

Thin-film Diplexer

For W-LAN

TFSD Series

Type: **TFSD10055950-5001C1**
 TFSD10055950-5102A2

Issue date: February 2013

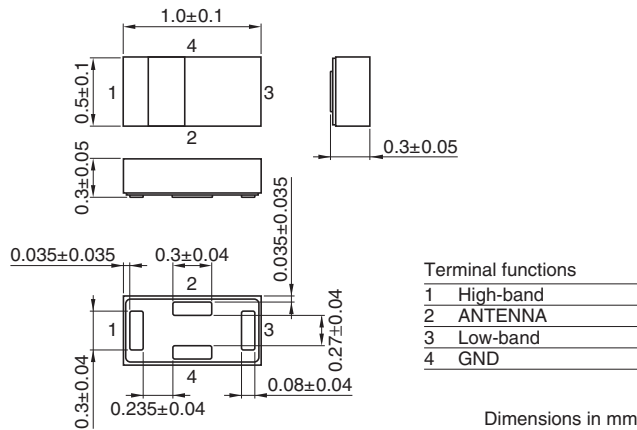
- All specifications are subject to change without notice.
 - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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Thin-film Diplexer For W-LAN

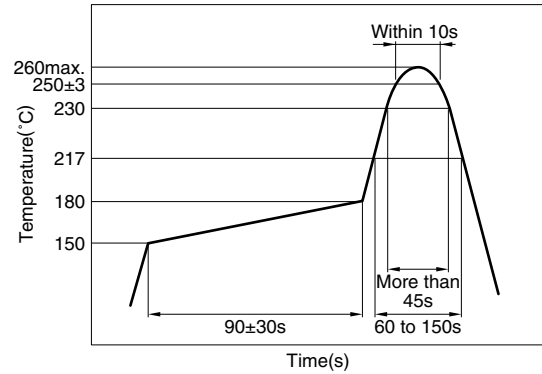
Conformity to RoHS Directive

TFSD Series TFSD10055950-5001C1

SHAPES AND DIMENSIONS

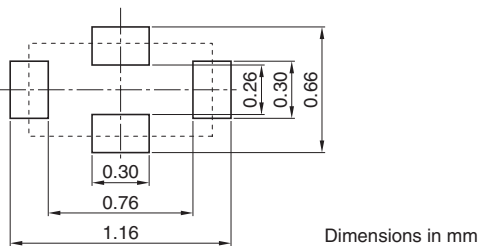


RECOMMENDED REFLOW SOLDERING CONDITION



* In this product, the recommended soldering condition is 'reflow'.
Reflow Soldering : Maximum 2 times

RECOMMENDED PC BOARD PATTERNS



The recommended distance to the PCB ground plane is 0.2mm.
Line width be designed to match 50Ω characteristic impedance depending on PCB Material and thickness.

ELECTRICAL CHARACTERISTICS

Item	Port	Frequency range	Minimum value	Typical value	Maximum value
Insertion loss	Low-band	2400 to 2500MHz	(dB) —	0.43	0.5
	High-band	4900 to 5950MHz	(dB) —	0.49	0.65
Return loss	ANT	2400 to 2500MHz	(dB) 10	19.5	—
	ANT	4900 to 5950MHz	(dB) 10	20.4	—
	Low-band	2400 to 2500MHz	(dB) 10	21.4	—
	High-band	4900 to 5950MHz	(dB) 10	22.5	—
Attenuation	Low-band	4800 to 5000MHz	(dB) 20	23.1	—
	Low-band	7200 to 7500MHz	(dB) 20	29.2	—
	High-band	824 to 915MHz	(dB) 20	25.6	—
	High-band	1800 to 2500MHz	(dB) 20	24.1	—
	High-band	9800 to 11900MHz	(dB) 18	21.0	—
Isolation	High-band	DC to 2500MHz	(dB) 20	23.4	—
	High-band	4900 to 5950MHz	(dB) 20	23.9	—
Temperature range	Operating	(°C)	-40	—	+85
	Storage	(°C)	-40	—	+85

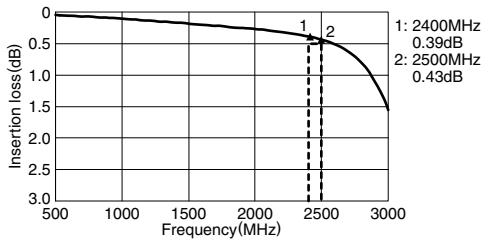
• Ta: +25°C

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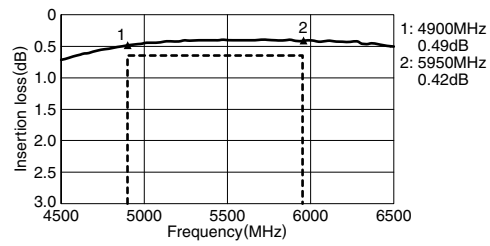
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FREQUENCY CHARACTERISTICS

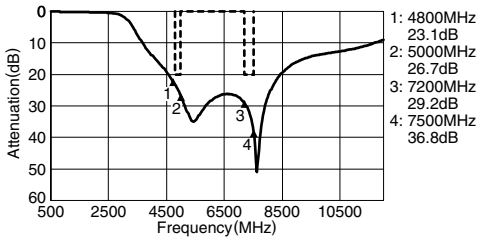
Low-BAND PORT INSERTION LOSS



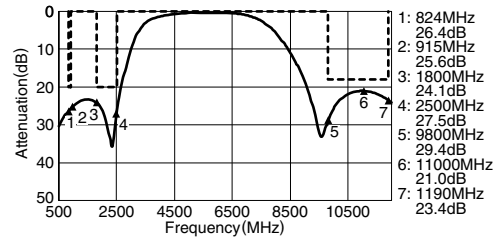
High-BAND PORT INSERTION LOSS



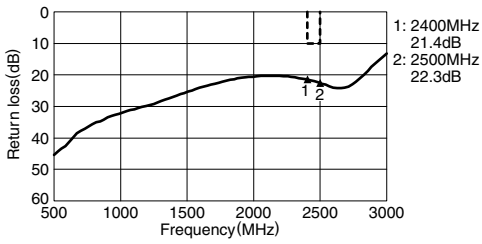
Low-BAND PORT ATTENUATION



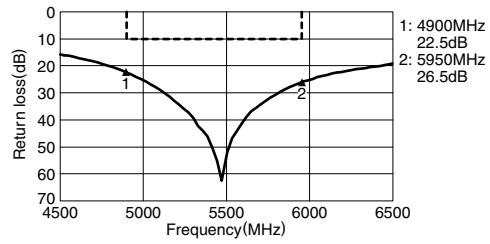
High-BAND PORT ATTENUATION



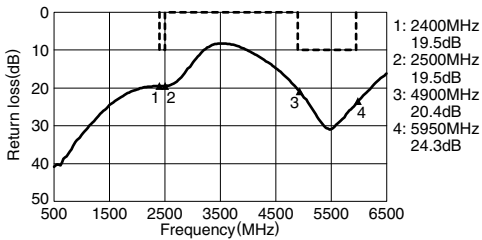
Low-BAND PORT RETURN LOSS



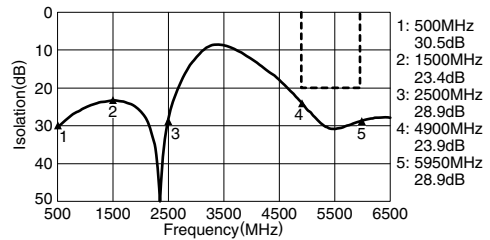
High-BAND PORT RETURN LOSS



ANTENNA PORT RETURN LOSS



ISOLATION (Low-High)



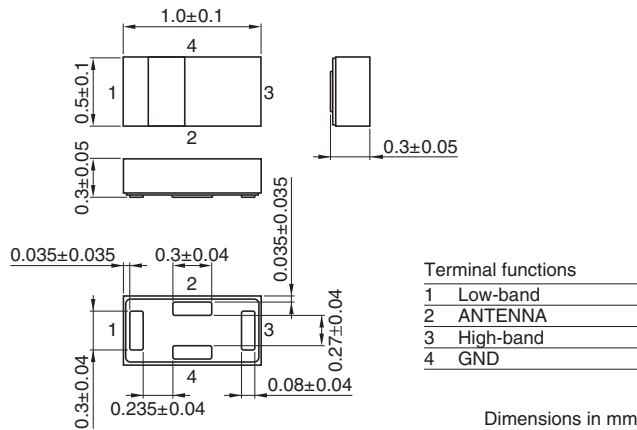
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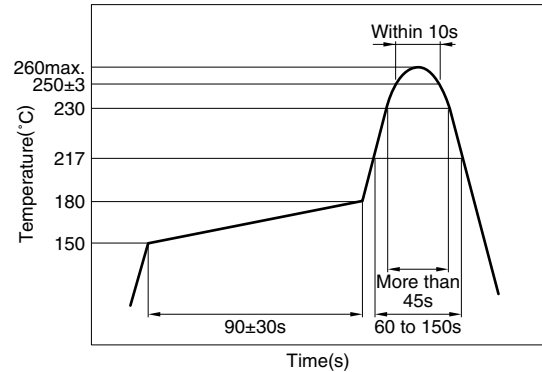
Conformity to RoHS Directive

TFSD Series TFSD10055950-5102A2

SHAPES AND DIMENSIONS

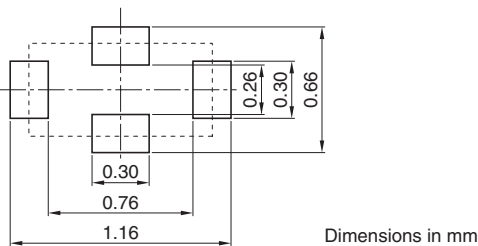


RECOMMENDED REFLOW SOLDERING CONDITION



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Reflow Soldering : Maximum 2 times

RECOMMENDED PC BOARD PATTERNS



The recommended distance to the PCB ground plane is 0.2mm.
Line width be designed to match 50Ω characteristic impedance depending on PCB Material and thickness.

ELECTRICAL CHARACTERISTICS

Item	Port	Frequency range	Minimum value	Typical value	Maximum value
Insertion loss	Low-band*1	2400 to 2496MHz	(dB) —	0.35	0.5
	High-band*1	4900 to 5950MHz	(dB) —	0.74	0.12
	Low-band*2	2400 to 2496MHz	(dB) —	—	0.65
	High-band*2	4900 to 5950MHz	(dB) —	—	1.4
Return loss	ANT	2400 to 2500MHz	(dB) 10	21.2	—
	ANT	4900 to 5950MHz	(dB) 10	15.2	—
	Low-band	2400 to 2500MHz	(dB) 10	18.0	—
	High-band	4900 to 5950MHz	(dB) 10	14.8	—
Attenuation	Low-band	4900 to 5950MHz	(dB) 20	24.6	—
	Low-band	7200 to 7488MHz	(dB) 20	27.3	—
	High-band	500 to 2700MHz	(dB) 26	30.8	—
Isolation	High-band	9800 to 11900MHz	(dB) 15	20.5	—
	Low-band	500 to 2700MHz	(dB) 26	30.8	—
Temperature range	Operating	(°C)	−40	—	+85
	Storage	(°C)	−40	—	+85

*1 +25°C

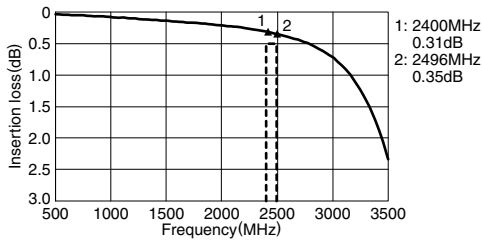
*2 −40 to +85°C

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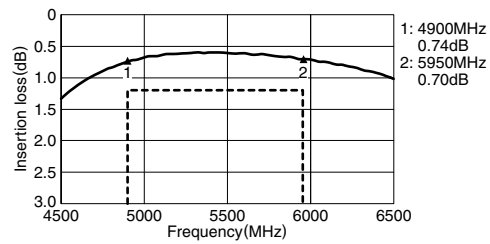
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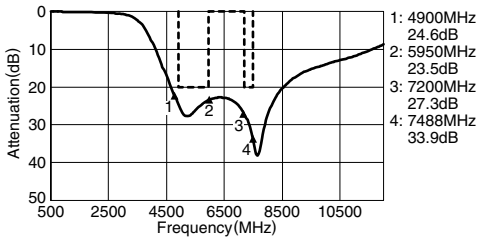
Low-BAND PORT INSERTION LOSS



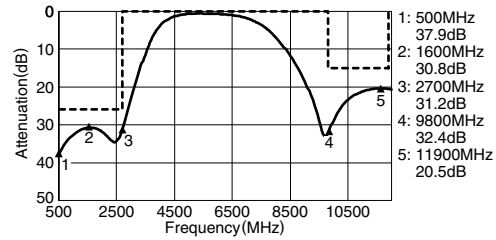
High-BAND PORT INSERTION LOSS



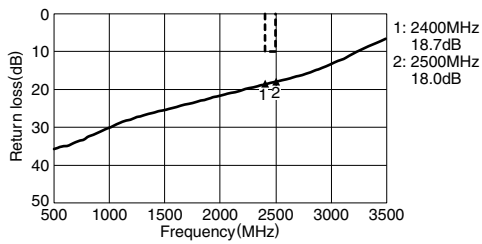
Low-BAND PORT ATTENUATION



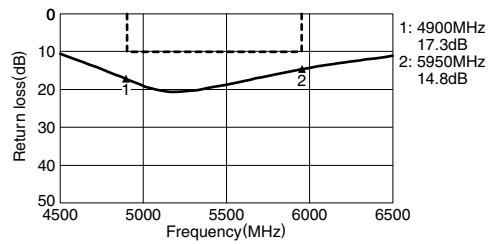
High-BAND PORT ATTENUATION



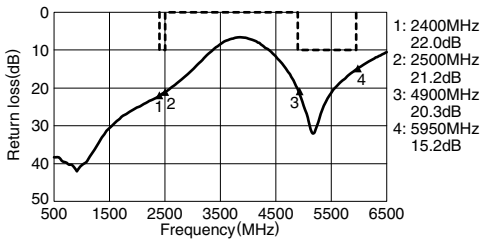
Low-BAND PORT RETURN LOSS



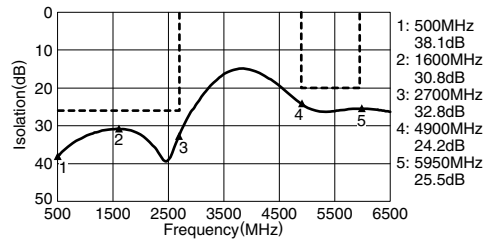
High-BAND PORT RETURN LOSS



ANTENNA PORT RETURN LOSS



ISOLATION (Low-High)



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