



Mini-Circuits®

top hat®
SURFACE MOUNT
RF Transformer

TCM2-43X-2+**50Ω****10 to 4000 MHz****FEATURES**

- Wide bandwidth 10 to 4000 MHz
- Balanced transmission line
- Excellent return loss
- Aqueous washable

APPLICATIONS

- PCS
- Wideband push-pull amplifiers
- Cellular

*Generic photo used for illustration purposes only*

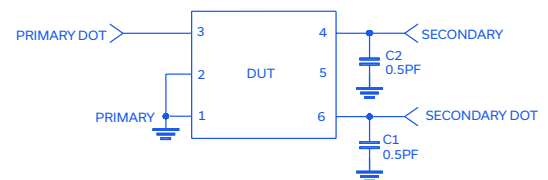
CASE STYLE: DB1627

+RoHS Compliant

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

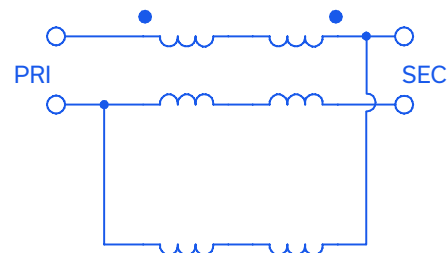
ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio (secondary/primary)		2			Ohm
Frequency Range		10		4000	MHz
Insertion Loss	10-4000	—	1.3	3.0	dB
Amplitude Unbalance	10-4000	—	0.5	—	dB
Phase Unbalance	10-4000	—	7	—	Degree

ELECTRICAL SCHEMATIC**MAXIMUM RATINGS**

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.4 W
DC Current	30 mA

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

CONFIGURATION K

REV. A
ECO-013842
TCM2-43X-2+
DJ/CP/AM
220620





top hat[®]

SURFACE MOUNT RF Transformer

TCM2-43X-2+

50Ω

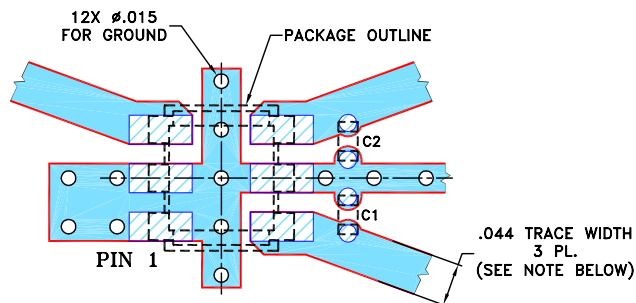
10 to 4000 MHz

PIN CONNECTIONS

PRIMARY DOT	3
PRIMARY	1,2
SECONDARY DOT	6
SECONDARY	4
GND	1,2
NOT USED	5

PRODUCT MARKING: GJ

DEMOBOARD MCL P/N: TB-TCM2-43X-2+ SUGGESTED PCB LAYOUT (PL-380)

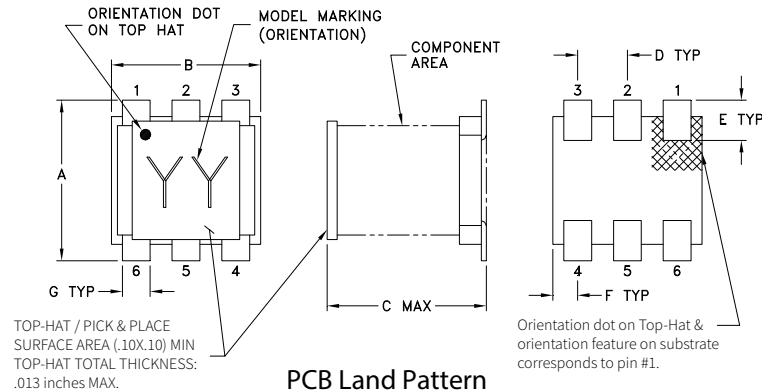


COMPONENT	SIZE
C1, C2	0402

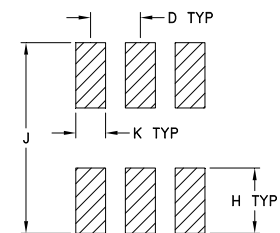
- NOTES:** 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-676+.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

OUTLINE DRAWING



PCB Land Pattern

OUTLINE DIMENSIONS (Inches)
mm

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	H	J	K	wt	
.028	.065	.190	.030	grams	
0.71	1.65	4.83	0.76	0.15	

TAPE & REEL INFORMATION: F47



Mini-Circuits

top hat[®]
SURFACE MOUNT
RF Transformer

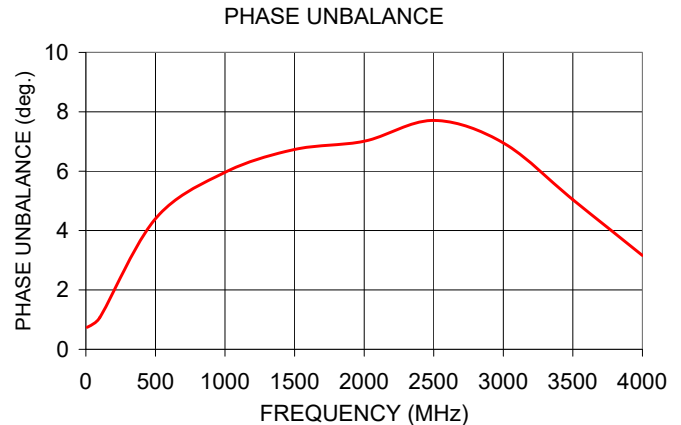
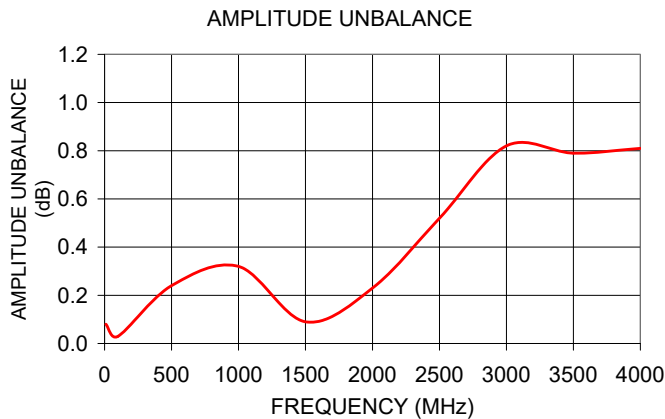
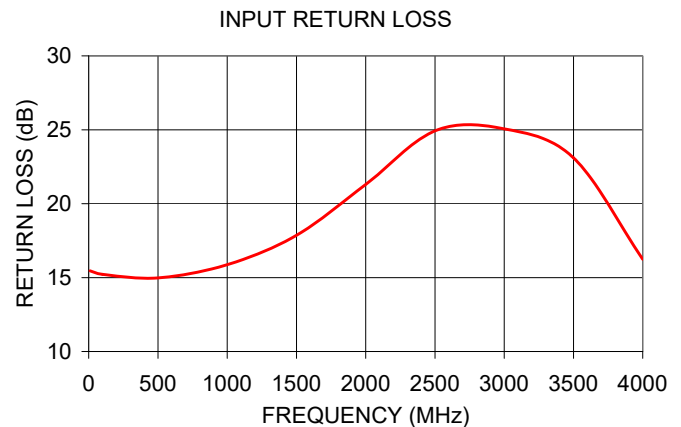
TCM2-43X-2+

50Ω

10 to 4000 MHz

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Amplitude Unbalance (dB)	Phase Unbalance (deg)
10	1.88	15.46	0.08	0.74
100	1.76	15.22	0.03	1.07
500	1.61	14.98	0.24	4.40
1000	1.35	15.87	0.32	5.96
1500	1.17	17.86	0.09	6.73
2000	1.09	21.30	0.23	7.01
2500	1.11	24.93	0.52	7.71
3000	1.17	25.06	0.82	6.95
3500	1.26	23.10	0.79	5.04
4000	1.55	16.24	0.81	3.16



- 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.
- 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/terms/viewterm.html

