

# Surface Mount RF Transformer

## TRS1.33-132-75+

75Ω 25 to 1300 MHz



CASE STYLE:AT577-2

### The Big Deal

- Wideband, 25 to 1300 MHz
- Low insertion loss, 1.0 dB typ.
- Good return loss, 20 dB typ.

### Product Overview

The TRS1.33-132-75+ is a 75Ω surface mount transformer with a 1.33 secondary/primary impedance ratio covering the 25 to 1300 MHz band, meeting requirements for DOCSIS® 3.1 compliant systems and equipment, among other applications. This model provides low insertion loss, excellent input return loss and low phase and amplitude unbalance. Featuring core and wire, all-welded construction, the unit measures 0.2 x 0.2 x 1.5", accommodating dense layouts. It also includes Mini-Circuits' Top Hat™ feature for faster more accurate pick-and-place assembly.

Feature	Advantages
Wide bandwidth, 25-1300 MHz	Wideband range covers CATV signal requirements meeting DOCSIS 3.1 standards.
Good input return loss, 20 dB typ.	Excellent matching for 75Ω systems.
Small footprint, 0.2 x 0.2"	Accommodates tight space requirements for dense PCB layouts.

#### 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](http://www.minicircuits.com/MCLStore/terms.jsp)



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### +RoHS Compliant

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



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	500
13"	2000

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.5W
DC Current	30mA

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

### Pin Connections

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

### Features

- wideband, 25 to 1300 MHz
- good return loss
- flat insertion loss

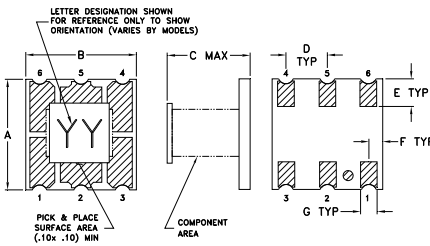
### Applications

- impedance matching
- balanced to unbalanced transformer
- push-pull amplifiers
- CATV

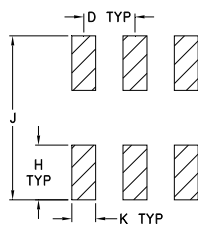
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			1.33		Ohm
Frequency Range		25	—	1300	MHz
Insertion Loss	25 - 1300	—	1.0	2.0	dB
Amplitude Unbalance	25 - 1300	—	0.8	—	dB
Phase Unbalance	25 - 1300	—	6	—	Degree

### Outline Drawing



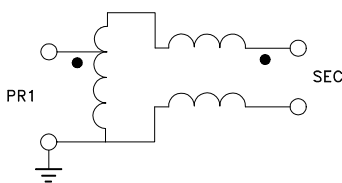
### PCB Land Pattern



### 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. P



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### Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
25	0.84	21.26	1.05	4.53
100	0.72	26.53	0.86	0.62
200	0.71	26.89	0.78	1.21
400	0.76	22.89	0.60	3.69
550	0.83	19.98	0.43	4.91
700	0.91	17.81	0.19	5.92
850	1.01	16.38	0.04	6.88
1000	1.13	15.30	0.29	7.32
1150	1.27	14.53	0.55	7.34
1300	1.42	13.98	0.80	7.05

