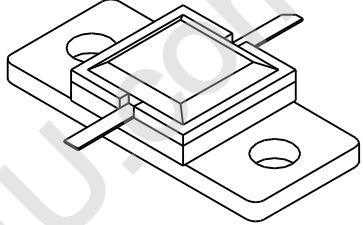


TAN75A

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

<p>GENERAL DESCRIPTION</p> <p>The TAN75A 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 and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.</p>	<p>CASE OUTLINE 55AZ, STYLE 1</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C² 290 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Base Voltage 55 Volts BVebo Emitter to Base Voltage 4 Volts Ic Collector Current 9 Amps</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 200°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 960-1215 MHz	75	80		Watts
Pin	Power Input	Vcc = 50 Volts			12	Watts
Pg	Power Gain	PW = 20 µsec	8.0	8.5		dB
η_c	Collector Efficiency	DF = 5%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			20:1	
BVebo	Emitter to Base Breakdown	Ie = 10 mA	4			Volts
BVces	Collector to Emitter Breakdown	Ic = 15 mA	50			Volts
h_{FE}	DC - Current Gain	Ic = 15 mA, Vce = 5 V	10		100	
θ_{jc^2}	Thermal Resistance				0.6	°C/W

Note 1: A rated output power and pulse conditions
2: At rated pulse conditions

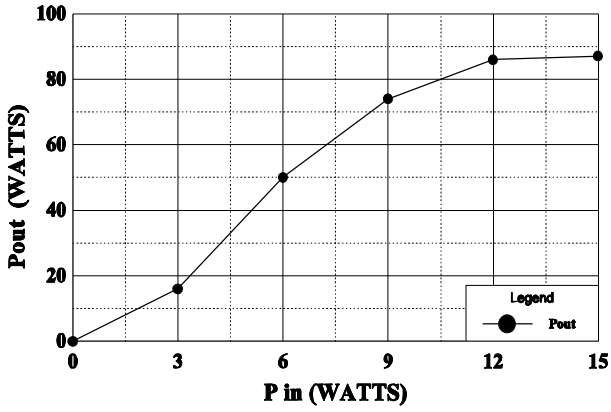
Initial Issue June, 1994

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GHZ Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

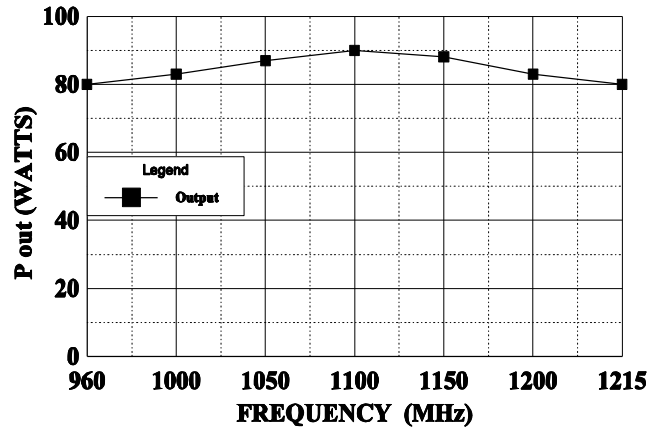
POWER OUTPUT vs POWER INPUT

Vcc = 50 V, 1090 MHz



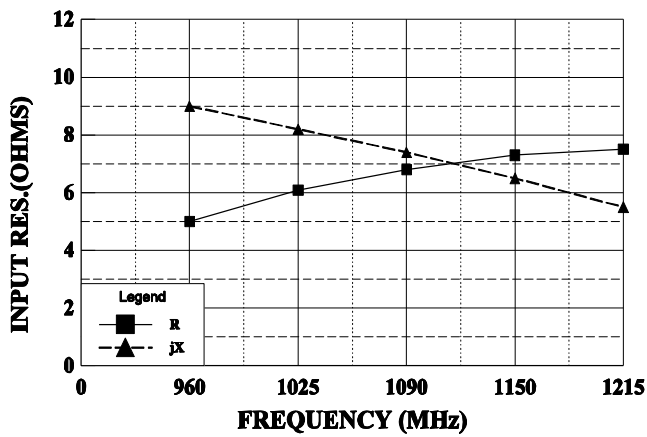
POWER OUTPUT vs FREQUENCY

Vcc = 50 V, F = 1090 MHz



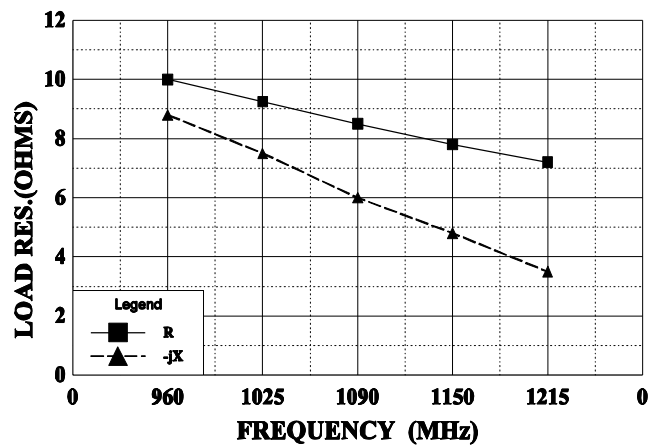
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Pout = 75 W



SERIES LOAD IMPEDANCE vs FREQUENCY

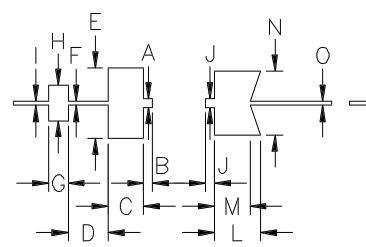
Vcc = 50 V, Po = 75 W



REVISIONS

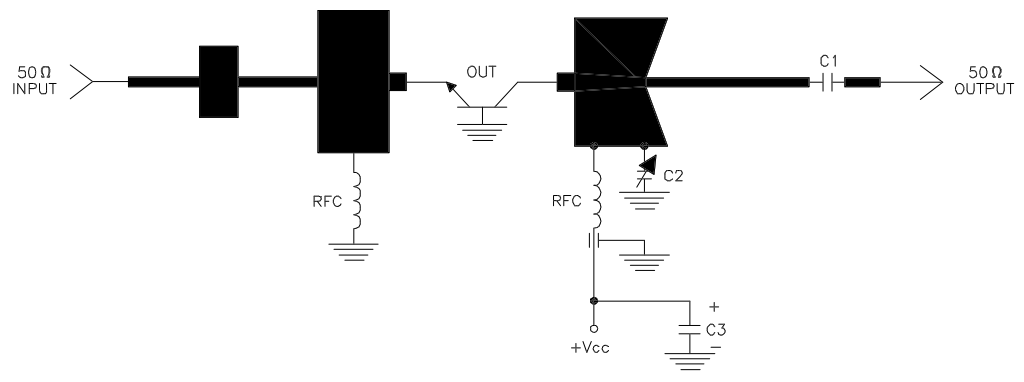
ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.050
B	.050
C	.200
D	.225
E	.400
F	.025
G	.110
H	.200
I	.025
J	.050
K	.050
L	.260
M	.200
N	.360
O	.025



TAN75A TEST CIRCUIT

f = 960-1215MHz
 Vcc = 50V
 10µsec @ 5% duty



- = Microstrip on 25 mil alumina; Er=10
- C1 = 82pF chip cap
- C2 = 0.3 - 3.5pF variable
- C3 = 100 MFD @ 50V



CAGE 0PJR2	DWG NO. TAN 75A	REV A
SCALE	1/1	SHEET