

Features

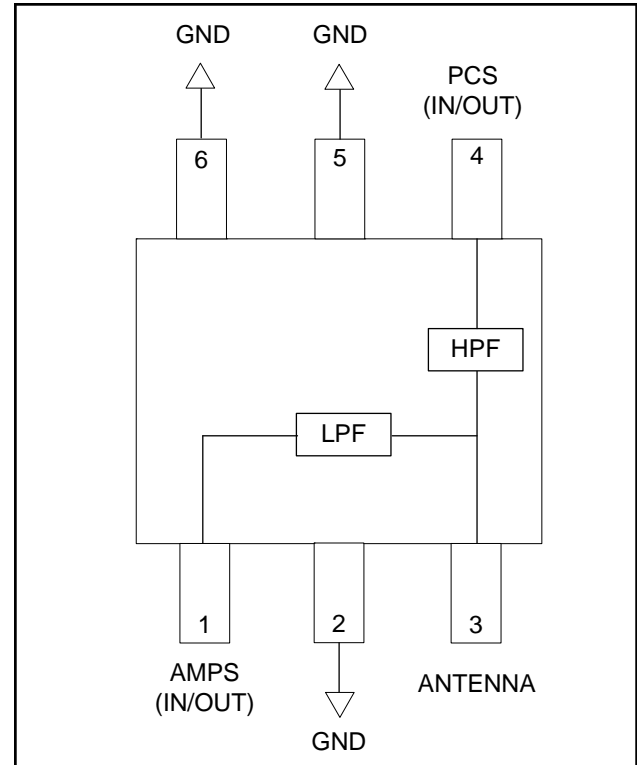
- Small Size and Low Profile
- Superior Repeatability
- Passbands 824 – 960 MHz and 1850 – 1990 MHz
- Passbands 880 – 960 MHz and 1700 – 1900 MHz
- Typical Passband Insertion Loss: 0.5 dB
- 2 Watt Power Handling
- Low Cost
- SOT-26 Package

Description

M/A-COM's DP52-0005 is an IC-based Monolithic Diplexer in a low cost SOT-26 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 DP52-0005 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram¹



1. All unused pins must be RF and DC grounded.

Ordering Information

Part Number	Package
DP52-0005	Bulk Packaging
DP52-0005-TR	1000 piece reel
DP52-0005SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	AMPS IN/OUT	4	PCS IN/OUT
2	GND	5	GND
3	ANTENNA	6	GND

880 – 960 / 824 – 960 Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

Parameter	Units	Min	Typ	Max
Passband Insertion Loss	dB	—	0.7	0.9
Stopband Isolation	dB	17	19	—
Passband VSWR	—	—	1.3:1	1.5:1

1700 – 1900 / 1850 – 1990 Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

Parameter	Units	Min	Typ	Max
Passband Insertion Loss	dB	—	0.6	0.8
Stopband Isolation	dB	17	20	—
Passband VSWR	—	—	1.3:1	1.5:1

Absolute Maximum Ratings ^{2,3}

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

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.

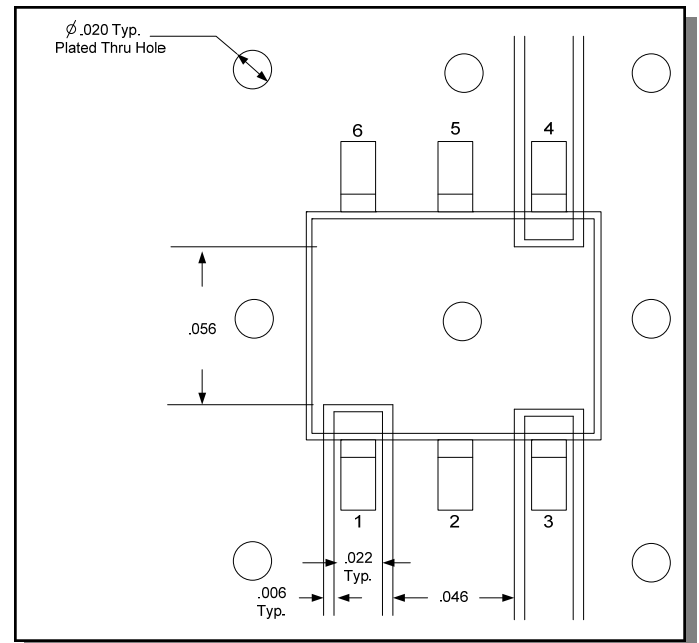
Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

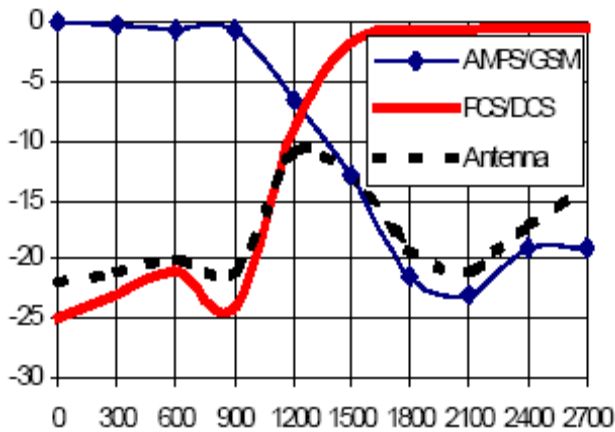
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Recommended PCB Configuration

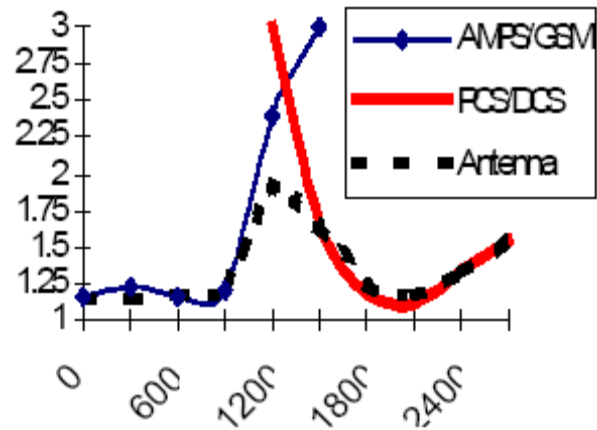


Typical Performance Curves @ 25°C

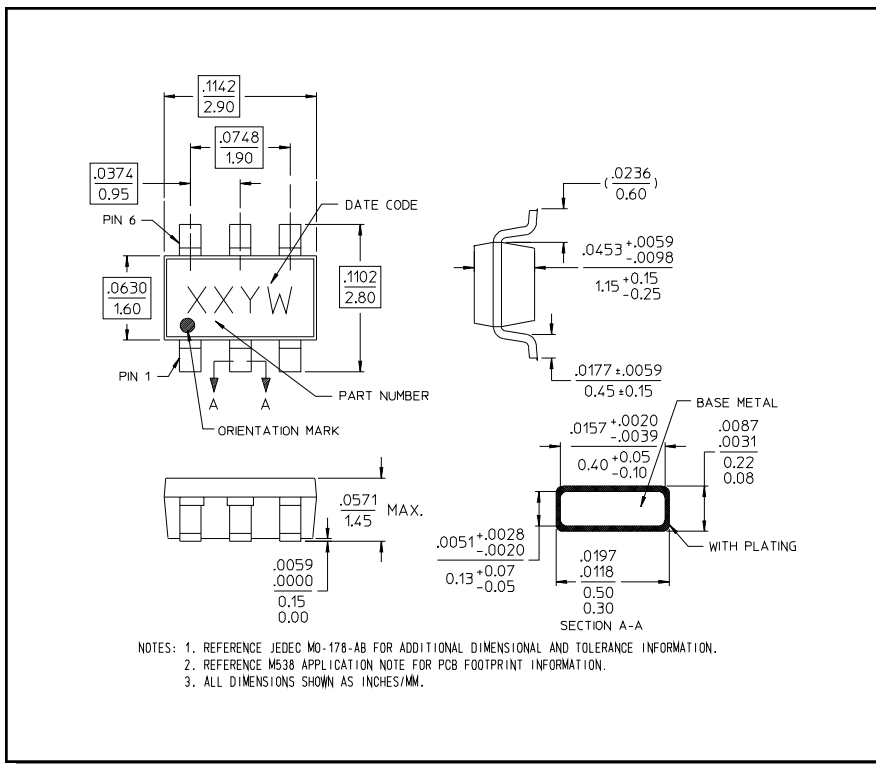
Insertion Loss vs. Frequency



VSWR vs. Frequency



SOT-26[†]



[†] Reference Application Note M538 for lead-free solder reflow recommendations.