

 $50\Omega$  3 to 800 MHz

#### **Features**

- wide bandwidth. 3 to 800 MHz
- good return loss
- plastic base with solder plated leads
- aqueous washable

#### **Applications**

- CATV
- VHF/UHF
- balanced amplifier
- impedance matching

### TCM4-1WX+



Generic photo used for illustration purposes only

CASE STYLE: DB1627

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

	Available Tape and Reel at no extra cost
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Тур.	Max.	Unit
Impedance Ratio (Secondary/Primary)			4		Ohm
Frequency Range		3		800	MHz
	3 - 800		3		
Insertion Loss*	4 - 400		2		dB
	10 - 100		1		

 $<sup>^{\</sup>star}$  Insertion Loss is referenced to mid-band loss, 0.8 dB typ.

### **Maximum Ratings**

Parameter	Ratings
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

Permanent damage may occur if any of these limits are exceeded.

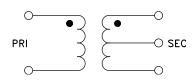
### **Pin Connections**

Function	Pin Number
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
SECONDARY CT	2
NOT USED	5

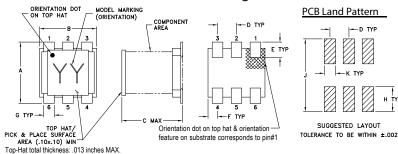
### **Product Marking**



### Config. A



### **Outline Drawing**



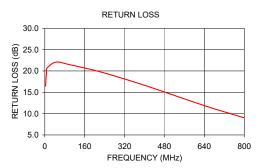
### Outline Dimensions (inch )

F	E	D	С	В	Α
.025	.040	.050	.160	.150	.160
0.64	1.02	1.27	4.06	3.81	4.06
wt		K	J	н	G
grams		.030	.190	.065	.028
0.15		0.76	4.83	1.65	0.71

### **Typical Performance Data**

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
3.00	1.16	16.43
5.00	1.02	18.47
7.00	0.95	19.69
10.00	0.93	20.74
46.00	0.94	22.08
100.00	1.01	21.46
220.00	1.12	19.83
400.00	1.28	16.64
640.00	1.70	11.87
800.00	2.29	9.01





#### **Additional Notes**

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- A. Perioritance and quanty attributes and continuous and continuous and expressly stated in it has specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

  C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

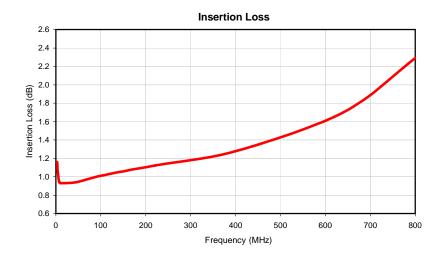


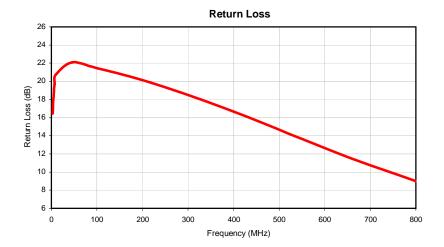
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## Typical Performance Data





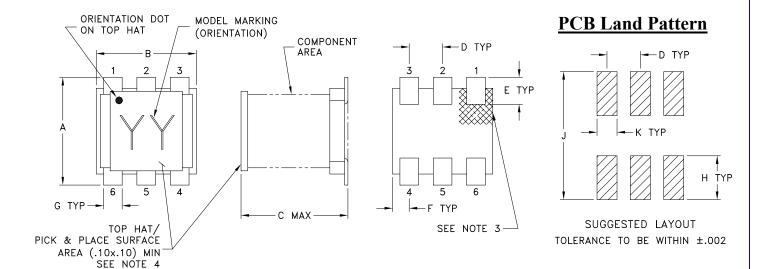


# Case Style



**DB1627** 

### **Outline Dimensions**



CASE#	A	В	C	D	Е	F	G	Н	J	K	WT. GRAM
DB1627	.160	.150	.160	.050	.040	.025	.028	.065	.190	.030	15
DB1027	(4.06)	(3.81)	(4.06)	(1.27)	(1.02)	(0.64)	(0.71)	(1.65)	(4.83)	(0.76)	.13

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm$  .01; 3Pl.  $\pm$  .005

### **Notes:**

- 1. Case material: Plastic.
- 2. Termination finish:

For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.

For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

- 3 Orientation dot on top hat & orientation feature on substrate correspondence to pin #1.
- 4 Top-Hat total thickness: .013 inches MAX.





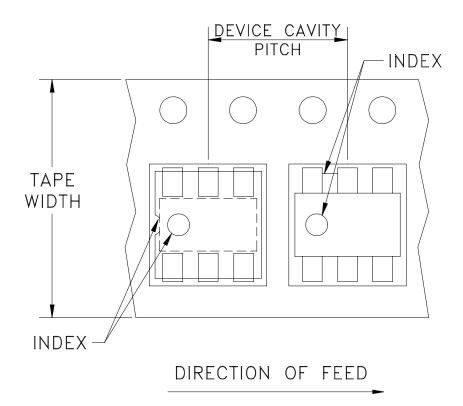
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

# Tape & Reel Packaging TR-F47

### DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note
12	8	13	1000, 2000
		7	20, 50, 100, 200, 500

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



INTERNET http://www.minicircuits.com

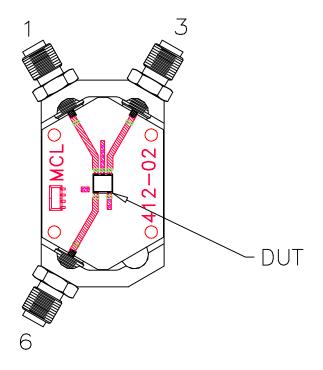
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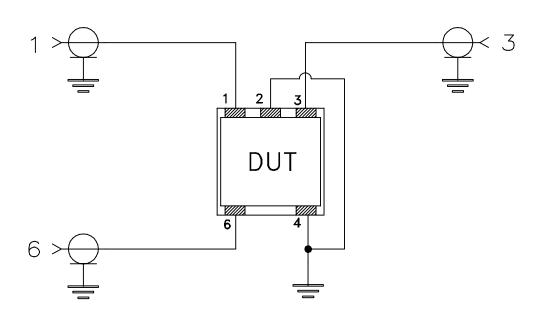
Mini-Circuits ISO 9001 & ISO 14001 Certified

# **Evaluation Board and Circuit**

For Pin Connections refer to Data Sheet of the DUT



TB-145



Schematic Diagram

### Notes:

- 1. 50 Ohm SMA Female connectors.
- 2. PCB Material: Rogers RO4350B or its equivalent, III Mini-Circuits® Dielectric Constant=3.5, Thickness=.020"



### **Environmental Specifications**

ENV02

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-20° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215

ENV02 Rev: A

02/25/11

M130240 File: ENV02.pdf

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