Surface Mount

RFTransformer

TRS1-23-75+

75Ω 10 to 2200 MHz

The Big Deal

- Very wide band balun, with excellent performance from 10 MHz to 2.2 GHz
- Excellent amplitude unbalance, 0.3 dB typ
- Good return loss, 20 dB typ

CASE STYLE: AT577-1

Product Overview

The TRS1-23-75+ is a balanced-to-unbalanced 75Ω transmission line transformer, 0.2” x 0.2” x 0.2” in size. This rugged, wire welded, rectangular core design is rated for up to 0.5W maximum power, in an aqueous washable case suitable for both RoHS and tin/lead solder systems.

Feature	Advantages
Very wide bandwidth	10-2200 MHz bandwidth covers CATV (forward & return), medical wireless and D2A/A2D, and other communications applications
Excellent amplitude and phase unbalance	0.4 dB amplitude and 3° phase unbalance aid rejection of even harmonics (in push-pull amplifiers) and common mode signals (when used as a balun)
Good return loss	Provides excellent matching for 75Ω circuitry
Low and flat insertion loss	Consistently low signal loss, ±0.2dB across all 50-1000 MHz CATV bands

Balanced

RF Transformer

TRS1-23-75+

75Ω 10 to 2200 MHz

Generic photo used for illustration purposes only

CASE STYLE: AT577-1

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.5W
DC Current	300mA

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

Pin Connections

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

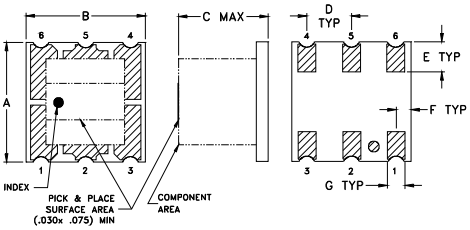
Features

- suitable for tin/lead and RoHS solder systems
- wideband, 10 to 2200 MHz
- balanced transmission line
- good return loss, 20 dB typ. at 1 dB band
- excellent amplitude unbalance, 0.3 dB typ.
- aqueous washable

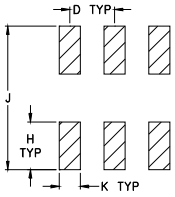
Applications

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

Outline Drawing



PCB Land Pattern



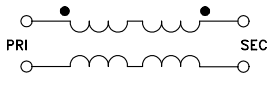
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F
.200	.200	.15	.075	.050	.025
5.08	5.08	3.81	1.91	1.27	0.64

G	H	J	K	wt
.030	.080	.240	.035	grams
0.76	2.03	6.10	0.89	0.15

Config. G



Transformer Electrical Specifications at 25°C

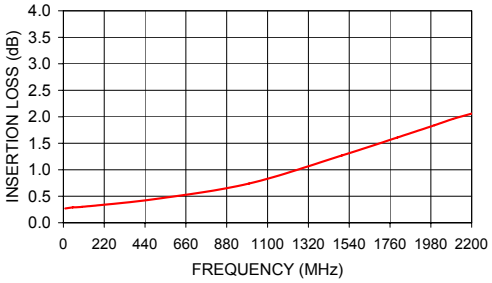
Ω RATIO	FREQUENCY (MHz)	INSERTION LOSS*			PHASE UNBALANCE (Deg.) Typ.		AMPLITUDE UNBALANCE (dB) Typ.	
		3 dB MHz	2 dB MHz	1 dB MHz	1 dB bandwidth	2 dB bandwidth	1 dB bandwidth	2 dB bandwidth
1	10-2200	10-2200	30-1500	50-1000	3	5	0.4	0.6

*Insertion Loss is referenced to mid-band loss, 0.2 dB typ.

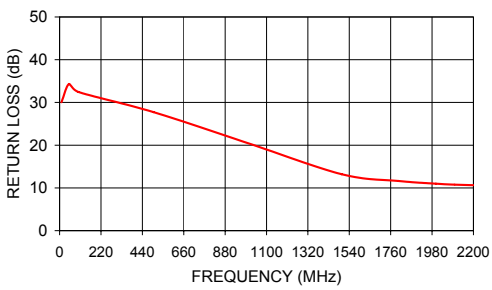
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
10.00	0.27	30.06	0.58	6.13
30.00	0.29	34.11	0.58	2.24
50.00	0.29	34.32	0.55	1.33
100.00	0.30	32.46	0.51	0.30
500.00	0.45	27.73	0.33	2.61
1000.00	0.74	20.49	0.10	2.40
1500.00	1.27	13.21	0.27	1.23
1800.00	1.61	11.64	0.18	3.21
2000.00	1.84	10.99	0.05	4.05
2200.00	2.06	10.63	0.14	4.39

TRS1-23-75+
INSERTION LOSS



TRS1-23-75+
RETURN LOSS



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/MCLStore/terms.jsp