

# Multilayer Diplexers

For GSM850/PCS Tx & Rx

## DPX Series

Type:            **DPX205850DT-4032A1 (2.0×1.25×0.95mm)**  
                     **DPX201990DT-4114A2 (2.0×1.25×0.95mm)**  
                     **DPX201990DT-4014A2 (2.0×1.25×0.95mm)**

Issue date:     December 2010

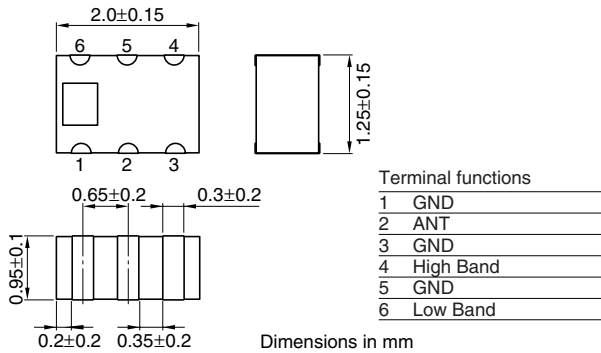
- All specifications are subject to change without notice.
  - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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# Multilayer Chip Diplexers For GSM850/PCS Tx & Rx

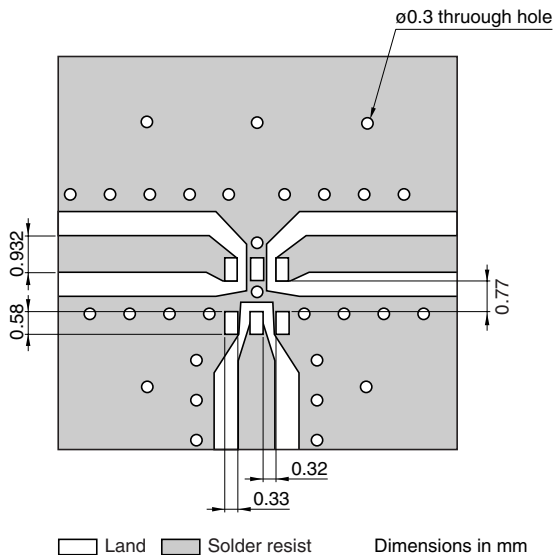
Conformity to RoHS Directive

DPX Series DPX205850DT-4032A1

## SHAPES AND DIMENSIONS



## RECOMMENDED PC BOARD PATTERNS



## ELECTRICAL CHARACTERISTICS

Item	Port	Frequency range		Minimum value	Typical value	Maximum value
Insertion loss	ANT Lo-band	800 to 2170MHz	(dB)	—	1.51	3.0
	ANT Hi-band	2400 to 5850MHz	(dB)	—	1.36	3.0
Attenuation	ANT Lo-band	2400 to 5850MHz	(dB)	8.0	12.7	—
	ANT Hi-band	800 to 2170MHz	(dB)	8.0	11.5	—
Temperature range		Operating	(°C)	-40	—	+85
		Storage	(°C)	-40	—	+85

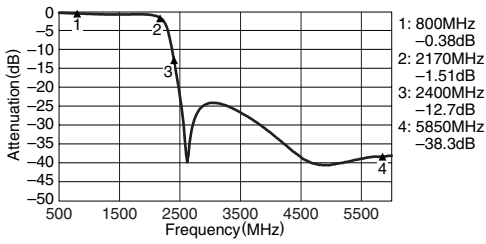
• Ta: +25°C

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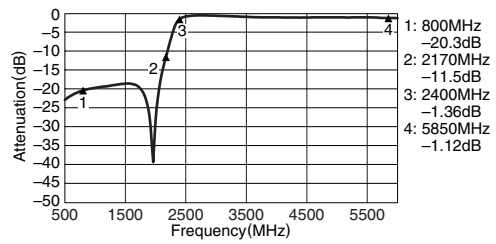
• All specifications are subject to change without notice.

### FREQUENCY CHARACTERISTICS

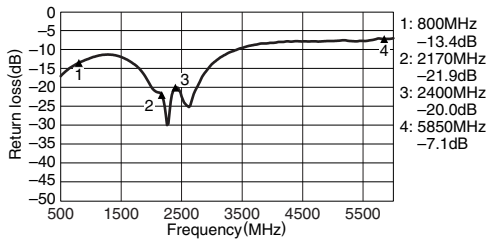
#### Lo-BAND PORT ATTENUATION S21



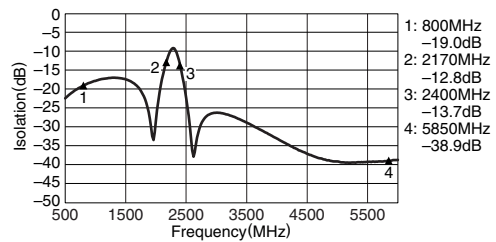
#### Hi-BAND PORT ATTENUATION S31



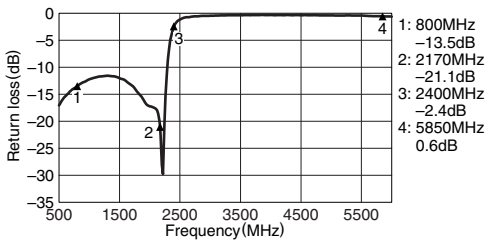
#### COMMON PORT RETURN LOSS S11



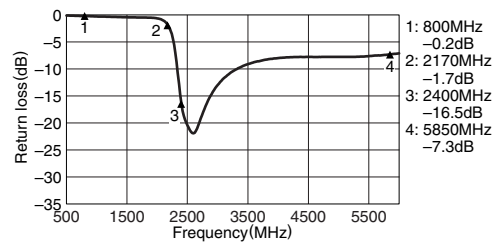
#### ISOLATION S23



#### Lo-BAND PORT RETURN LOSS S22



#### Hi-PORT RETURN LOSS S33



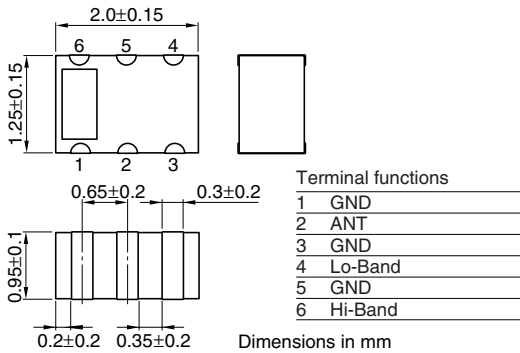
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# Multilayer Chip Diplexers For GSM850/PCS Tx & Rx

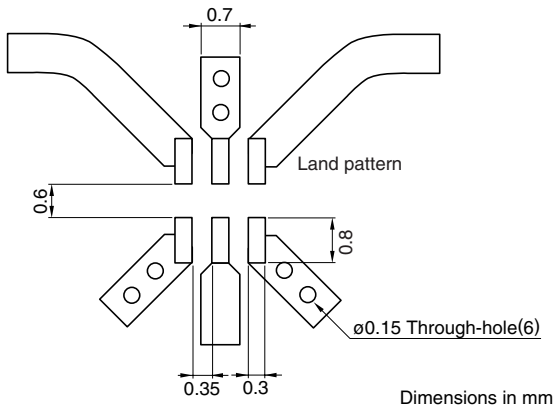
Conformity to RoHS Directive

DPX Series DPX201990DT-4114A2

## SHAPES AND DIMENSIONS



## RECOMMENDED PC BOARD PATTERNS



Line width be designed to match  $50\Omega$  characteristic impedance depending on PCB material and thickness.

## ELECTRICAL CHARACTERISTICS

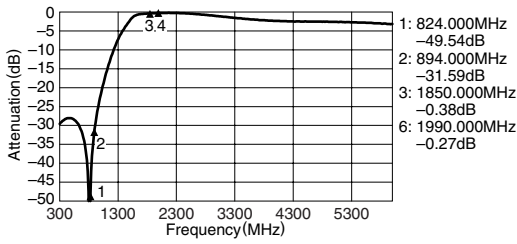
Item	Port	Temperature	Frequency range	Unit	Minimum value	Typical value	Maximum value
Insertion loss	Lo-band	$[-40$ to $+85^{\circ}\text{C}]$	824 to 894MHz	(dB)	—	—	0.5
	Hi-band	$[-40$ to $+85^{\circ}\text{C}]$	1850 to 1990MHz	(dB)	—	—	0.55
	Lo-band	$[25^{\circ}\text{C}]$	824 to 894MHz	(dB)	—	—	0.45
	Hi-band	$[25^{\circ}\text{C}]$	1850 to 1990MHz	(dB)	—	—	0.5
Return loss	ANT		824 to 894, 1850 to 1990MHz	(dB)	10.0	—	—
	Hi-band		824 to 894MHz	(dB)	19.0	—	—
Attenuation	Lo-band		1850 to 1990MHz	(dB)	20.0	—	—
	Lo-band		1648 to 1788MHz(AGSM 2fo)	(dB)	10.0	—	—
	Lo-band		2472 to 2682MHz(AGSM 3fo)	(dB)	28.0	—	—
Power capability				(W)	—	—	3.0
Temperature range		Operating		( $^{\circ}\text{C}$ )	-40	—	+85
		Storage		( $^{\circ}\text{C}$ )	-40	—	+85

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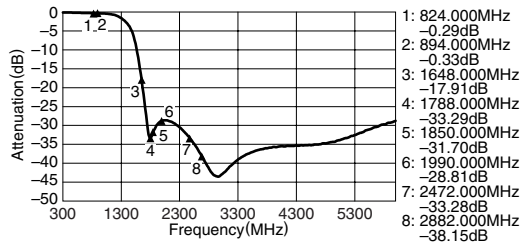
• All specifications are subject to change without notice.

### FREQUENCY CHARACTERISTICS

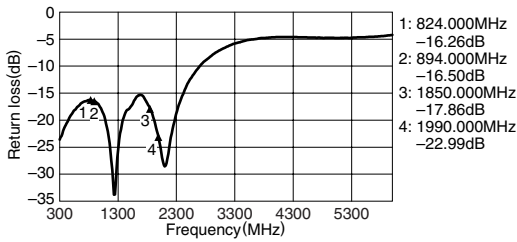
#### Hi-BAND PORT S21



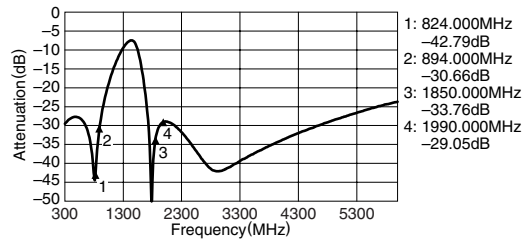
#### Lo-BAND PORT S31



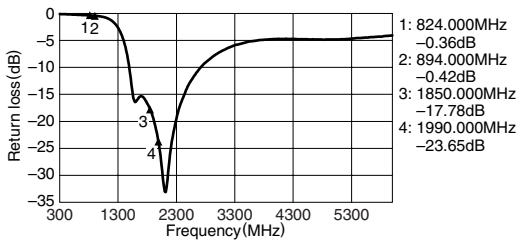
#### COMMON PORT RETURN LOSS S11



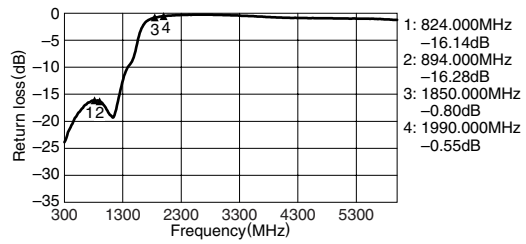
#### ISOLATION S23



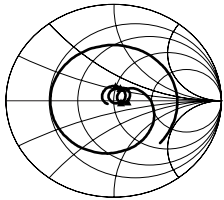
#### Hi-BAND PORT RETURN LOSS S22



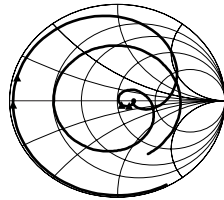
#### Lo-PORT RETURN LOSS S33



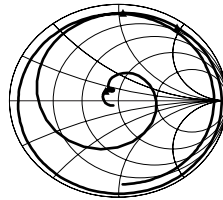
#### SMITH CHARTS



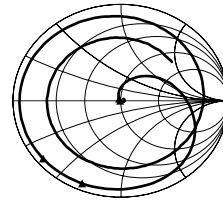
S11



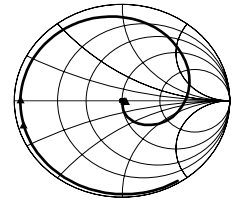
S22



S33



S21



S31

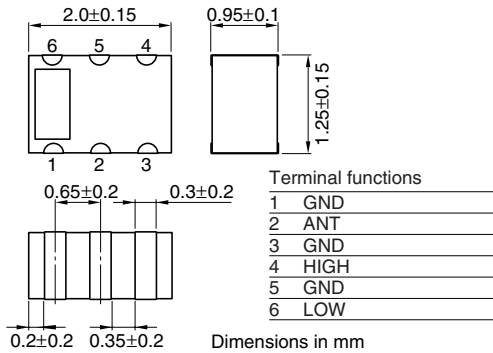
# Multilayer Chip Diplexers

## For AGSM/PCS Tx/Rx

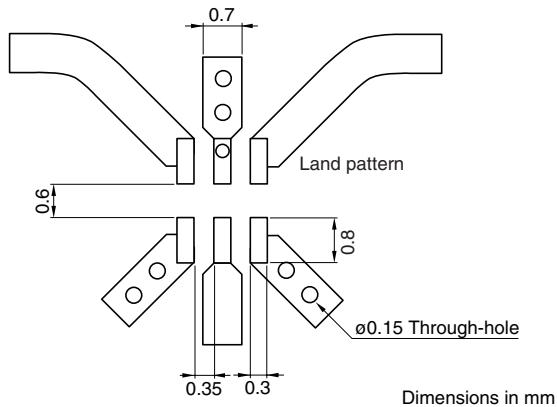
Conformity to RoHS Directive

DPX Series DPX201990DT-4014A2

### SHAPES AND DIMENSIONS



### RECOMMENDED PC BOARD PATTERNS



Line width be designed to match 50Ω characteristic impedance depending on PCB material and thickness.

### ELECTRICAL CHARACTERISTICS

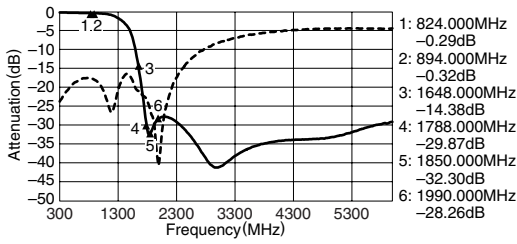
Item	Port	Temperature	Frequency range	Unit	Minimum value	Typical value	Maximum value
Insertion loss	Lo-band	[−40 to +85°C]	824 to 894MHz	(dB)	—	—	0.5
	Hi-band	[−40 to +85°C]	1850 to 1990MHz	(dB)	—	—	0.55
	Lo-band	[25°C]	824 to 894MHz	(dB)	—	—	0.45
	Hi-band	[25°C]	1850 to 1990MHz	(dB)	—	—	0.5
Return loss	ANT		824 to 894, 1850 to 1990MHz	(dB)	10.0	—	—
	Hi-band		824 to 894MHz	(dB)	19.0	—	—
Attenuation	Lo-band		1850 to 1990MHz	(dB)	20.0	—	—
	Lo-band		1648 to 1788MHz(AGSM 2fo)	(dB)	10.0	—	—
	Lo-band		2472 to 2682MHz(AGSM 3fo)	(dB)	28.0	—	—
Power capability				(W)	—	—	3.0
Temperature range		Operating		(°C)	−40	—	+85
		Storage		(°C)	−40	—	+85

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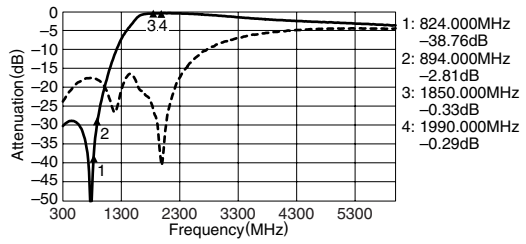
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### FREQUENCY CHARACTERISTICS

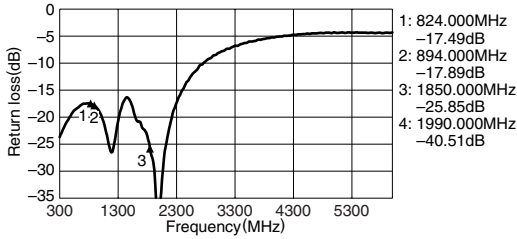
#### Lo-BAND PORT S21



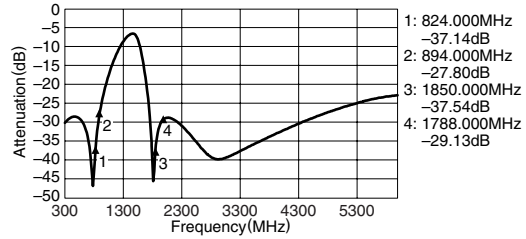
#### Hi-BAND PORT S31



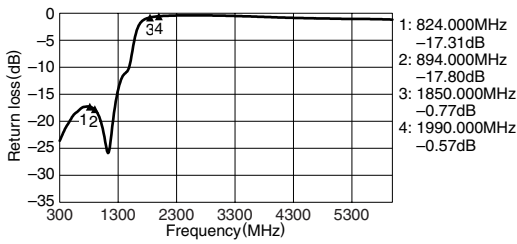
#### COMMON PORT RETURN LOSS S11



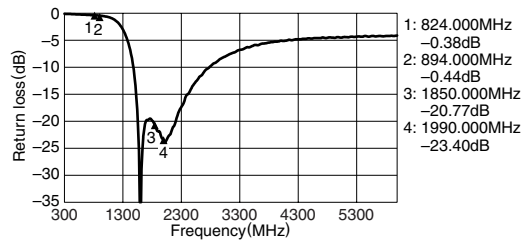
#### ISOLATION S23



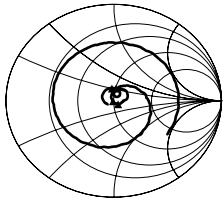
#### Lo-BAND PORT RETURN LOSS S22



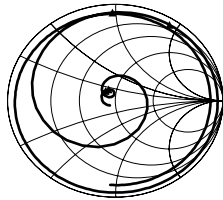
#### Hi-PORT RETURN LOSS S33



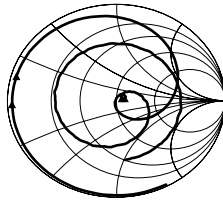
#### SMITH CHARTS



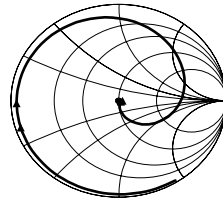
S11



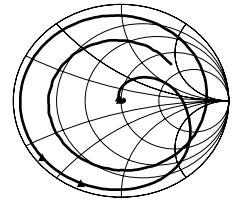
S22



S33



S21



S31

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