

75Ω 5 to 1200 MHz

The Big Deal

- Low insertion loss, 1.0 dB typ.
- Good return loss, 20 dB typ.
- Low amplitude unbalance, 0.3 dB
- Power handling up to 0.25W



CASE STYLE: TT1618

Product Overview

The TRS2-1T-75+ is a 75Ω surface mount balanced-to-balanced transformer with a 2:1 secondary/primary impedance ratio covering the 5 to 1200 MHz band, meeting bandwidth requirements for DOCSIS® 3.1 compliant systems and equipment, among other applications. This model handles RF input power up to 0.25W and provides low insertion loss, good return loss and low amplitude unbalance. Measuring only 0.28 x 0.25 x 0.12", the unit features core and wire, all-welded construction with gold over nickel plate wraparound terminations suitable for tin/lead and RoHS solder systems. The unit also includes Mini-Circuits' Top Hat™ feature for faster more accurate pick-and-place assembly.

Key Features

Feature	Advantages
Wideband, 5 to 1200 MHz	TRS2-1T-75+ supports a variety of applications including CATV and DOCSIS 3.1 systems and equipment.
Low insertion loss, 1.0 dB	Enables excellent signal power transmission from input to output.
Good return loss, 20 dB typ.	Excellent matching for 75Ω systems with minimal signal reflection.
Low amplitude unbalance, 0.3 dB	Low unbalance can improve a system's electromagnetic compatibility by rejecting unwanted common-mode noise.
Small footprint, 0.28 x 0.25"	Accommodates tight space requirements for dense PCB layouts.
Top Hat® feature	Improves speed and accuracy of pick and place assembly and provides clear device marking for visual inspection

Balanced RF Transformer

75Ω

5 to 1200 MHz

TRS2-1T-75+

Features

- suitable for tin/lead and RoHS solder systems
- wideband, 5 to 1200 MHz
- balanced transmission line
- good return loss, 20 dB typ. at 1 dB band
- excellent amplitude unbalance, 0.3 dB typ.
- aqueous washable

Applications

- balanced to unbalanced transformation
- push-pull amplifiers
- PCS/DCS
- cable TV
- cellular

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			2		
Frequency Range		5		1200	MHz
Insertion Loss*	5 - 600	—	0.6	1.0	dB
	600 - 1000	—	1.0	1.8	
	1000 - 1200	—	1.3	2.2	
Amplitude Unbalance	5 - 600	—	0.3	1.0	dB
	600 - 1000	—	0.6	1.7	
	1000 - 1200	—	0.8	1.9	
Phase Unbalance	5 - 50	—	0.8	3	Degree
	50 - 1200	—	5	9	
Primary Return Loss (Input)	5 - 50	17	22	—	dB
	50 - 1000	13	22	—	
	1000 - 1200	9	17	—	

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

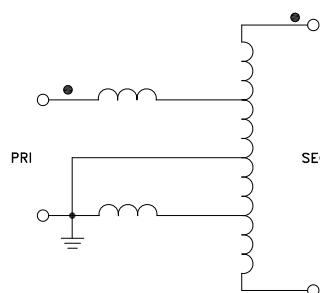
Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

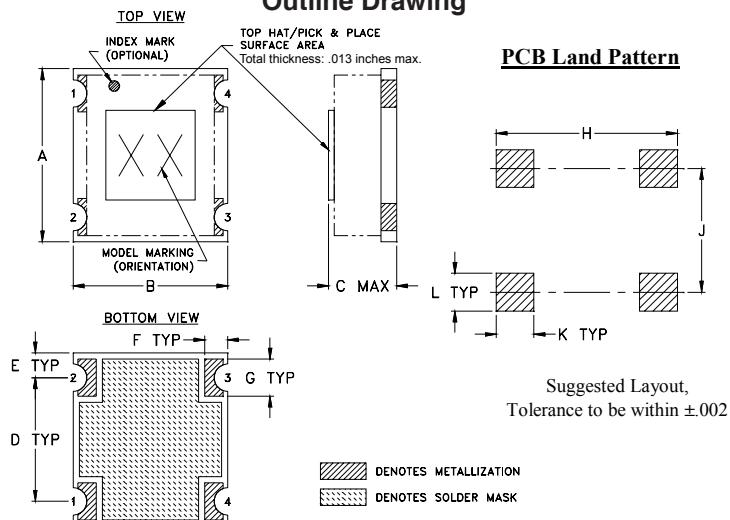
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

Function	Pin Number
PRIMARY DOT	1
PRIMARY (GROUND)	4
SECONDARY DOT	3
SECONDARY	2

Config. P1

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F
.280	.250	.12	.200	.040	.037
7.11	6.35	3.05	5.08	1.02	0.94
G	H	J	K	L	wt.
.060	.293	.200	.061	.061	grams
1.52	7.44	5.08	1.55	1.55	2.8

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
5.00	0.76	20.46	0.16	0.07
100.00	0.72	23.43	0.13	1.58
200.00	0.77	24.55	0.11	2.85
400.00	0.87	27.39	0.15	4.61
500.00	0.94	29.37	0.20	5.13
600.00	1.02	30.97	0.27	5.43
700.00	1.11	29.50	0.37	5.60
800.00	1.21	26.22	0.45	5.67
1000.00	1.45	20.59	0.62	5.26
1200.00	1.75	16.81	0.70	4.30

