RF Transformer

0.2 to 600 MHz

TMO-4-2+



CASE STYLE: A11

+RoHS Compliant

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

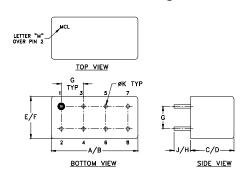
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	250mW
DC Current	30mA
Permanent damage may occur if any	of these limits are exceede

Pin Connections

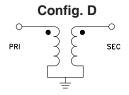
1
6
2
6
7, 8
3, 4, 5

Outline Drawing



Outline Dimensions (inch)

F	Е	D	С	В	Α
.230	.210	.255	.240	.500	.480
5.84	5.33	6.48	6.10	12.70	12.19
wt		K	J	Н	G
grams		.020	.14	.20	.100
1.9		0.51	3.56	5.08	2.54



hermetic case

Features

Applications • military, hi-rel requirements

• wideband, 0.2 to 600 MHz

• impedance matching

• excellent return loss

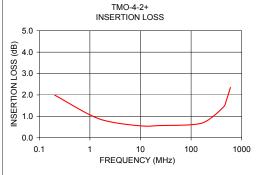
Transformer Electrical Specifications

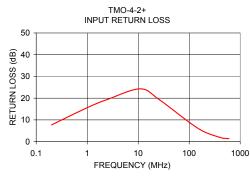
Ω RATIO (Secondary/Primary)	FREQUENCY (MHz)	INSERTION LOSS*		
		3 dB MHz	2 dB MHz	1 dB MHz
4	0.2-600	0.2-600	0.5-500	2-250

^{*}Insertion Loss is referenced to mid-band loss, 0.6 dB typ.

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	
0.20	2.00	7.70	
1.00	1.07	15.63	
2.58	0.74	19.54	
10.86	0.55	24.29	
24.87	0.57	19.63	
100.87	0.61	8.87	
201.16	0.78	4.44	
434.09	1.43	1.73	
498.35	1.75	1.54	
 600.00	2.35	1.35	





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.

B. Electrical specifications and performance data contained in this 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

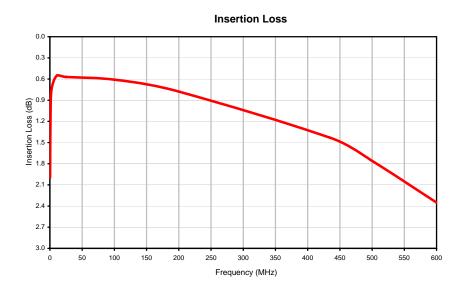
RF Transformer TMO-4-2+

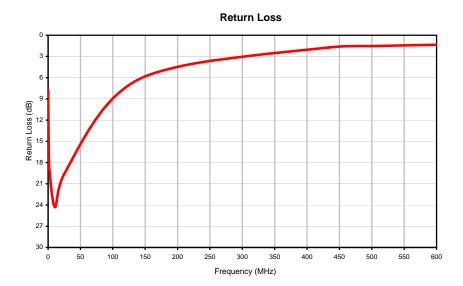
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
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1.00	1.07	15.63
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RF Transformer TMO-4-2+

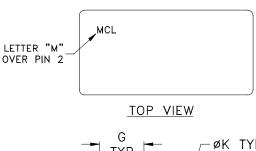
Typical Performance Curves

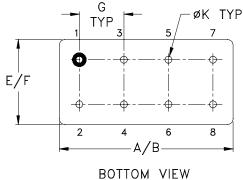


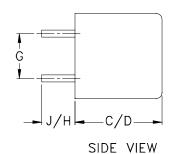


A11

Outline Dimensions







(5.08)

(3.56)

(.51)

1.9

CASE#	A	В	С	D	Е	F	G	Н	J	K	WT, GRAM
A03	.480	.500	.390 (9.91)	.405 (10.29)	.210	.230	.100	.20	.14	.020	2.3

(5.84)

(2.54)

(5.33)

.255

(6.48)

(6.10)Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015

.240

Notes:

A11

1. Header material: C.R.S. Pin material: #52 alloy. Cover material: Cupro-Nickel.

(12.19)

(12.70)

- 2. Pin finish: Electro Tin-Silver.
- 3. Insulated spacer available. Request P/N B14-047-01.
- **4.** Tolerance on pin diameter \pm -.005 inch.
- 5. Glass meniscus 0.015 inch max.
- **6.** Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.



INTERNET http://www.minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



Environmental Specifications

ENV01

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	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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
Moisture Resistance	10 cycles, 24 hours per cycle	MIL-STD-202, Method 106, Condition A, except 50°C and end point electrical test done within 12 hours
Solderability	10X Magnification	J-STD-002, 95% Coverage
Resistance to Solder Heat	260°C for 10 seconds	MIL-STD-202, Method 210, Condition B
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
Terminal Strength	4 1/2 Pound Pull	MIL-STD-202, Method 211, Condition A

ENV01 Rev: OR

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10/11/11

M105677 File: ENV01.pdf



Environmental Specifications

ENV01

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
Gross Leak	125°C Bubble Test	MIL-STD-202, Method 112, Condition D
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D

ENV01 Rev: OR

10/11/11

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