

# RF Transformer

## SERT4-62HP50W1+

12.5/50Ω    20 to 600 MHz    50 Watt

### The Big Deal

- High power handling, 50W
- Low insertion loss, 0.4 dB
- Small size, 0.93 x 1.22 x 0.47"



CASE STYLE: BL301-7

### Product Overview

Mini-Circuits' SERT4-62HP50W1+ is a high-power, surface-mount transformer with a secondary/primary impedance ratio of 1/4 for applications from 20 to 600 MHz. The transformer is capable of handling RF input power up to 50W and provides very low insertion loss (0.4 dB) as well as excellent return loss at the 50Ω port. The unit comes housed in a miniature, shielded package measuring just 0.93 x 1.22 x 0.47", making it ideal for applications where high power and small size are priorities.

### Key Features

Feature	Advantages
High RF power handling (50W)	Supports systems with high power requirements.
Low insertion loss, 0.4 dB	Excellent transmission of signal power from input to output.
Small footprint, 0.93 x 1.22 x 0.47"	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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## SERT4-62HP50W1+

12.5/50Ω      20 to 600 MHz      50 Watt

### Maximum Ratings

Operating Temperature	-40°C to 65°C case*
Storage Temperature	-55°C to 100°C
RF Power	50W

\*Case temperature is defined as temperature on ground leads.  
Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

PRIMARY (50 ohm)	15-16
SECONDARY (12.5 ohm)	7-11
CASE GROUND	all others

### Features

- high power input, 50 Watt max.
- low insertion loss, 0.40 dB typ.
- small size, 0.93 x 1.22 x 0.47"

### Applications

- military mobile
- PCS
- BALUN
- diode matching



Generic photo used for illustration purposes only

CASE STYLE: BL301-7

### +RoHS Compliant

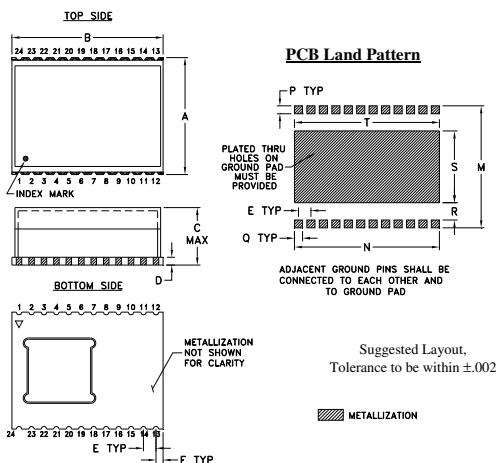
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Secondary/Primary)			1/4		
Frequency Range		20	—	600	MHz
Insertion Loss	20-600	—	0.4	0.8	dB
Return Loss at 50 ohm	20-600	17.5	24	—	dB
Power Handling at primary <sup>1</sup>	20-600	—	—	50	Watt

1. The user must provide adequate means of heat removal to limit the temperature of ground connections under the PCB to +65°C, in order to ensure proper performance. At 25°C ambient temperature this requires thermal resistance of the user's PC board heat sink to be 0.8°C/W.

### Outline Drawing



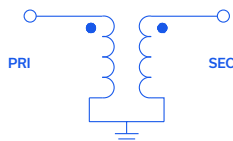
Suggested Layout, Tolerance to be within ±.002

Test Board: TB-1101+

### Outline Dimensions (inch/mm)

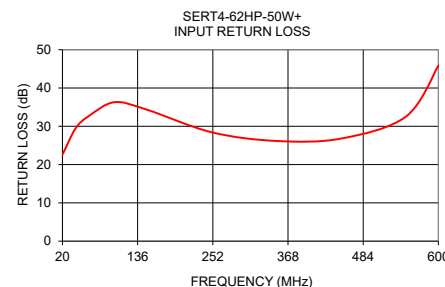
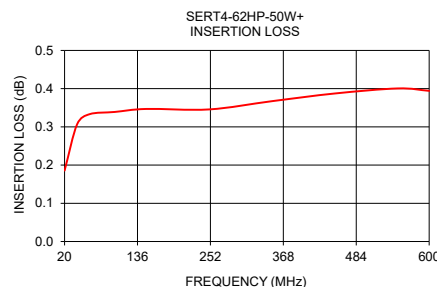
A	B	C	D	E	F	M
.93	1.22	.47	.062	.100	.058	.970
23.62	30.99	11.94	1.57	2.54	1.47	24.64
N	P	Q	R	S	T	wt
1.165	.063	.065	0.138	0.570	1.165	grams
29.59	1.60	1.65	3.51	14.48	29.59	6.5

### Config. D



### Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	R. LOSS (dB) IN	R. LOSS (dB) OUT
20	0.19	22.55	22.61
40	0.31	29.37	29.23
60	0.33	32.58	32.13
100	0.34	36.29	35.57
150	0.35	34.36	36.50
250	0.35	28.44	30.89
350	0.37	26.17	28.68
450	0.39	26.79	29.78
550	0.40	32.54	36.82
600	0.39	45.85	36.56



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