

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°C² 575 Watts

Maximum Voltage and Current

BV_{ces} Collector to Base Voltage 60 Volts

BV_{ebo} Emitter to Base Voltage 4.0 Volts

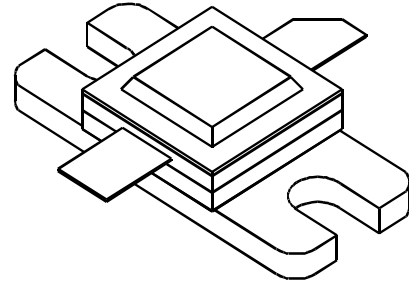
I_c Collector Current 30 Amps

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
P _{out}	Power Out	F = 960-1215 MHz	250			Watts
P _{in}	Power Input	V _{cc} = 50 Volts			60	Watts
P _g	Power Gain	PW = 20 μsec	6.0	7.0		dB
η _c	Collector Efficiency	DF = 5%		40		%
V _{SWR}	Load Mismatch Tolerance	F = 1090 MHz			5:1	

BV _{ebo}	Emitter to Base Breakdown	I _e = 20 mA	4.0			Volts
BV _{ces}	Collector to Emitter Breakdown	I _c = 25 mA	60			Volts
h _{FE}	C - Current Gain	I _c = 1A, V _{ce} = 5V	10			
θ _{jc} ²	Thermal Resistance	See Chart				°C/W

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

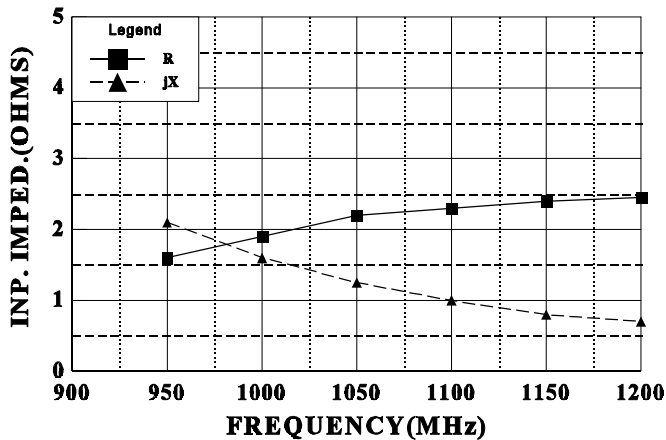
Issue B, July 1997

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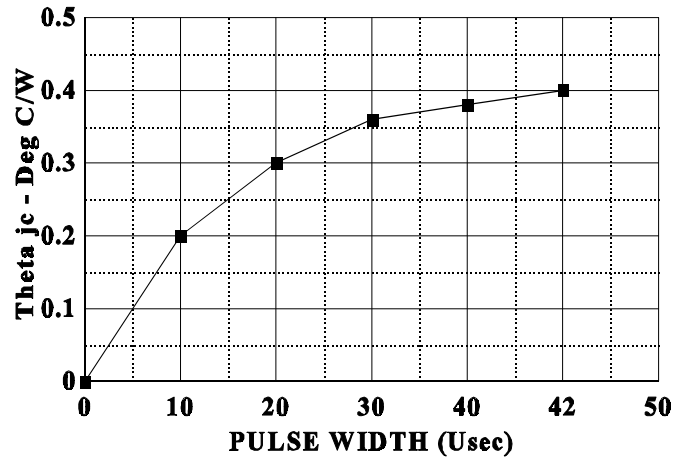
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 250 W



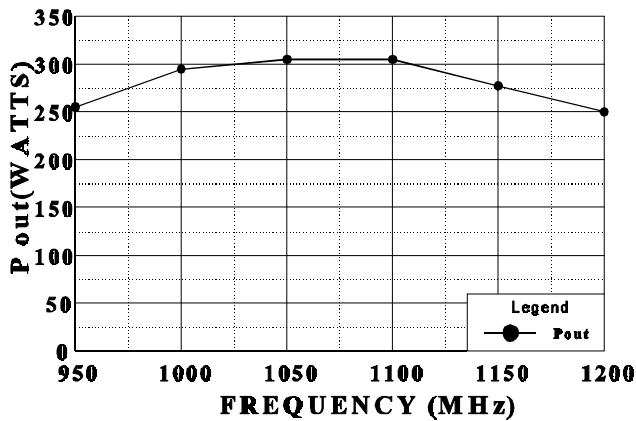
THERMAL RESISTANCE vs PULSE WIDTH

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



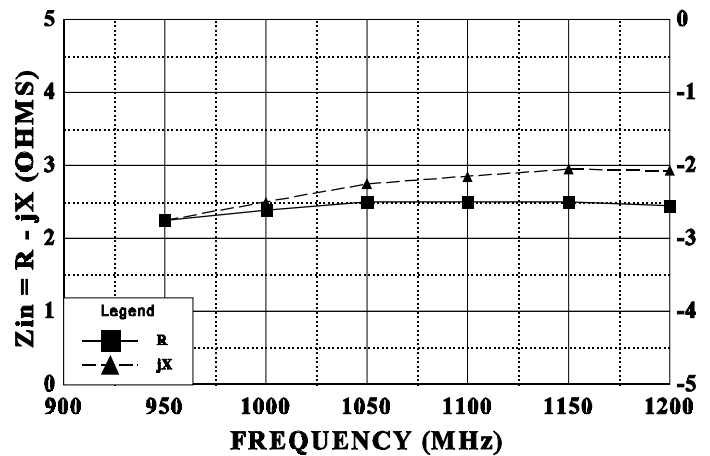
BROADBAND POWER OUTPUT vs FREQU.

Vcc = 50 V, Pin = 60 W



SERIES LOAD IMPEDANCE vs FREQUENCY

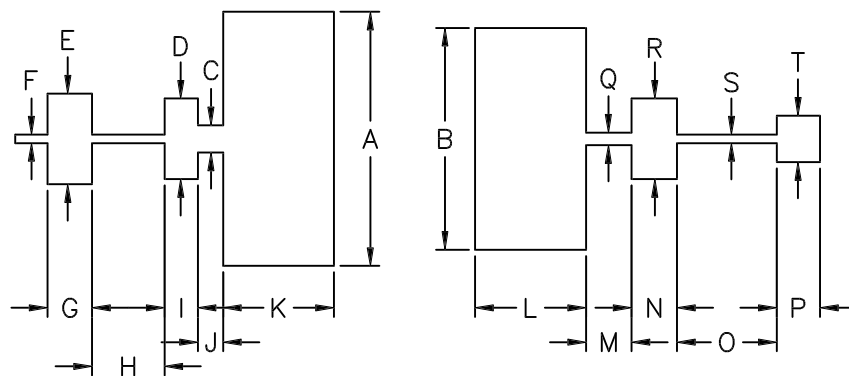
Vcc = 50 V, Po = 250 W



June 1996

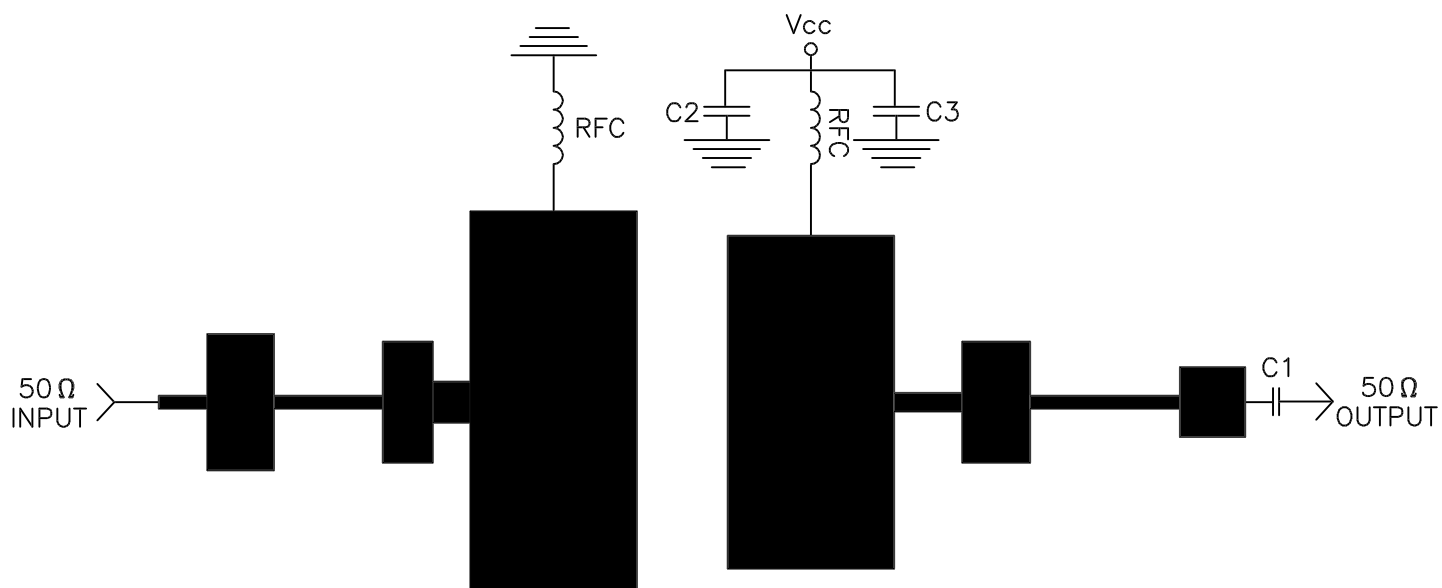
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DIM	INCHES
A	1.260
B	1.100
C	.135
D	.400
E	.450
F	.042
G	.220
H	.360
I	.160
J	.125
K	.550
L	.550
M	.225
N	.250
O	.495
P	.215
Q	.062
R	.400
S	.042
T	.230

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



GHz TECHNOLOGY

DWG NO.

TAN 250A