

BROADBAND DIPLEXER

DPX-0508

The DPX-0508 is a broadband low pass/high pass diplexer capable of multiplexing low frequency (DC-5 GHz) and high frequency (8-18 GHz) signals. The novel design offers extremely low insertion loss for both the low pass and high pass channels. The DPX-0508 is an excellent solution for applications such as high frequency/baseband signal routing (especially following a broadband high frequency mixing stage), low loss power splitting/combination, separation of harmonic tones, and general-purpose lab use.



Features

- Broadband performance
- Low insertion loss
- High isolation between low pass and high pass ports
- Lightweight, compact design

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

Parameter	Frequency Range (GHz)	Min	Typ	Max
Low Pass Filter				
Pass Band Insertion Loss (dB)	DC to 5		1	
Stop Band Rejection (dB)	8 to 18	30	45	
Pass Band Return Loss (dB)	DC to 5	12	16	
High Pass Filter				
Pass Band Insertion Loss (dB)	8 to 18		1	
Stop Band Rejection (dB)	DC to 5	25	40	
Pass Band Return Loss (dB)	8 to 18	8	12	
Common Port Return Loss (dB)	DC to 5	12	16	
	8 to 18	8	12	
Isolation (dB)	DC to 5	25	40	
	8 to 18	30	45	
Impedance (Ω)			50	
RF Power (W)				1
Weight (g)			28	

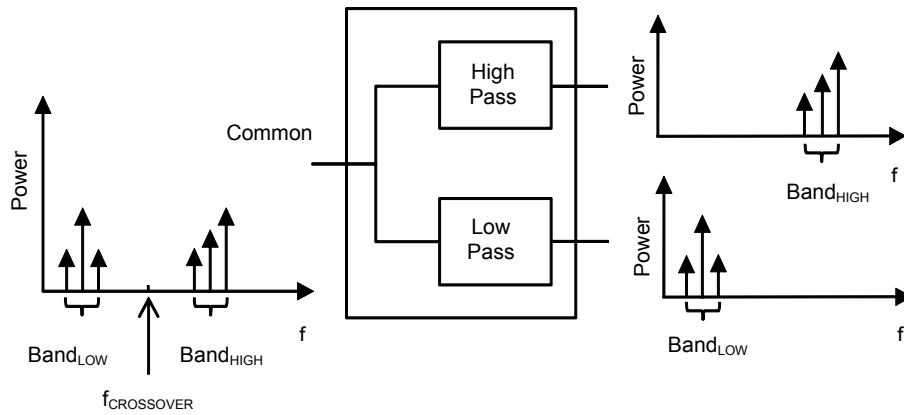


Fig. 1. Schematic Diagram

Typical Performance

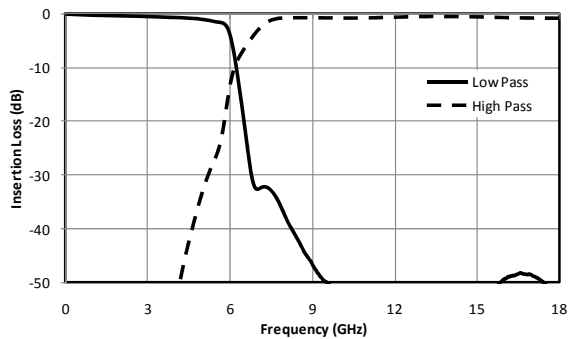


Fig. 2. Insertion loss.

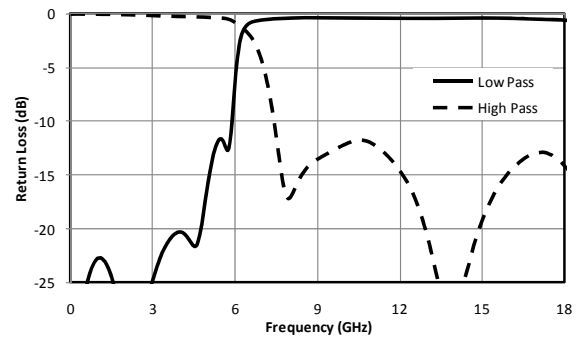


Fig. 3. Return loss.

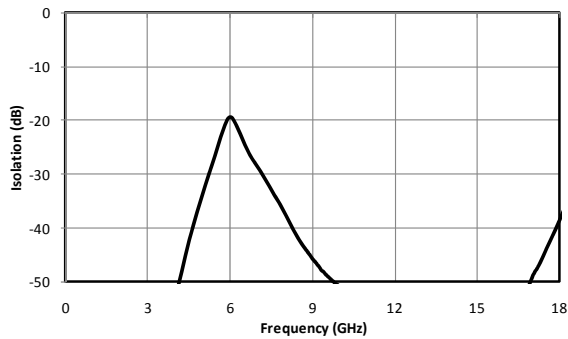


Fig. 4. Isolation.

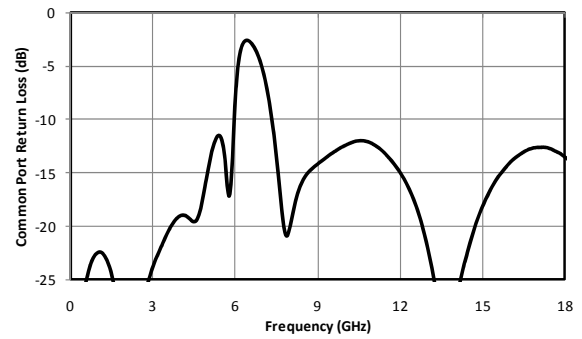
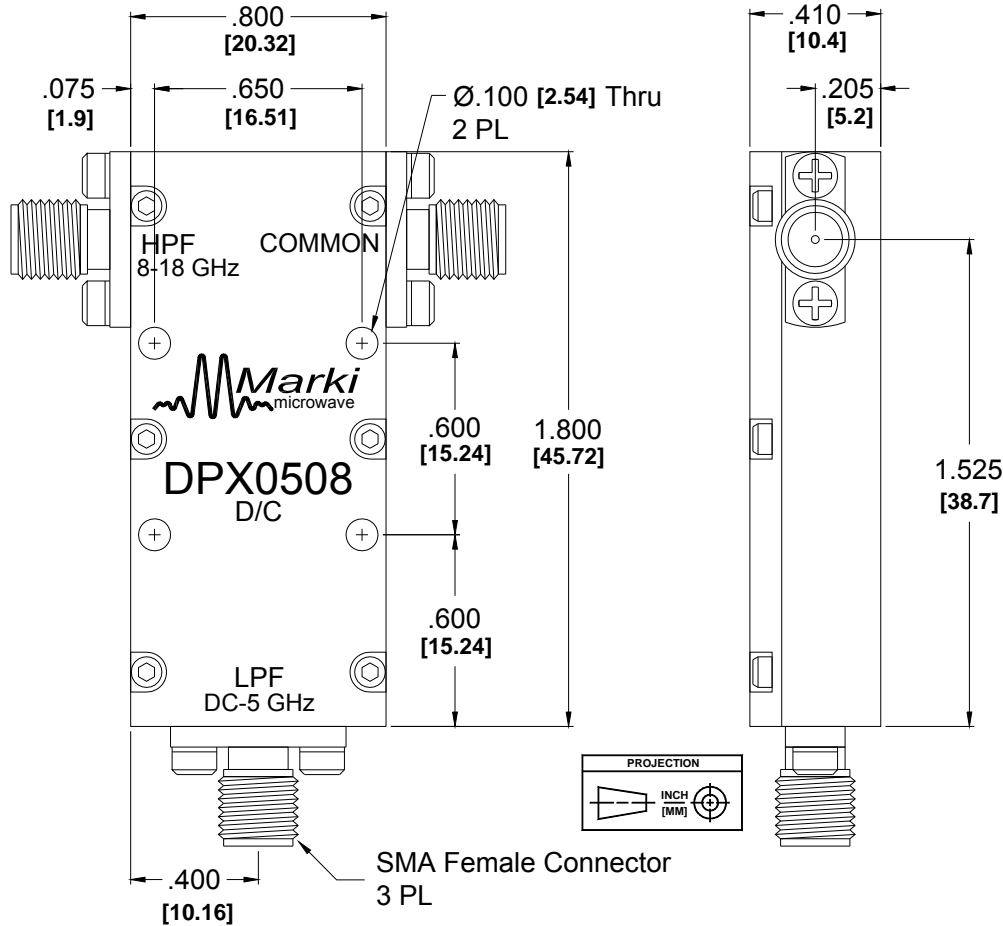


Fig. 5. Common port return loss.



Model Number	Description	S-Parameters
DPX-0508	DC – 5 GHz Low Pass, 8 – 18 GHz High Pass P1- High Pass, P2- Common, P3- Low Pass with SMA Female connectors ¹	DPX-0508.S3P

¹Default is SMA female connectors. Contact factory for other connector options.

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