

# TAN 250A

250 Watts, 50 Volts, Pulsed  
Avionics 960 - 1215 MHz

## GENERAL DESCRIPTION

The TAN 250A is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 960-1215 MHz. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. The transistor includes input output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C<sup>2</sup> 575 Watts

### Maximum Voltage and Current

BVces Collector to Base Voltage 60 Volts

BVebo Emitter to Base Voltage 4.0 Volts

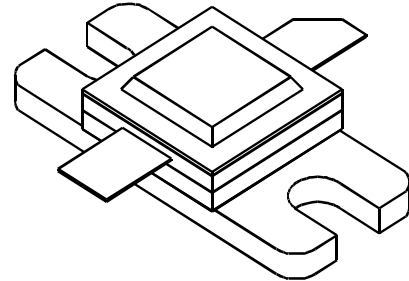
Ic Collector Current 30 Amps

### Maximum Temperatures

Storage Temperature - 65 to + 200°C

Operating Junction Temperature + 200°C

## CASE OUTLINE 55AW, STYLE 1



## ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Out	F = 960-1215 MHz	250			Watts
<b>Pin</b>	Power Input	Vcc = 50 Volts			60	Watts
<b>Pg</b>	Power Gain	PW = 20 μsec	6.0	7.0		dB
<b>η<sub>c</sub></b>	Collector Efficiency	DF = 5%		40		%
<b>VSWR</b>	Load Mismatch Tolerance	F = 1090 MHz			5:1	

<b>BVebo</b>	Emitter to Base Breakdown	Ie = 20 mA	4.0			Volts
<b>BVces</b>	Collector to Emitter Breakdown	Ic = 25 mA	60			Volts
<b>h<sub>FE</sub></b>	C - Current Gain	Ic = 1A, Vce = 5V	10			
<b>θ<sub>jc</sub><sup>2</sup></b>	Thermal Resistance	See Chart				°C/W

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

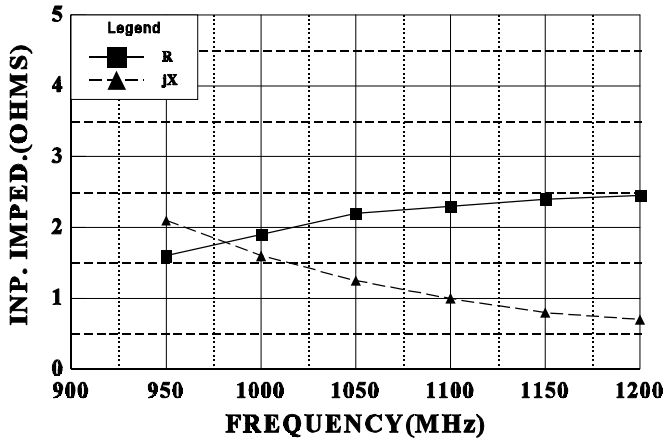
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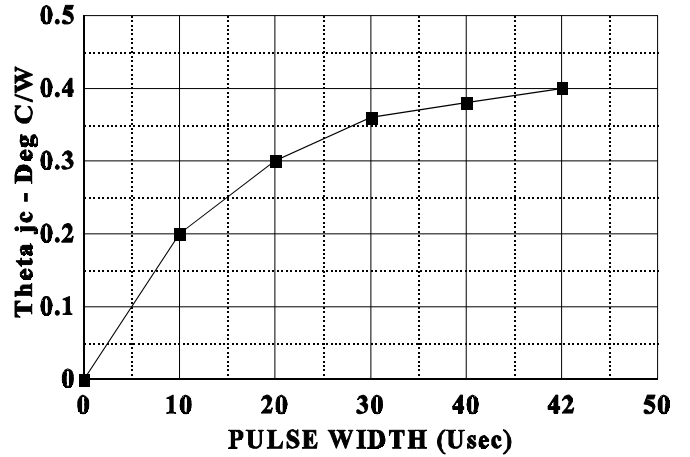
**SERIES INPUT IMPEDANCE vs FREQUENCY**

Vcc = 50 V, Po = 250 W



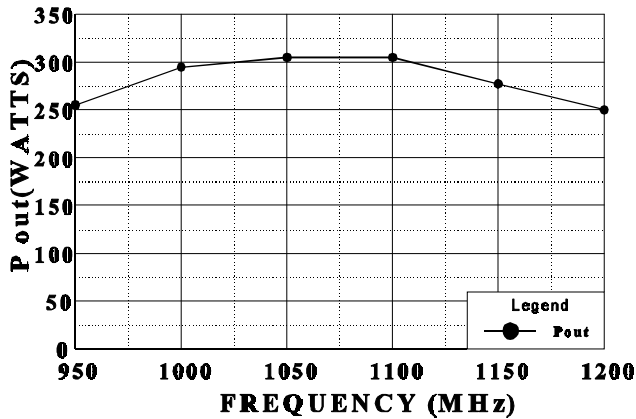
**THERMAL RESISTANCE vs PULSE WIDTH**

Vcc = 50 V, Pin = 60 W, Duty 5%



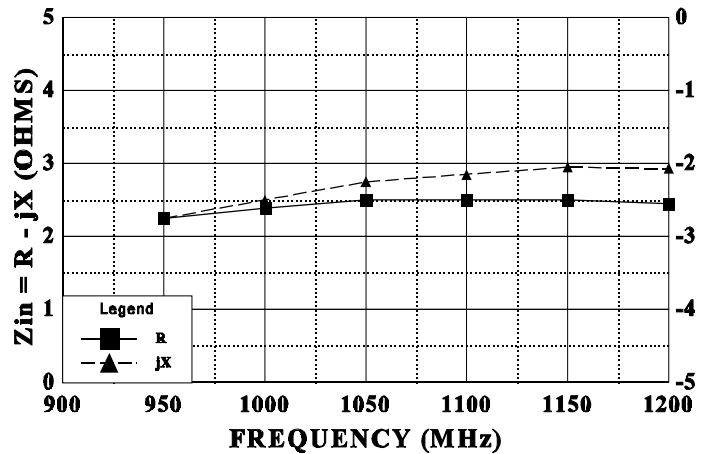
**BROADBAND POWER OUTPUT vs FREQU.**

Vcc = 50 V, Pin = 60 W



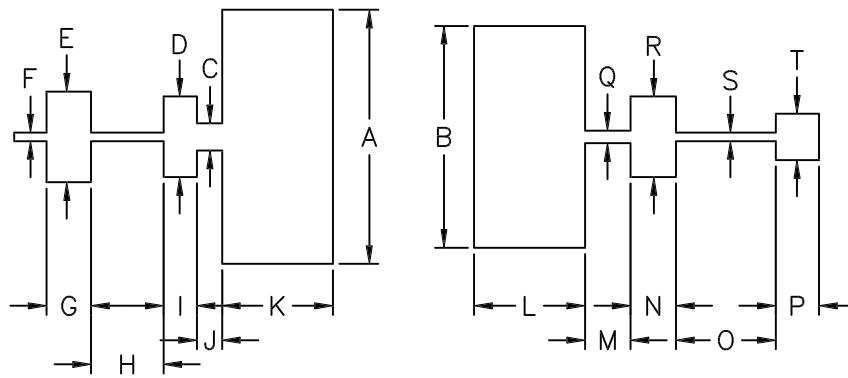
**SERIES LOAD IMPEDANCE vs FREQUENCY**

Vcc = 50 V, Po = 250 W



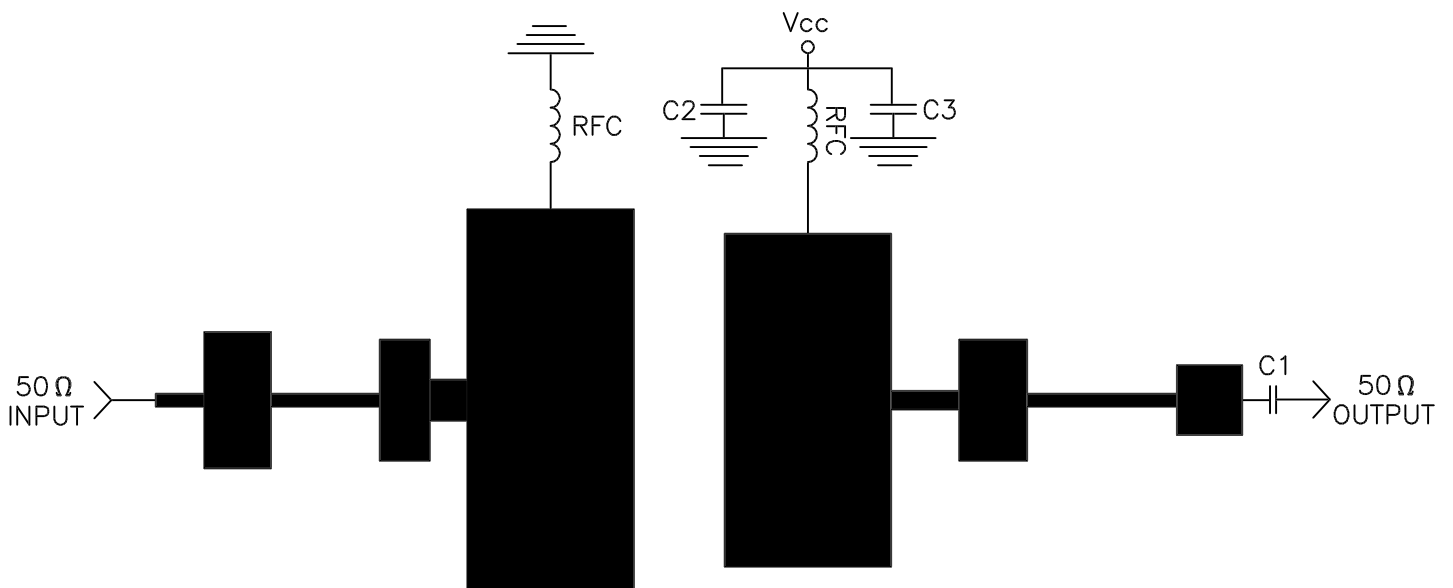
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DIM	INCHES
A	1.260
B	1.100
C	.135
D	.400
E	.450
F	.042
G	.220
H	.360
I	.160
J	.125
K	.550
L	.550
M	.225
N	.250
O	.495
P	.215
Q	.062
R	.400
S	.042
T	.230

### 960-1215 MHz BROADBAND TEST AMPLIFIER



PCB-.015" TFE, 2 oz, CU. type "GT",  $\epsilon_r = 2.55$   
 C1, C2 - 82pf Chip  
 C3-250 MFD