



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



Features

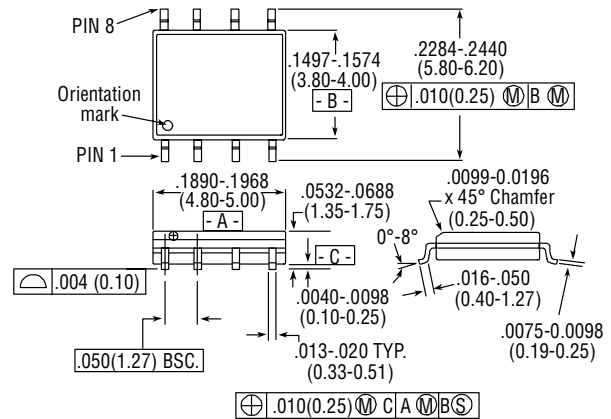
- Small Size and Low Profile
• Industry Standard SOIC-8 SMT Plastic Package
• Superior Repeatability
• Passbands 824 - 960 MHz and 1850 - 1990 MHz
• Passbands 880 - 960 MHz and 1700 - 1900 MHz
• Typical Passband Insertion Loss: 0.5 dB
• 2 Watt Power Handling
• Low Cost

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.

The DP52-0002 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

SO-8



8- Lead SOP outline dimensions
Narrow body .150
(All dimensions per JEDEC No. MS-012-AA, Issue C)
Dimensions in () are in mm.
Unless Otherwise Noted: .xxx = ± 0.010 (.xx = ± 0.25)
.xx = ± 0.02 (.x = ± 0.5)

Ordering Information

Table with 2 columns: Part Number and Package. Rows include DP52-0002 (SOIC-8-Lead Plastic Package) and DP52-0002-TR (Forward Tape and Reel).

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

824 - 960 / 1850 - 1990 MHz Typical Electrical Specifications¹, T_A= +25°C

Table with 5 columns: Parameters, Units, Min., Typ., Max. Rows include Passband Insertion Loss (dB, 0.5, 0.8), Stopband Isolation (dB, 12, 18), and 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 Specifications¹, T_A= +25°C

Table with 5 columns: Parameters, Units, Min., Typ., Max. Rows include Passband Insertion Loss (dB, 0.5, 0.9), Stopband Isolation (dB, 12, 18), and Passband VSWR (1.5:1, 1.8:1).

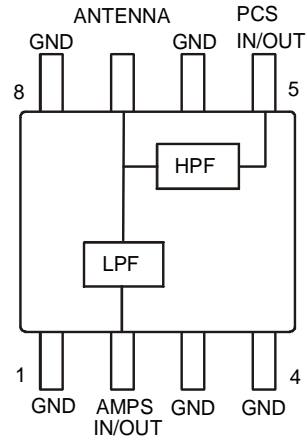
1. All specifications apply with a 50-ohm source and load impedance.

Absolute Maximum Ratings¹

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

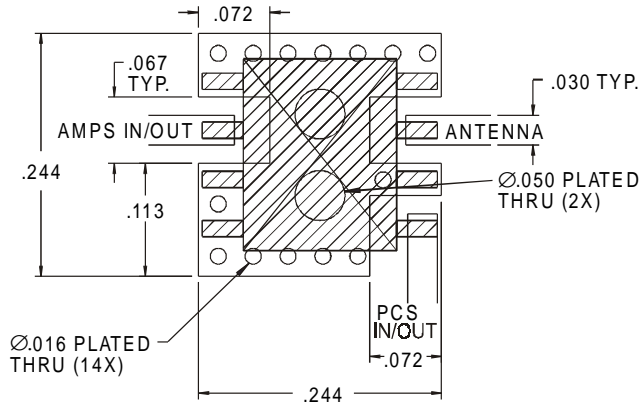
1. Exceeding these limits may cause permanent damage.

Functional Diagram



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

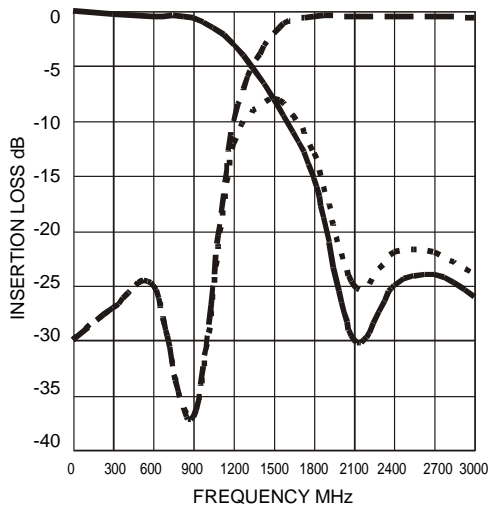
Recommended PCB Configuration



CIRCUIT MATERIAL: FR-4, .016 THICK.

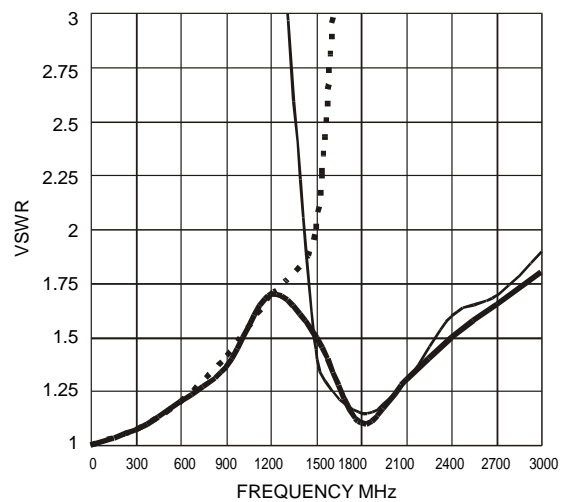
Typical Performance @ +25°C

Insertion Loss vs. Frequency



— Antenna / AMPS, GSM
 - - - Antenna / PCS, DCS
 AMPS / PCS GSM/DCS

VSWR vs. Frequency



— Antenna
 AMPS, GSM