

**Low Cost SMT Dual Band Diplexer,  
824 - 960/1850 - 1990 MHz (AMPS/PCS), 880 - 960/1700 - 1900 MHz (GSM/DCS)**

**DP52-0002  
V2**

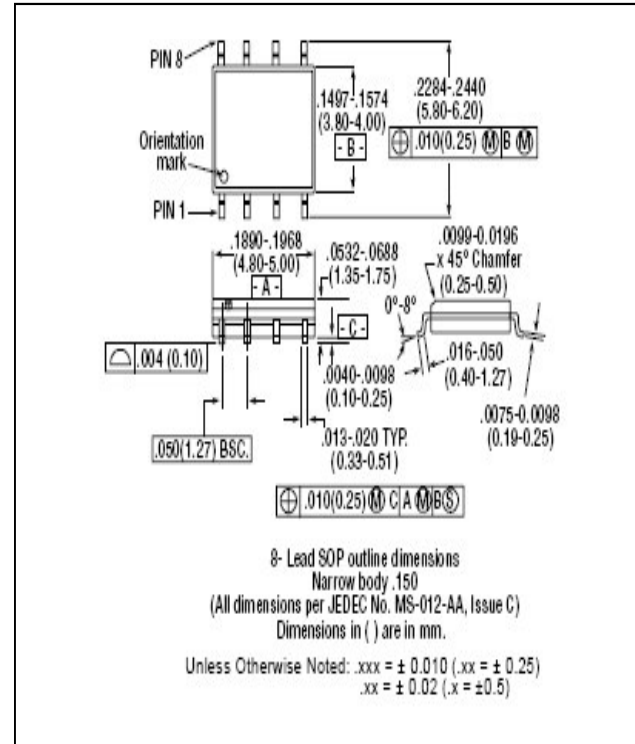
**Features**

- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Passbands 824 - 960 MHz and 1850 - 1990 MHz
- Passbands 880 - 960 MHz and 1700 - 1900 MHz
- Typical Passband Insertion Loss: 0.5 dB
- 2 Watt Power Handling
- Low Cost

**Description**

M/A-COM's DP52-0002 is an IC-based monolithic diplexer in a low cost SOIC-8 SMT plastic package. This diplexer is ideally suited for applications where small size, low insertion loss, superior repeatability and low cost are required. Typical applications include AMPS/PCS and GSM/DCS dual mode portable devices. The DP52-0002 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

**SO-8**



**824 - 960 / 1850 - 1990 MHz Typical Electrical Specifications<sup>1</sup>, T<sub>A</sub> = +25°C**

Parameter	Units	Min	Typ	Max
Passband Insertion Loss	dB	—	0.5	0.8
Stopband Isolation	dB	12	18	—
Passband VSWR	—	—	1.4:1	1.7:1

1. All specifications apply with a 50-ohm source and load impedance.

**880 - 960 / 1700 - 1900 MHz Typical Electrical Specifications<sup>1</sup>, T<sub>A</sub> = +25°C**

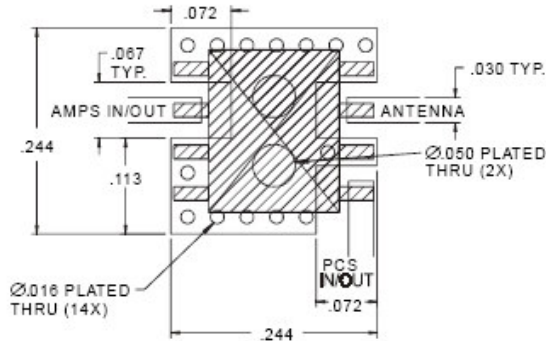
Parameter	Units	Min	Typ	Max
Passband Insertion Loss	dB	—	0.5	0.9
Stopband Isolation	dB	12	18	—
Passband VSWR	—	—	1.5:1	1.8:1

1. All specifications apply with a 50-ohm source and load impedance.

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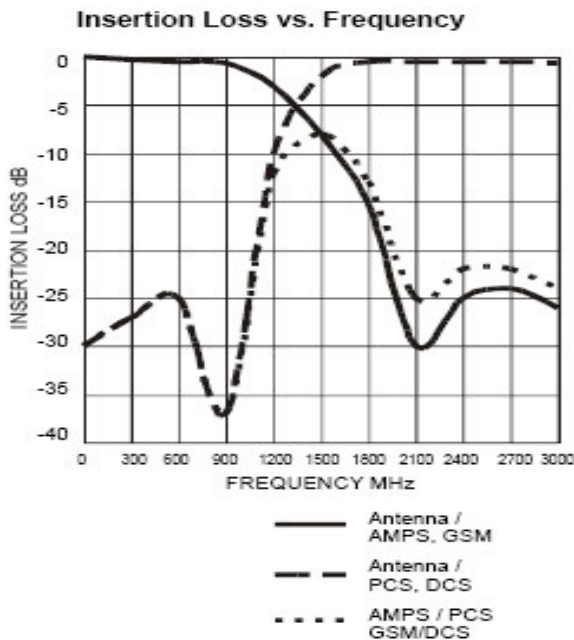
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**Recommended PCB Configuration**



CIRCUIT MATERIAL: FR-4, .016 THICK.

**Typical Performance Curves**



**Absolute Maximum Ratings<sup>1</sup>**

Parameter	Absolute Maximum
Input Power <sup>2</sup>	2W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

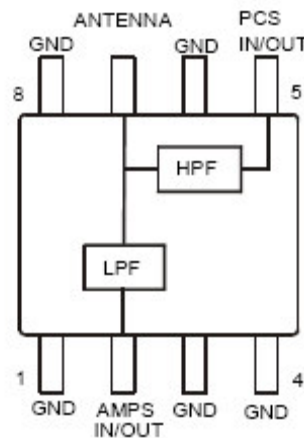
1. Exceeding these limits may cause permanent damage.

**Ordering Information**

Part Number	Package
DP52-002	SOIC-8 Lead Plastic Package
DP52-0002-TR	Forward Tape and Reel <sup>1</sup>

1. If specific reel size is required, consult factory for part number assignment.

**Functional Diagram**



All unused pins must be RF and DC grounded.  
Pins 1 and 4 are thermal ground contacts.

**VSWR vs. Frequency**

