0×2.5×0.7	1.9/2.2	66/52	SV-LTE
	FAR-D5NE-740M00-P1C9	2.5×2.0×0.6	1.7/2.0	61/58	9 Pin, B Type Rx : Bal.100ohm
LTE Band 17	D5PE740M0P3NZ	2.0×1.6×0.5	1.9/2.0	63/60	9 Pin, B Type Rx : Bal.100ohm
LTE Band 20	D5NE847M0P1K9	2.5×2.0×0.6	2.1/2.3	52/51	9 Pin, B Type Rx : Bal.100ohm
LTE Band 21	D6PE1G503P3KW	2.0×1.6×0.5	1.6/2.0	55/56	9 Pin, B Type Rx : Bal.100ohm
LTE Band 26	D5PE876M5P3UZ	2.0×1.6×0.5	2.2/2.6	60/49	9 Pin, B Type Rx : Bal.100ohm
LTE Band 28	D5PF773M0M3Y6	2.0×1.6×0.5	1.8/2.3	60/53	Block A 9Pin, B Type
	D5PF788M0M3Y9	2.0×1.6×0.5	1.8/2.4	60/54	Block B 9Pin, B Type
CDMA BC0+BC10	D5NF878M0P1ET	2.5×2.0×0.65	1.9/2.5	58/50	9 Pin, B Type Rx : Bal.100ohm
	D5PE878M0P3UT	2.0×1.6×0.5	1.9/2.2	59/51	9 Pin, B Type Rx : Bal.100ohm

### CDMA/GSM850/Band 5

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
CDMA Tx	FAR-F5KB-836M50-B4ER	1.4×1.0×0.5	1.7	44	100ohm input
	FAR-F5KB-836M50-B4EG	1.4×1.0×0.5	1.6	42	200ohm input
	F5QA836M5M2AR	1.1×0.9×0.5	1.9	45	High Att.
CDMA/GSM850 Tx	FAR-F5KA-836M50-D4DF	1.4×1.0×0.5	1.9	44	High Att.
	FAR-F5KB-881M50-B4ED	1.4×1.0×0.5	1.5	61	100ohm output
CDMA/W-CDMA Band 5 Rx	FAR-F5KY-881M50-B4UZ	1.4×1.0×0.5	1.5	61	100ohm, High Att.
	FAR-F5KB-881M50-B4EJ	1.4×1.0×0.5	1.4	64	200ohm output
	FAR-F5QB-881M50-P2BG	1.1×0.9×0.5	1.5	60	100ohm output
	F5QG881M5P2KG	1.1×0.9×0.5	1.5	56	100ohm, High Att., Low Loss
	FAR-F5KA-881M50-D4DB	1.4×1.0×0.5	1.7	56	High Att.
GSM850/CDMA Rx	FAR-F5QA-881M50-M2AF	1.1×0.9×0.5	1.6	46	-
	FAR-F5KB-881M50-B4EA	1.4×1.0×0.5	1.7	53	150ohm output
GSM850 Rx	FAR-F5QB-881M50-P2BA	1.1×0.9×0.5	1.3	63	150ohm output

### CDMA2000 BC0+BC10

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
CDMA2000 BC0+10 Tx	F5KA833M0D4DU	1.4×1.0×0.5	2.3	43	High Att.
	F5KA833M0D4MG	1.4×1.0×0.5	1.4	20	Low IL
CDMA2000 BC0+10 Rx	F5KY878M0B4ND	1.4×1.0×0.5	2.1	53	100ohm output

### GSM/EGSM/Band 8

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
EGSM Tx	FAR-F5KA-897M50-D4DC	1.4×1.0×0.5	2.2	16	High Att.
	FAR-F5KA-897M50-D4VW	1.4×1.0×0.5	2.6	38	High Att.
	F5QA897M5M2AC	1.1×0.9×0.5	2.3	18	-
EGSM Rx	FAR-F5KA-942M50-D4DD	1.4×1.0×0.5	2.0	34	High Att.
	FAR-F5KB-942M50-B4EB	1.4×1.0×0.5	1.6	26	150ohm output
	FAR-F5KB-942M50-B4ES	1.4×1.0×0.5	2.4	29	100ohm output
	FAR-F5QB-942M50-P2BB	1.1×0.9×0.5	1.6	28	150ohm output
	F5KA942M5D4MYB	1.4×1.0×0.5	1.9	53	High Att.
W-CDMA/LTE Band 8	FAR-F5KY-942M50-B4UW	1.4×1.0×0.5	2.0	57	100ohm, High Att.
	F5QG942M5P2KB	1.1×0.9×0.5	2.2	56	100ohm, High Att.

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## PART NUMBERS

### DCS/Band 3

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
DCS Tx	FAR-F6KA-1G7475-D4CY	1.4×1.0×0.5	2.5	30	
	F6QA1G747M2QS	1.1×0.9×0.5	2.1	22	
DCS Rx	FAR-F6KA-1G8425-D4CK	1.4×1.0×0.5	2.1	20	
	FAR-F6KB-1G8425-B4GA	1.4×1.0×0.5	1.5	14	150ohm output
	F6QB1G842P2BM	1.1×0.9×0.5	1.8	15	100ohm
	F6QB1G842P2BF	1.1×0.9×0.5	1.6	17	150ohm
W-CDMA/LTE Band 3	F6KY1G842B4UM	1.4×1.0×0.5	3.0	50	100ohm, High Att.

### PCS/GSM1900/Band 2

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
US-PCS Tx	FAR-F6KA-1G8800-L4AF	1.4×1.0×0.5	2.4	35	High Att.
	FAR-F6KB-1G8800-B4GS	1.4×1.0×0.5	2.3	28	100ohm input
	F6QA1G880M2AQ	1.1×0.9×0.5	1.7	20	
US-PCS Rx	FAR-F6KA-1G9600-D4MT	1.4×1.0×0.5	3.4	43	High Att.
	FAR-F6KB-1G9600-B4GP	1.4×1.0×0.5	2.1	23	100ohm output
	FAR-F6KY-1G9600-B4UU	1.4×1.0×0.5	2.9	49	100ohm, High Att.
	F6KY1G960B4NF	1.4×1.0×0.5	2.8	50	100ohm output
	F6QG1G960P2KT	1.1×0.9×0.5	2.8	44	100ohm output
GSM1900/US-PCS Rx	FAR-F6KA-1G9600-D4CR	1.4×1.0×0.5	2.0	18	
GSM1900 Rx	FAR-F6KB-1G9600-B4GB	1.4×1.0×0.5	1.6	18	150ohm output
	F6QB1G960P2BK	1.1×0.9×0.5	1.5	15	150ohm output

### GSM Dual

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
GSM850+EGSM Rx	FAR-G5QC-942M50-N2FB	1.5×1.1×0.5	1.5/1.8	50/29	GSM850 150ohm output EGSM 150ohm output
GSM850+EGSM Rx (Common Input)	FAR-G5KT-942M50-Y4RW	1.8×1.4×0.5	1.9/2.2	50/25	GSM850 150ohm output EGSM 150ohm output
GSM850+EGSM Rx (Common Output)	FAR-G5KW-942M50-Y4YD	1.8×1.4×0.5	2.5/1.8	32/38	EGSM 150ohm output GSM850 150ohm output
EGSM+GSM850 Rx	FAR-G5KC-942M50-Y4YW	1.8×1.4×0.5	1.8/1.4	31/54	EGSM 150ohm output GSM850 150ohm output
	FAR-G5QC-942M50-N2CD	1.5×1.1×0.5	1.7/1.4	29/51	EGSM 150ohm output GSM850 150ohm output
EGSM+GSM850 Rx (Common Input)	FAR-G5KT-942M50-Y4RZ	1.8×1.4×0.5	2.2/1.9	25/52	EGSM 150ohm output GSM850 150ohm output
	FAR-G5QD-942M50-N2DB	1.5×1.1×0.5	2.5/2.0	25/55	EGSM 150ohm output GSM850 150ohm output
DCS+GSM1900 Rx	FAR-G6QC-1G9600-N2FA	1.5×1.1×0.5	1.9/1.7	17/13	DCS 150ohm output GSM1900 150ohm output
	G6QJ1G960M2MB	1.5×1.1×0.5	1.9/1.9	19/19	Rx Dual Unbal
DCS+GSM1900 Rx (Common Input)	FAR-G6KT-1G9600-Y4RU	1.8×1.4×0.5	1.8/2.0	18/13	DCS 150ohm output GSM1900 150ohm output
DCS+GSM1900 Rx (Common Output)	G6QD1G960N2DY	1.5×1.1×0.5	1.8/1.9	18/14	1 IN 4 OUT 150ohm output
GSM1900+DCS Rx	FAR-G6KC-1G9600-Y4YY	1.8×1.4×0.5	1.9/1.8	14/16	GSM1900 150ohm output DCS 150ohm output
	G6QC1G960N2CH	1.5×1.1×0.5	1.6/1.6	13/15	GSM1900 150ohm output DCS 150ohm output
GSM1900+DCS Rx (Common Input)	FAR-G6KT-1G9600-Y4RY	1.8×1.4×0.5	1.9/1.8	13/18	GSM1900 150ohm output DCS 150ohm output
GSM1900+DCS Rx (Common Output)	FAR-G6KW-1G9600-Y4YC	1.8×1.4×0.5	2.2/3.1	13/15	170ohm output for IMC
	G6QE1G960N2EC	1.5×1.1×0.5	2.5/2.5	18/13	GSM1900 150ohm output DCS 150ohm output
	G6QE1G960N2EE	1.5×1.1×0.5	2.2/2.2	31/14	GSM1900/DCS 150ohm output Low Loss
GSM1900+850 Rx	G6QF1G960N2GA	1.5×1.1×0.5	1.6/1.4	14/54	GSM1900 150ohm output GSM850 150ohm output

### GPS

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
GPS	FAR-F6KA-1G5754-L4AJ	1.4×1.0×0.5	0.9	—	Low loss, High Att.
	F6QA1G575H2JF	1.1×0.9×0.5	0.96	—	Low loss, High Att.
	FAR-F6KB-1G5754-B4GE	1.4×1.0×0.5	1.1	—	100ohm, Low loss
	FAR-F6KB-1G5754-B4GU	1.4×1.0×0.5	1.2	—	100ohm, High Att.
GPS/GNSS	FAR-F6KA-1G5859-D4MS	1.4×1.0×0.5	1.0/1.2	—	—
	F6QA1G585M2AT	1.1×0.9×0.5	1.1/1.4	—	—
	FAR-F6KB-1G5859-B4HR	1.4×1.0×0.5	1.1/1.4	—	100ohm output
	F6QB1G585P2BQ	1.1×0.9×0.5	1.5/1.7	—	100ohm output
GPS+GLONASS+Galileo +Compass	F6KA1G581D4JR	1.4×1.0×0.5	1.6	—	—
	F6QA1G581M2QZ	1.1×0.9×0.5	1.1/1.4	—	—

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**PART NUMBERS**

**W-CDMA**

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
W-CDMA Band 1 Tx	FAR-F6KA-1G9500-D4DG	1.4×1.0×0.5	1.6	38	Low loss, High Att.
	FAR-F6KB-1G9500-B4GJ	1.4×1.0×0.5	2.1	34	100ohm output
	F6QA1G950M2AA	1.1×0.9×0.5	1.8	38	Low loss, High Att.
W-CDMA Band 1 Rx	FAR-F6KA-2G1400-D4CG	1.4×1.0×0.5	1.9	39	
	FAR-F6KB-2G1400-B4GC	1.4×1.0×0.5	1.7	39	100ohm output
	FAR-F6KA-2G1400-D4DW	1.4×1.0×0.5	1.9	48	High Att.
	FAR-F6KY-2G1400-B4UY	1.4×1.0×0.5	1.8	64	100ohm, High Att.
	F6QG2G140P2KA	1.1×0.9×0.5	1.7	55	100ohm, High Att.
W-CDMA Band 1+2 Rx	G6QL2G140M2PA	1.5×1.1×0.5	1.9/3.0	48/41	
W-CDMA Band 2+1 Rx	G6QH2G140N2LP	1.5×1.1×0.5	3.2/2.3	53/54	2 (1.9G)100ohm out 1 (2G)100ohm out
W-CDMA Band 4 Tx	FAR-F6KA-1G7400-D4DE	1.4×1.0×0.5	1.5	44	
W-CDMA Band 5+8 Rx	G5QH942M5N2LN	1.5×1.1×0.5	1.6/2.0	56/50	100ohm output
W-CDMA Band 8+5 Rx (Common Output)	G5QT942M5N2VA	1.5×1.1×0.5	2.3/2.0	48/48	100ohm output
W-CDMA Band 7 Tx	F6KA2G535L4AM	1.4×1.0×0.5	1.6	30	
W-CDMA/LTE Band 7 Rx	FAR-F6KY-2G6550-B4UN	1.4×1.0×0.5	2.8	54	100ohm, High Att.
	F6QG2G655P2KE	1.1×0.9×0.5	2.5	52	100ohm, High Att.
W-CDMA Band 9 Tx	FAR-F6KA-1G7675-D4CT	1.4×1.0×0.5	1.8	31	Unbal.
W-CDMA Band 9 Rx	FAR-F6KB-1G8625-B4GT	1.4×1.0×0.5	2.1	40	100ohm output
LTE Band 12 Tx	F5KA707M5D4JW	1.4×1.0×0.5	1.6	23	Unbal.
LTE Band 12 Rx	F5KY737M0B4NN	1.4×1.0×0.5	1.4	57	100ohm output
LTE Band 13 Tx	FAR-F5KA-782M00-D4VP	1.4×1.0×0.5	1.5	55	
	F5QA782M0M2AZ	1.1×0.9×0.5	1.5	56	Unbal.
LTE Band 13 Rx	FAR-F5KY-751M00-B4UQ	1.4×1.0×0.5	1.6	50	100ohm output
	F5QA751M0M2QM	1.1×0.9×0.5	1.9	50	Unbal.
LTE Band 17 Tx	FAR-F5KA-710M00-D4VQ	1.4×1.0×0.5	1.2	32	
	F5QA710M0M2AY	1.1×0.9×0.5	1.3	33	Unbal.
LTE Band 17 Rx	FAR-F5KY-740M00-B4UR	1.4×1.0×0.5	1.4	60	100ohm output
	F5QG740M0P2KH	1.1×0.9×0.5	1.4	65	100ohm output
LTE Band 18 Tx	F5KA822M5D4VR	1.1×0.9×0.5	1.6	40	Unbal.
LTE Band 18+5 (BC0) Tx	F5KA832M0D4JS	1.4×1.0×0.5	1.5	19	Unbal.
LTE Band 20 Tx	F5KA847M0D4ML	1.4×1.0×0.5	1.7	52	
LTE Band 20 Rx	F5KY806M0B4NE	1.4×1.0×0.5	2.5	45	100ohm output
	F5QA806M0M2QE	1.1×0.9×0.5	2.7	41	Unbal.
LTE Band 21 Rx	F6KY1G503B4NS	1.4×1.0×0.5	1.4	47	100ohm output Low loss
	F6QA1G503M2QF	1.1×0.9×0.5	2.0	52	Unbal.
LTE Band 25 Tx	F6QA1G882M2AS	1.1×0.9×0.5	1.8	23	Unbal.
LTE Band 26 Rx	F5QG876M5P2KQ	1.1×0.9×0.5	2.2	59	100ohm output
LTE Band 28 Rx	F5QA773M0M2QC	1.1×0.9×0.5	2.1	52	Block A
	F5QA788M0M2QB	1.1×0.9×0.5	2.0	52	Block B
LTE Band 29 Rx	F5BA722M5M6UW	1.1×0.9×0.5	1.6	38	Unbal.
TD LTE Bnad 38 Rx	F6KB2G595B4HS	1.4×1.0×0.5	2.6	—	150ohm output
TD LTE Band 38+40 (Common output)	G6QE2G595N2EJ	1.5×1.1×0.5	2.9/2.8	—	Balanced 100ohm
TD LTE Band 40 Rx	F6KB2G350B4HT	1.4×1.0×0.5	2.7	—	150ohm output
	F6KB2G350B4HTB	1.4×1.0×0.5	2.5	—	Balanced 100ohm

**Other**

System	Part number	Package Size (mm)	Insertion Loss (dB)	Attenuation (dB)	Remarks
ISM900 (B.W.26MHz)	FAR-F5QA-915M00-M2AK	1.1×0.9×0.5	1.8	—	
TD-SCDMA/TD-LTE Band 34	FAR-F6KA-2G0175-D4DR	1.4×1.0×0.5	1.8	—	High Att
TD-SCDMA/TD-LTE Band 39	FAR-F6KA-1G9000-D4DS	1.4×1.0×0.5	1.6	—	
TD-SCDMA Band 34+39	G6QJ2G017M2MD	1.5×1.1×0.5	1.3/1.4	—	2 IN/2 OUT
	G6QJ2G017M2RD	1.5×1.1×0.5	1.6/2.0	—	1 IN/2 OUT
TD-SCDMA Band 39+34 (Common input)	G6QD2G017N2DU	1.5×1.1×0.5	1.7/2.0	—	Balanced 100ohm
TD-SCDMA Band 34+39 (Common input)	G6QD2G017N2DC	1.5×1.1×0.5	2.2/1.8	—	Balanced 200ohm
Wireless LAN	FAR-F6KA-2G4418-D4CU	1.4×1.0×0.5	2.6	—	+10dBm
	FAR-F6KA-2G4418-A4VA	1.4×1.0×0.5	3.0	—	+23dBm
	FAR-F6KA-2G4500-A4VD	1.4×1.0×0.5	1.9	—	Low IL,+19dBm
	F6KA2G436A4VE	1.4×1.0×0.5	2.5	—	BW=72MHz,+24dBm
	F6KA2G466A4VJ	1.4×1.0×0.5	2.8	—	BW=68MHz,+24dBm

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# SAW/FBAR DEVICES (FILTER / DUPLEXERS)

## PACKAGING

### ① Minimum Quantity

Type	Size (mm)	Code & Quantity (Pieces)							
Duplexer	3.0 × 2.5	Z	3000			U	10000		
	2.5 × 2.0	Z	3000			U	10000		
	2.0 × 1.6	Z	3000					Y	15000
Single Filter	2.0 × 1.6	Z	3000					Y	15000
	1.4 × 1.0	Z	3000					Y	15000
	1.1 × 0.9			J	5000			Y	15000
Dual Filter	2.0 × 1.6	Z	3000					Y	15000
	1.8 × 1.4	Z	3000					Y	15000
	1.5 × 1.1			J	5000			Y	15000

### ② Tape material



### ● Taping dimensions

Type	Size (mm)	a	b	c	d	e	f
Duplexer	3.0 × 2.5	3.4 ± 0.1	2.85 ± 0.1	1.05 ± 0.05	1.55 ± 0.05	1.0 ± 0.1	0.25 ± 0.05
	2.5 × 2.0	2.8 ± 0.1	2.3 ± 0.1	1.5 + 0.1 / - 0	1.5 + 0.1 / - 0	1.0 + 0.1 / - 0.0	0.25 ± 0.05
	2.0 × 1.6	2.4 ± 0.1	2.0 ± 0.1	1.05 ± 0.05	1.5 + 0.1 / - 0	0.90 - 0.05	0.25 ± 0.05
Single Filter	2.0 × 1.6	2.4 ± 0.1	2.0 ± 0.1	1.05 ± 0.05	1.5 + 0.1 / - 0	0.90 - 0.05	0.25 ± 0.05
	1.4 × 1.0	1.7 ± 0.1	1.3 ± 0.1	0.5 ± 0.05	1.5 + 0.1 / - 0	0.63 ± 0.05	0.20 ± 0.05
	1.1 × 0.9	1.3 ± 0.1	1.1 ± 0.1	0.5 ± 0.05	1.55 ± 0.05	0.63 ± 0.05	0.20 ± 0.05
Dual Filter	2.0 × 1.6	2.4 ± 0.1	2.0	1.05 ± 0.05	1.5 + 0.1 / - 0	0.90 - 0.05	0.25 ± 0.05
	1.8 × 1.4	2.2 ± 0.1	1.8	0.5 ± 0.05	1.55 ± 0.05	0.8 ± 0.1	0.30 ± 0.05
	1.5 × 1.1	1.8 ± 0.1	1.4	0.5 ± 0.05	1.5 + 0.1 / - 0	0.7 ± 0.1	0.25 ± 0.05

Unit: mm

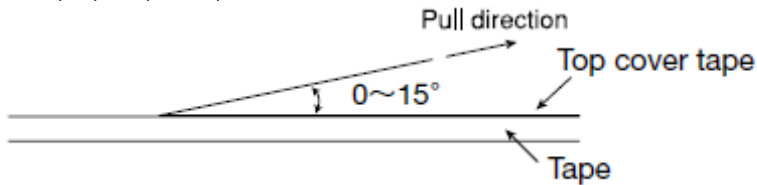
### ● Material of Tape (Conductive)

Tape : Polystyrene

Top cover tape : Polyethylene terephthalate (PET) and Polyethylene

### ③ Top Tape Strength

The top tape requires a peel-off force of 0.1 to 1.0N in the direction of the arrow as illustrated below.



#### ④ Reel size



#### ● Material of Reel

Material : Polystyrene + Carbon

Characteristics : Conform to EIAJ-ET-7200A

Color : Black

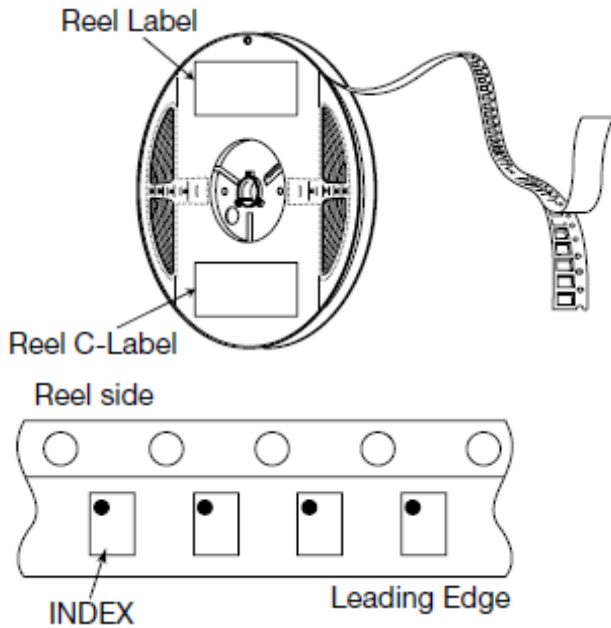
Surface resistance (reference value) : 109 Ω /sq Max.

Code	Quantity	A	B	C	W1	W2
Z	3,000 pcs	φ 180.0 +0.0/-1.5	φ 66.0 ±0.5	φ 13.0 ±0.2	9.0 +1.0/-0.0	11.4 ±1.0
J	5,000 pcs	φ 180.0 +0.0/-1.5	φ 66.0 ±0.5	φ 13.0 ±0.2	9.0 +1.0/-0.0	11.4 ±1.0
U	10,000 pcs	φ 330.0 ±2.0	φ 100.0 ±1.0	φ 13.0 ±0.2	9.4 ±1.0	13.4 ±1.0
Y	15,000 pcs	φ 330.0 ±2.0	φ 100.0 ±1.0	φ 13.0 ±0.2	9.4 ±1.0	13.4 ±1.0

Unit : mm

#### ⑤ Reel label and Reel C-Label sticking and Winding method

#### ● Surface



# Filter

## RELIABILITY DATA

1. Terminal strength	
Specified Value	No damage to be found.
Test Methods and Remarks	Bending Test. according to IEC60068-2-21(JISC60068-2-21) 
2. Mechanical shock	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Apply 14700m/s <sup>2</sup> for 0.5ms 5 times for each of 6 directions. according to IEC68-2-27(JISC60068-2-27).
3. Vibration	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	With 1.5 mm of whole amplitude at 10 to 55 Hz of frequency, and 98m/s <sup>2</sup> of acceleration at 55 to 500Hz, apply a vibration for 2 hours for each of 3 directions, period is 15 minutes(10 to 500 to 10Hz)
4. Drop 1	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Drop 3 times onto concrete floor from the height of 1.0m.
5. Drop 2	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Drop with 150g weight 3 times in each 6 direction onto concrete floor from the height of 1.8m.
6. Temperature cycling	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Temp. range -40 to +100°C. 500cycle.
7. Static humidity	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	+85°C, 90% to 95%RH, apply DC5V, 1000hours.
8. High temperature storage life	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	+100°C, 1000hours.
9. Low temperature storage life	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	-40°C, 1000hours.

10. Solderability 1

Specified Value	More than 90% of area of terminals to be covered with the solder. A change of the remarkable appearance do not have it.
Test Methods and Remarks	Lead-free Solder paste, Reflow; Peak temperature 245°C

11. Solderability 2

Specified Value	More than 90% of area of terminals to be covered with the solder. A change of the remarkable appearance do not have it.
Test Methods and Remarks	Sn-Pb Solder paste, Reflow; Peak temperature 235°C

12. Solder heat resistance

Specified Value	After testing, meet the specified characteristics at a room temperature. A change of the remarkable appearance do not have it.
Test Methods and Remarks	<p>◆Recommended temperature profile of reflow soldering Figure shows recommended temperature profile of reflow soldering in the case of lead-free solder alloy Sn3.0Ag0.5Cu. Suitable condition for solder heating is differed depending on composition and manufacturing method. Please contact to solder manufacturer for the details.</p>

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# Duplexer

## RELIABILITY DATA

1. Terminal strength	
Specified Value	No damage to be found.
Test Methods and Remarks	<p>Bend width 4mm, hold for <math>5 \pm 1</math> sec. according to IEC60068-2-21(JISC60068-2-21)</p>  <p>Unit : mm</p>
2. Mechanical shock	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Apply $14700\text{m/s}^2$ for 0.5ms 5 times for each of 6 directions. according to IEC68-2-27(JISC60068-2-27).
3. Vibration	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	With 1.5 mm of whole amplitude at 10 to 55 Hz of frequency, and $98\text{m/s}^2$ of acceleration at 55 to 500Hz, apply a vibration for 2 hours for each of 3 directions, period is 15 minutes(10 to 500 to 10Hz)
4. Drop 1	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Drop 3 times onto concrete floor from the height of 1.0m.
5. Drop 2	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Drop with 150g weight 3 times in each 6 direction onto concrete floor from the height of 1.8m.
6. Temperature cycling	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	Temp. range $-40$ to $+100^\circ\text{C}$ . 500cycle.
7. Static humidity	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	$+85^\circ\text{C}$ , 90% to 95%RH, apply DC5V, 1000hours.
8. High temperature storage life	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	$+100^\circ\text{C}$ , 1000hours.
9. Low temperature storage life	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	$-40^\circ\text{C}$ , 1000hours.

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10. High Temperature Bias	
Specified Value	After testing, meet the specified characteristics at a room temperature.
Test Methods and Remarks	+50°C, +29dBm, 50000hours.
11. Solderbility 1	
Specified Value	More than 90% of area of terminals to be covered with the solder. A change of the remarkable appearance do not have it.
Test Methods and Remarks	Lead-free Solder paste, Reflow; Peak temperature 245°C
12. Solderbility 2	
Specified Value	More than 90% of area of terminals to be covered with the solder. A change of the remarkable appearance do not have it.
Test Methods and Remarks	Sn-Pb Solder paste, Reflow; Peak temperature 235°C
13. Solder heat resistance	
Specified Value	After testing, meet the specified characteristics at a room temperature. A change of the remarkable appearance do not have it.
Test Methods and Remarks	<p>◆Recommended temperature profile of reflow soldering Figure shows recommended temperature profile of reflow soldering in the case of lead-free solder alloy Sn3.0Ag0.5Cu. Suitable condition for solder heating is differed depending on composition and manufacturing method. Please contact to solder manufacturer for the details.</p> <p>Temperature (°C)</p> <p>300 250 200 150 100 50 0</p> <p>Ambient temperature rise slope : 1~4°C/sec.</p> <p>Pre-Heating 150~180°C</p> <p>50~110sec.</p> <p>30~50sec.</p> <p>10sec.</p> <p>Ambient temperature cool slope : 1~4°C/sec.</p> <p>Temperature in heat condition : 230°Cmin. 50sec. max. Temperature of upper surface of package and PCB surface : 260°Cmin. 10sec. max.</p>

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