



TAN75A

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

GENERAL DESCRIPTION

The TAN75A is a high powered 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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C 290 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 55 V

Emitter to Base Voltage (BV_{ebo}) 4.0 V

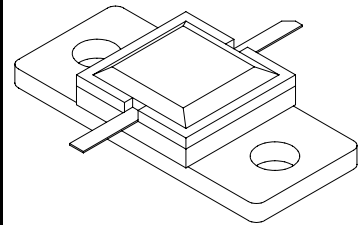
Collector Current (I_c) 9.0 A

Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

CASE OUTLINE 55AZ, Style 1



ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	F = 960-1215 MHz	75	80		W
P_{in}	Power Input	V_{cc} = 50 Volts			12	W
P_g	Power Gain	PW = 20 μ sec	8.0	8.5		dB
η_c	Collector Efficiency	DF = 5%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			20:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

BV_{ebo}	Emitter to Base Breakdown	I_e = 10 mA	4			V
BV_{ces}	Collector to Emitter Breakdown	I_c = 15 mA	50			V
h_{FE}	DC – Current Gain	V_{ce} = 5V, I_c = 15 mA	10		100	
θ_{jc}^2	Thermal Resistance				0.6	°C/W

NOTE 1: At rated output power and pulse conditions

2. At rated pulse conditions

Revision A, August 2010

Microsemi reserves the right to change, without notice, the specifications and information contained herein.

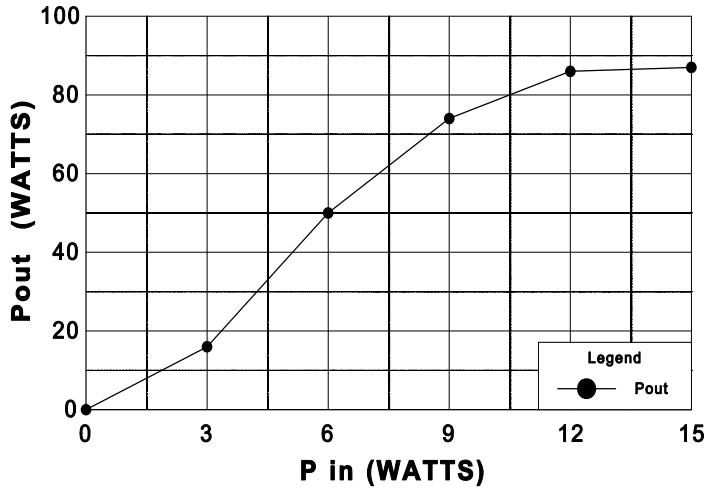
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Microsemi Corporation 3000 Oakmead Village Drive, Santa Clara, California 95051 408-986-8031

TAN75A

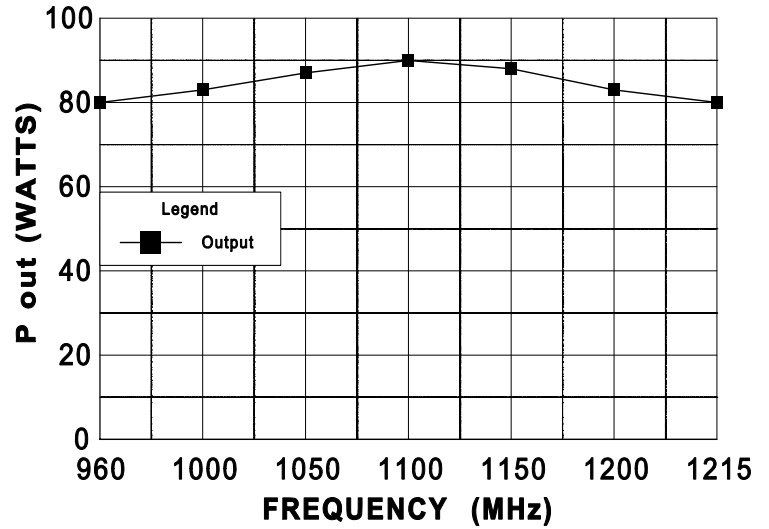
POWER OUTPUT vs POWER INPUT

$V_{cc} = 50 \text{ V}$, 1090 MHz



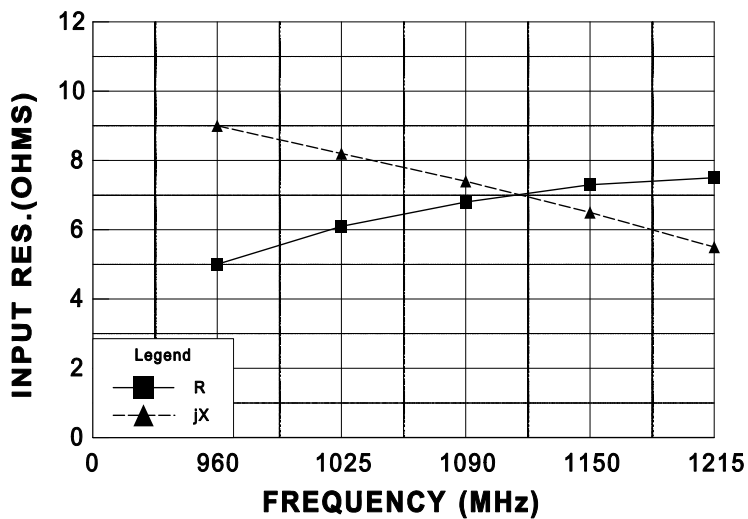
POWER OUTPUT vs FREQUENCY

$V_{cc} = 50 \text{ V}$, $F = 1090 \text{ MHz}$



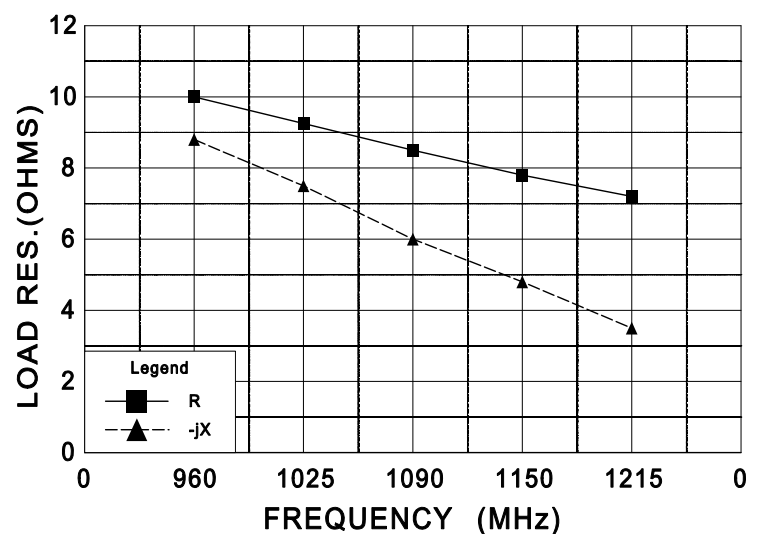
SERIES INPUT IMPEDANCE vs FREQUENCY

$V_{cc} = 50 \text{ V}$, $P_{out} = 75 \text{ W}$



SERIES LOAD IMPEDANCE vs FREQUENCY

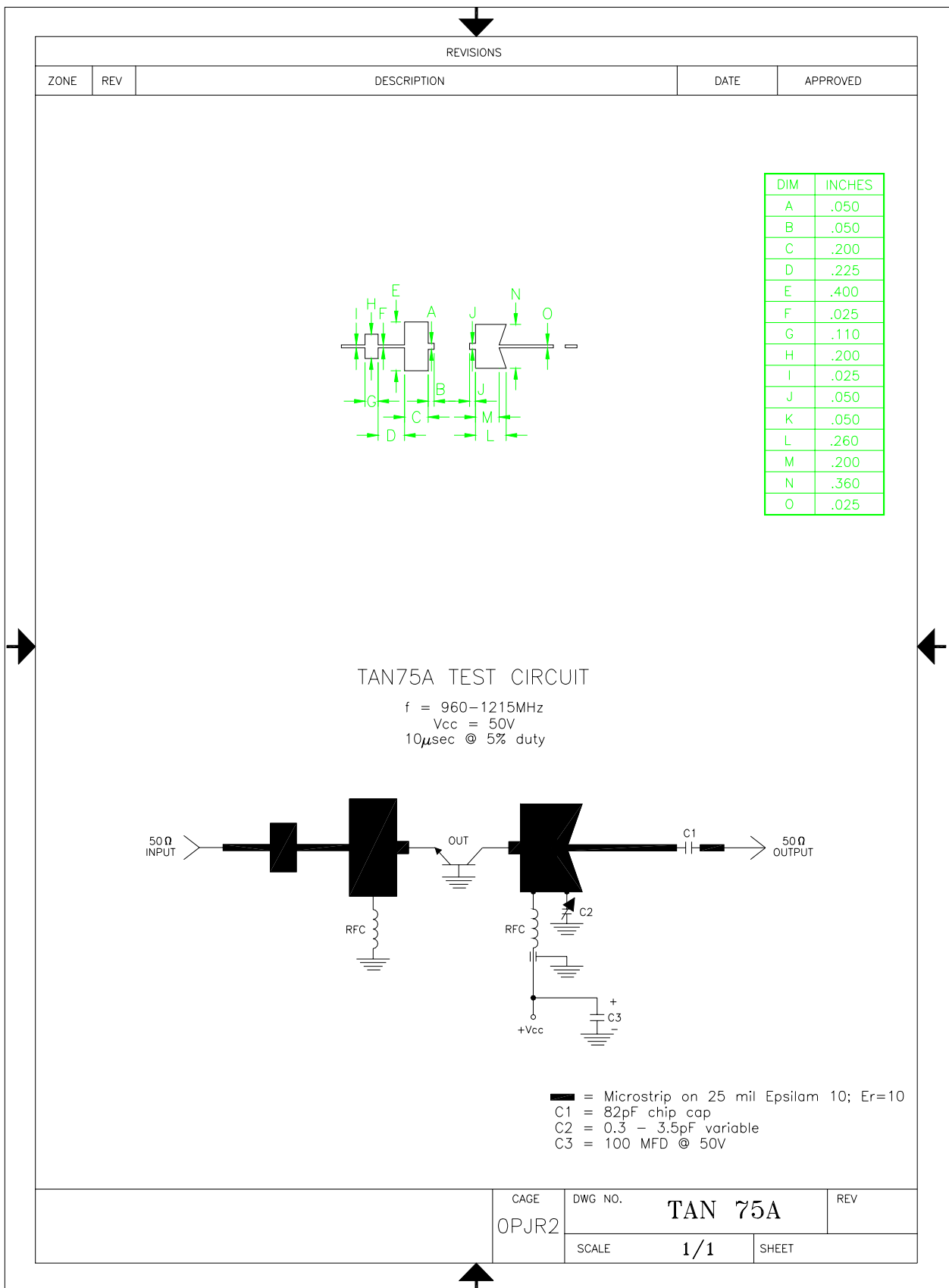
$V_{cc} = 50 \text{ V}$, $P_o = 75 \text{ W}$

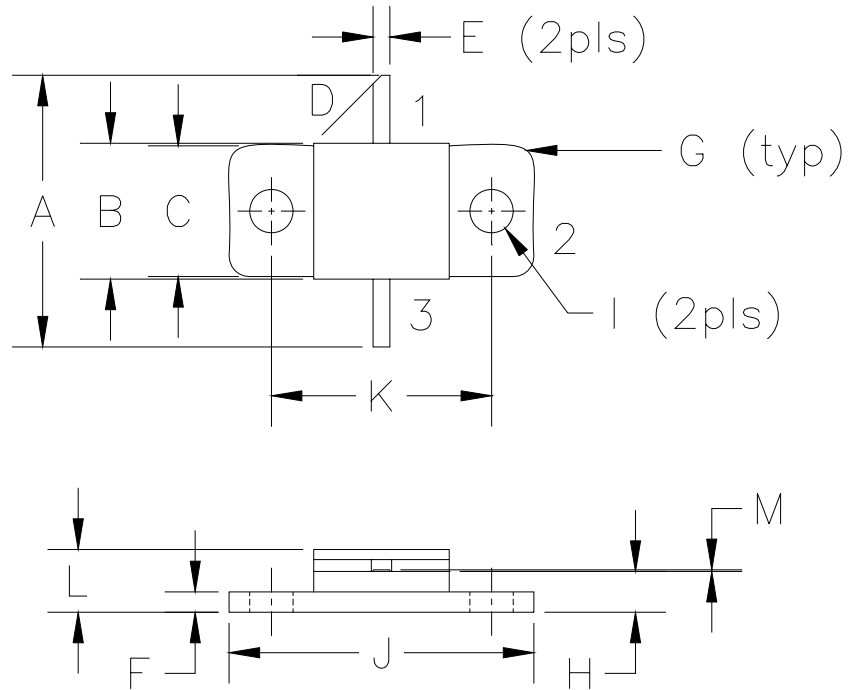


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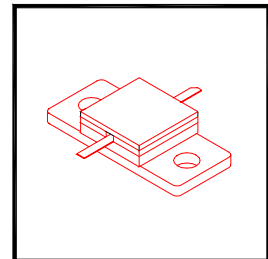




DIM	MILLIMETER	±TOL	INCHES	±TOL
A	20.32	.76	.800	.030
B	10.16	.13	.400	.005
C	9.78	.13	.385	.005
D	45°	5°	45°	5°
E	1.27	.13	.050	.005
F	1.52	.13	.060	.005
G	1.52 R	.13	.060 R	.005
H	3.05	.13	.120	.005
I	3.30 DIA	.13	.128 DIA	.007
J	22.86	.13	.900	.005
K	16.51	.13	.650	.005
L	4.70	REF	.185	REF
M	0.13	.02	.005	.001

STYLE 1:
 PIN 1 = COLLECTOR
 2 = BASE
 3 = EMITTER

STYLE 2:
 PIN 1 = COLLECTOR
 2 = EMITTER
 3 = BASE



DWG NO.

55AZ