



Mini-Circuits

SURFACE MOUNT

RF Transformer

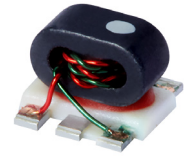
75Ω 0.3 to 475 MHz

TC9-1-75+

TC9-1-75X+
Upgraded Version*

*Addition of Top Hat® Feature Benefits

- Allows Faster Pick-and-Place
- Enables Visual Identification Marking



Generic photo used for illustration purposes only

CASE STYLE: AT224-1A

+RoHS Compliant

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

FEATURES

- Wideband, 0.3 to 475 MHz
- Good Return Loss, 23 dB Typ. in 1 dB Bandwidth
- Step-Down 9:1 Autotransformer
- Plastic Base with Leads
- Aqueous Washable

APPLICATIONS

- Matching Laser Diode

ELECTRICAL SPECIFICATIONS AT +25°C

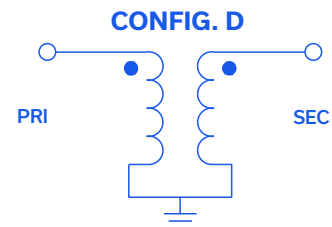
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Primary/Secondary)			75/8		Ohms
Frequency Range		0.3		475	MHz
Insertion Loss ¹	0.3-475		3		dB
	0.5-450		2		
	0.9-370		1		

1. Insertion Loss is referenced to mid-band loss, 0.4 dB typ.
Stepdown, 75Ω primary, 51 pF across secondary.

ABSOLUTE MAXIMUM RATINGS

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

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



Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. E
ECO-025349
TC9-1-75+
MCL NY
250428

PAGE 1 OF 3

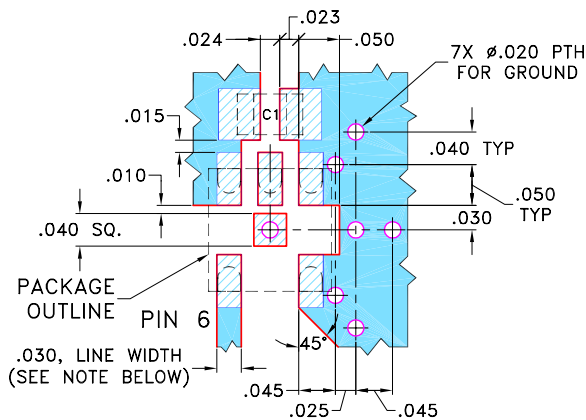


PIN CONNECTIONS

PRIMARY DOT	6
PRIMARY	3
SECONDARY DOT	1
SECONDARY	3

PRODUCT MARKING: N/A

DEMOBOARD MCL P/N: TB-TC9-1-75+
SUGGESTED PCB LAYOUT (PL-155)



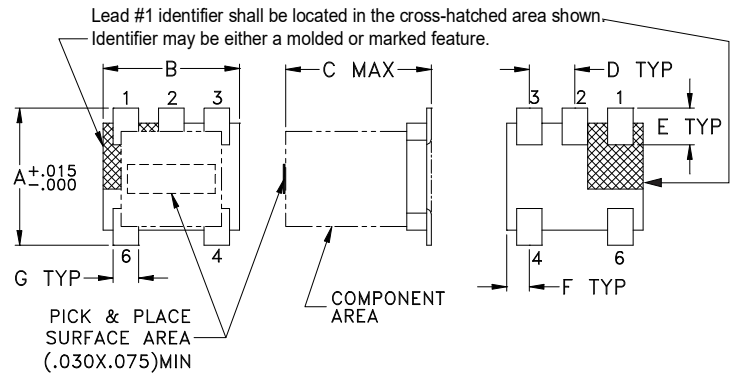
CAPACITOR C1: 0805 SIZE, FOR VALUE SEE CATALOG.

- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .002"; 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.

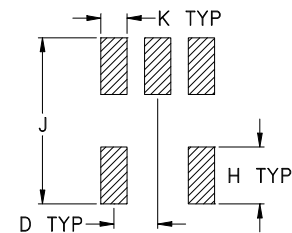
 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inch mm)

A	B	C	D	E	F
.150	.150	.160	.050	.040	.025
3.81	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: F17



SURFACE MOUNT

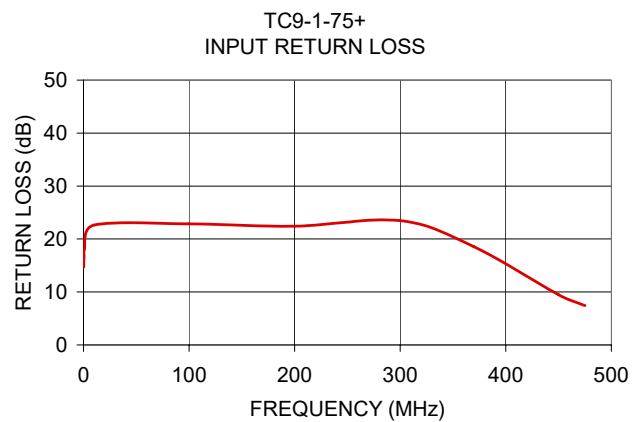
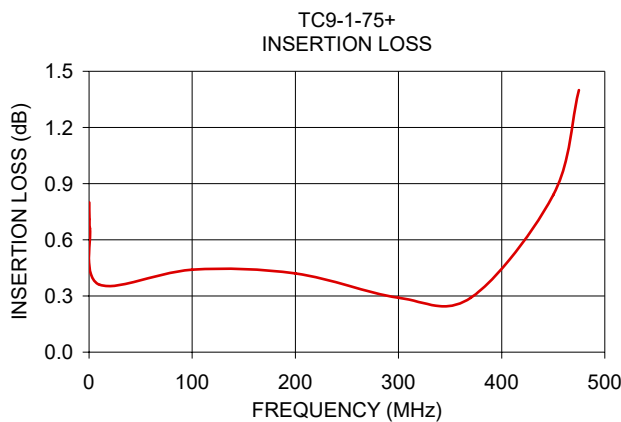
RF Transformer

TC9-1-75+

75Ω 0.3 to 475 MHz

TYPICAL PERFORMANCE DATA

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
0.30	0.80	14.70
0.50	0.71	16.80
0.90	0.66	18.13
10.00	0.36	22.63
100.00	0.44	22.86
200.00	0.42	22.40
300.00	0.29	23.48
370.00	0.29	18.53
450.00	0.84	9.48
475.00	1.40	7.44



NOTES

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

