RF Transformer

TCM2-1T



CASE STYLE: DB714
PRICE: Contact Sales Dept.

3 to 300 MHz

Maximum Ratings

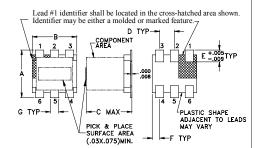
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

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

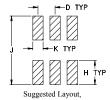
Pin Connections

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

Outline Drawing



PCB Land Pattern

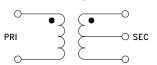


Tolerance to be within ±.002

Outline Dimensions (inch)

Α	В	С	D	Ε	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	Н	J	K		wt
G .028	H .065	J .190	K .030		wt grams

Config. A



Features

- excellent amplitude unbalance. 0.2 dB typ.
- excellent phase unbalance, 4 deg. typ. in 1 dB bandwidth
- plastic base with solder plated leads
- aqueous washable

Applications

- impedance matching
- balanced to unbalanced transformation
- push-pull amplifier

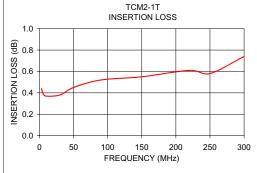
Transformer Electrical Specifications

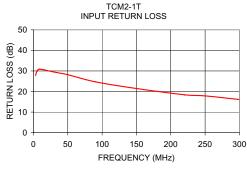
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*
		1 dB MHz
2	3-300	3-300

^{*} Insertion Loss is referenced to mid-band loss, 0.3 dB typ

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	
3.00	0.44	27.84	
5.00	0.40	29.78	
9.00	0.37	30.87	
30.00	0.38	29.47	
50.00	0.45	28.16	
90.00	0.52	24.71	
150.00	0.55	21.46	
220.00	0.61	18.39	
250.00	0.58	17.86	
300.00	0.74	16.10	







For detailed performance specs

RF Transformer TCM2-1T

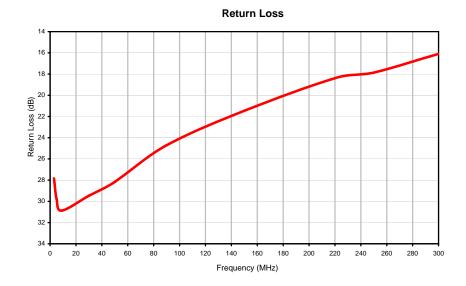
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
3.00	0.44	27.84
5.00	0.40	29.78
9.00	0.37	30.87
30.00	0.38	29.47
50.00	0.45	28.16
90.00	0.52	24.71
150.00	0.55	21.46
220.00	0.61	18.39
250.00	0.58	17.86
300.00	0.74	16.10

RF Transformer TCM2-1T

Typical Performance Curves





Case Style

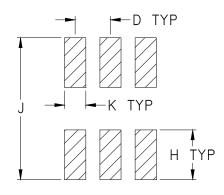


DB714

Outline Dimensions

SEE NOTE 3 D TYP→ SEE NOTE 3 COMPONENT AREA +.005 Ε -.009.000 .008 5 G TYP C MAX ^LPLASTIC SHAPE ADJACENT TO LEADS PICK & PLACE MAY VARY SURFACE AREA (.03X.075)MIN.

PCB Land Pattern



Suggested Layout, Tolerance to be within ±.002

CASE #	A	В	С	D	Е	F	G	Н	J	K	WT. GRAM
DB714	.160	.150	.160	.050	.040	.025	.028	.065	.190	.030	15
DB/14	(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. Lead #1 identifier shall be located in the cross-hatched area shown. Identifier may be either a molded or marked feature.



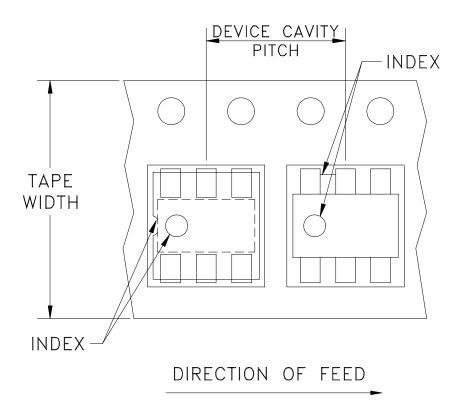


P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

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

Tape & Reel Packaging TR-F47

DEVICE ORIENTATION IN T&R



Tape Width,	Device Cavity	Reel Size,	Devices per Reel
mm	Pitch, mm	inches	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



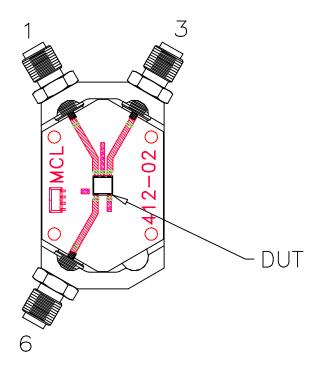
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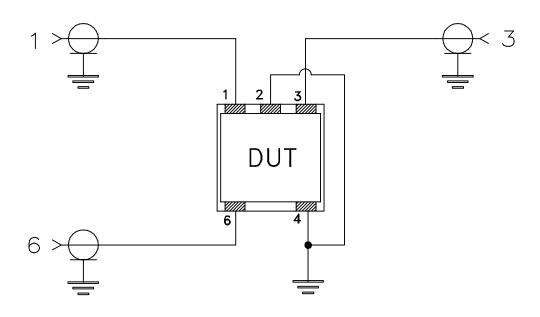
Mini-Circuits ISO 9001 & ISO 14001 Certified

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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