

DIPLEXER

DPX-M50

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-M50 is a low cost, high performance diplexer. The unique design offers high pass/low pass signal routing/multiplexing with excellent isolation. Passband insertion loss is less than 1.2 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-M50 can also be used as an excellent non-reflective low pass (or high pass) filter for systems requiring broadband 50Ω impedance match (such as mixers).



Features

- Low Insertion Loss
- Superior Repeatability
- Low Profile Miniaturized, Reflow Solderable Package Option
- User defined cross over frequencies available

Electrical Specifications – Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Frequency Range (MHz)	Min	Typ	Max
Cross Over Frequency	50		±5 %	
Low Pass Filter				
Pass Band Insertion Loss (dB)	DC to 35		0.7	1.4
Stop Band Rejection (dB)	70 to 3000 3000 to 10000	20	24 30	
Pass Band Return Loss (dB)	DC to 35		18	
High Pass Filter				
Pass Band Insertion Loss (dB)	70 - 10000		0.7	1.4
Stop Band Rejection (dB)	<15 <35	25	35 20	
Pass Band Return Loss (dB)	70 - 10000		18	
Common Port Return Loss (dB)	DC to 35 70 to 10000		18 18	
Isolation (dB)	<30 75 - 10000	14 14	24 24	
DC Voltage (V)				25
RF Power (W)				1

Part Number Options

Package Style(s) ¹	Example	S-Parameters ²
DPX (Surface Mount)	DPX-M50-1	DPX-M50.S3P
DPXN (Connectorized)	DPXN-M50	

¹For surface mount package, specify port configuration by adding -1 or -2 suffix to model number. Default is -2 configuration when not specified.

²S-Parameters include test fixture.

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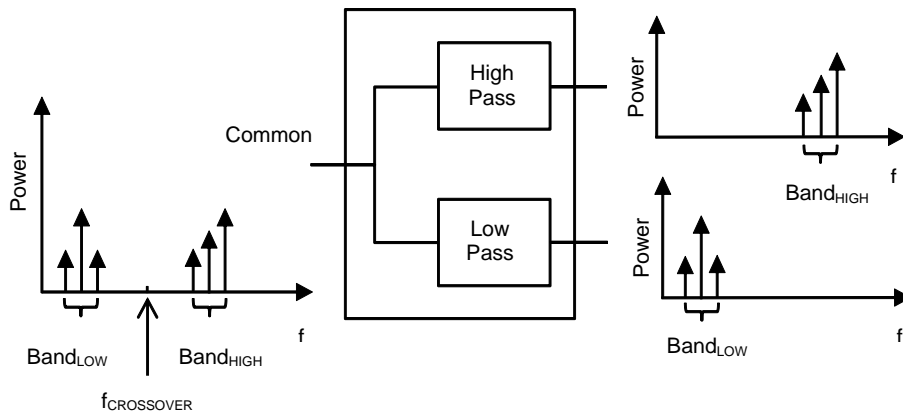


Fig. 1. Schematic Diagram

Typical Performance from DC-1 GHz

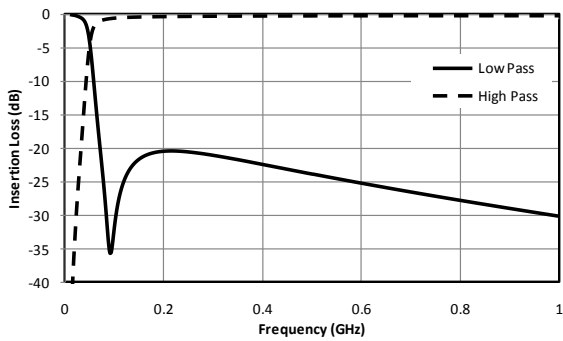


Fig. 2. Insertion loss.

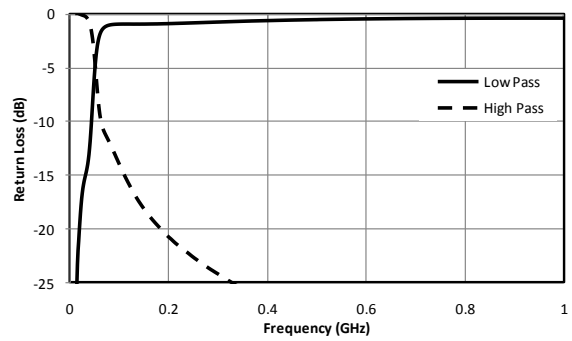


Fig. 3. Return loss.

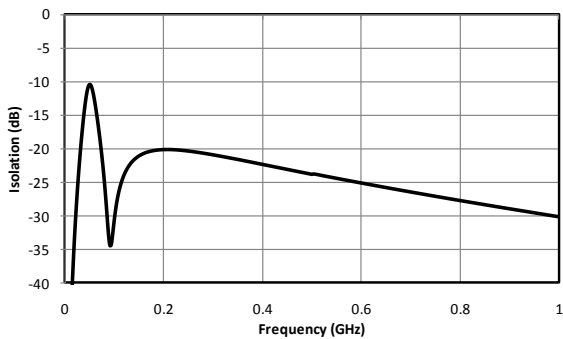


Fig. 4. Isolation.

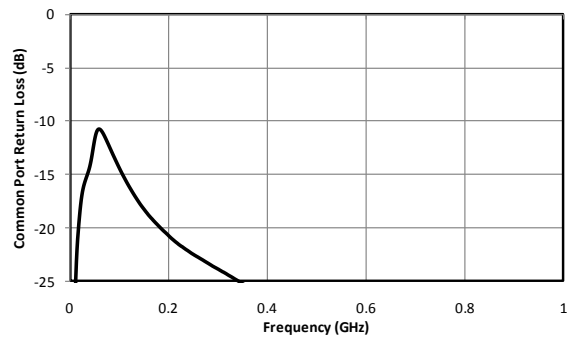


Fig. 5. Common port return loss.

Typical Performance from 1-10 GHz

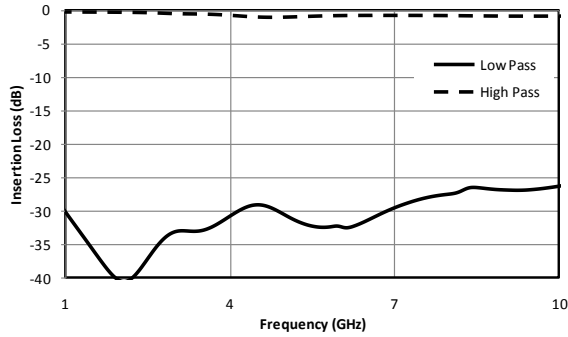


Fig. 6. Insertion loss.

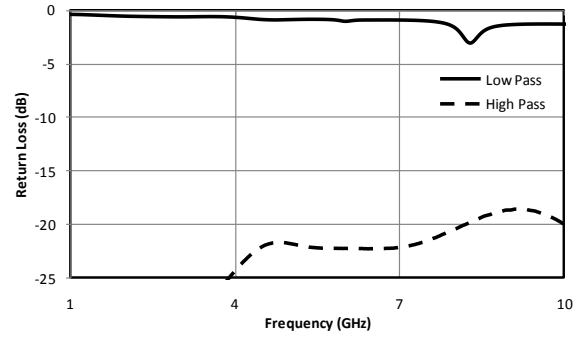


Fig. 7. Return loss.

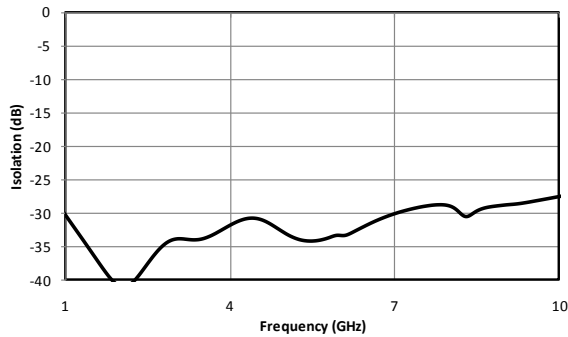


Fig. 8. Isolation.

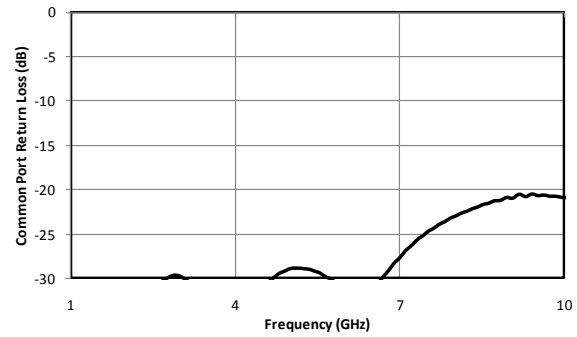


Fig. 9. Common port return loss

Revision History

Revision code	Revision Date	Comment
-	2013	Datasheet initial Release
A	October 2019	Maximum DC Voltage Rating Added

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