

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 | | 24 | |
| | 3000 to 10000 | 20 | 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 | 25 | 35 | |
| | <35 | | 20 | |
| Pass Band Return Loss (dB) | 70 - 10000 | | 18 | |
| Common Port Return Loss (dB) | DC to 35 | | 18 | |
| | 70 to 10000 | | 18 | |
| Isolation (dB) | <30 | 14 | 24 | |
| | 75 - 10000 | 14 | 24 | |
| DC Voltage (V) | | | | 25 |
| RF Power (W) | | | | 1 |

Part Number Options

| Package Style(s) ¹ | Example | S-Parameters ² | Green Status |
|--------------------------------------|-----------|-----------------------------|--------------|
| DPX (Surface Mount) | DPX-M50-1 | DPX-M50.S3P | RoHS |
| 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.

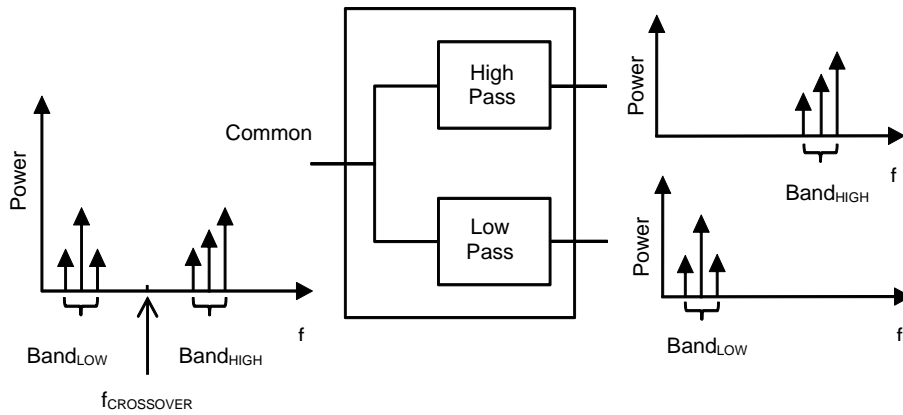


Fig. 1. Schematic Diagram

Typical Performance from DC-1 GHz

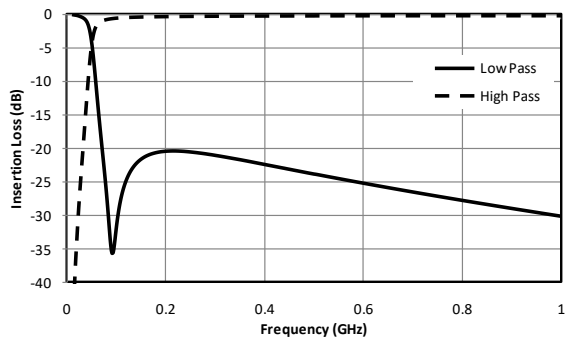


Fig. 2. Insertion loss.

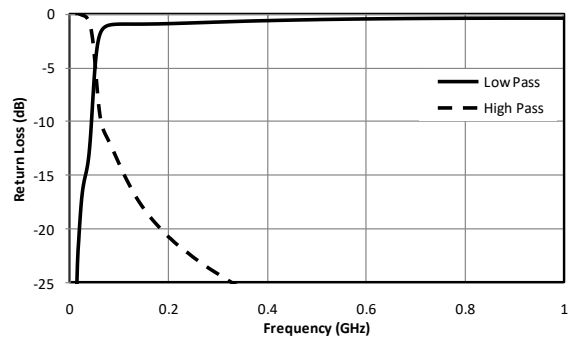


Fig. 3. Return loss.

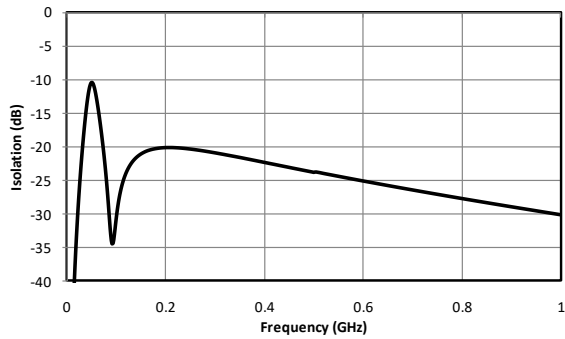


Fig. 4. Isolation.

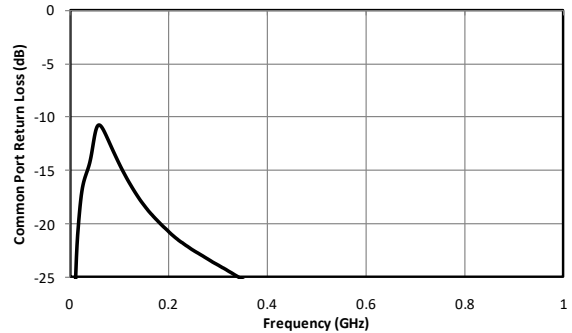


Fig. 5. Common port return loss.