



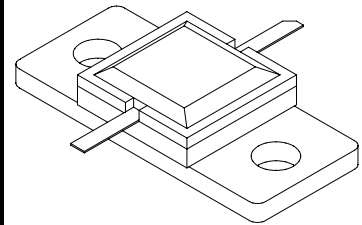
# TAN75A

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.

## CASE OUTLINE 55AZ, Style 1



## 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

## 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 $\mu$ sec	8.0	8.5		dB
$\eta_c$	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	
$\theta_{jc}^2$	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.

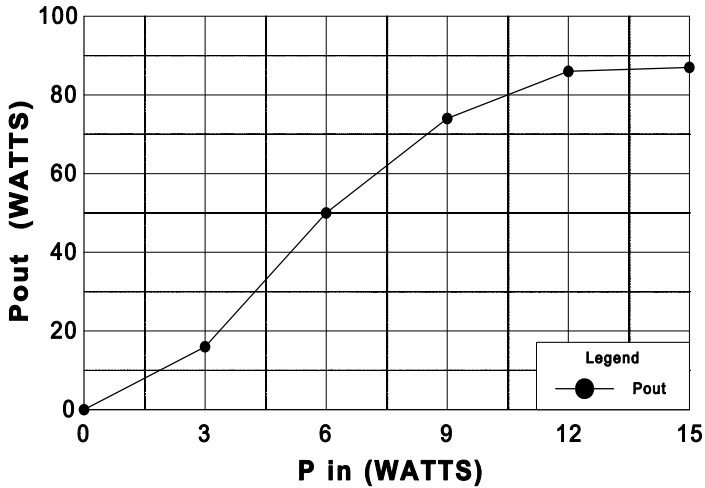
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Microsemi Corporation 3000 Oakmead Village Drive, Santa Clara, California 95051 408-986-8031

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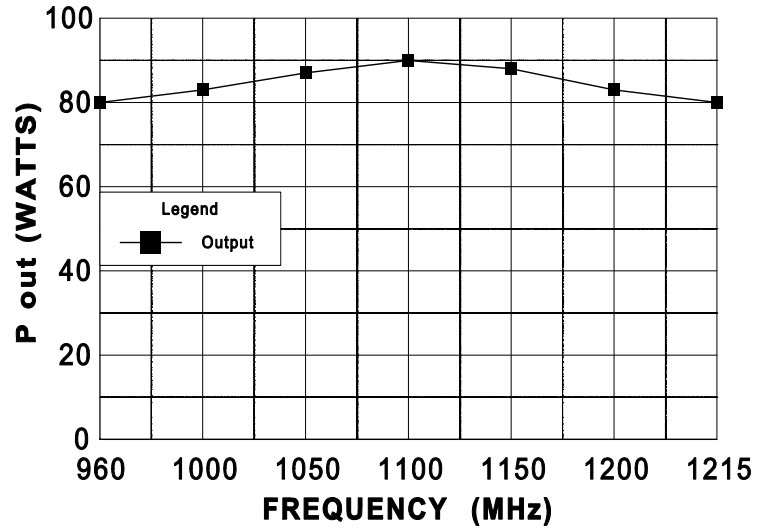
## POWER OUTPUT vs POWER INPUT

Vcc = 50 V, 1090 MHz



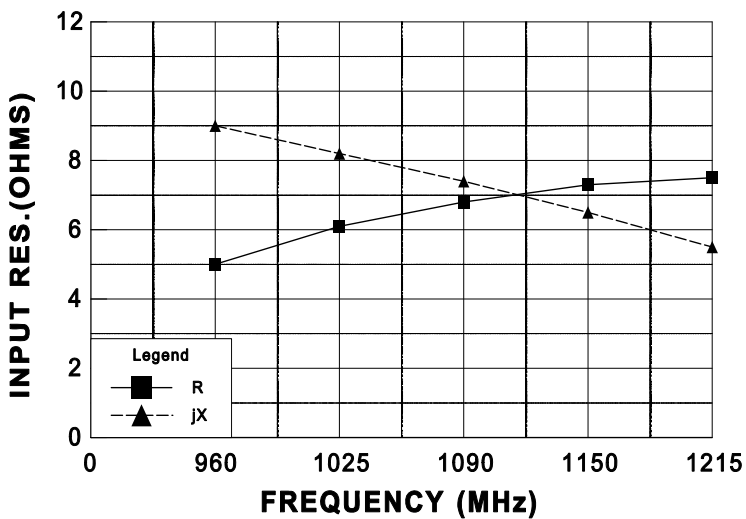
## POWER OUTPUT vs FREQUENCY

Vcc = 50 V, F = 1090 MHz



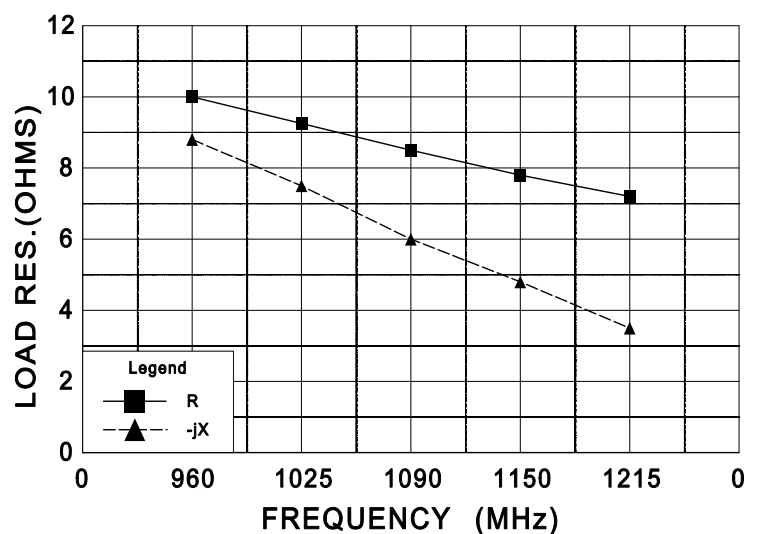
## SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Pout = 75 W



## SERIES LOAD IMPEDANCE vs FREQUENCY

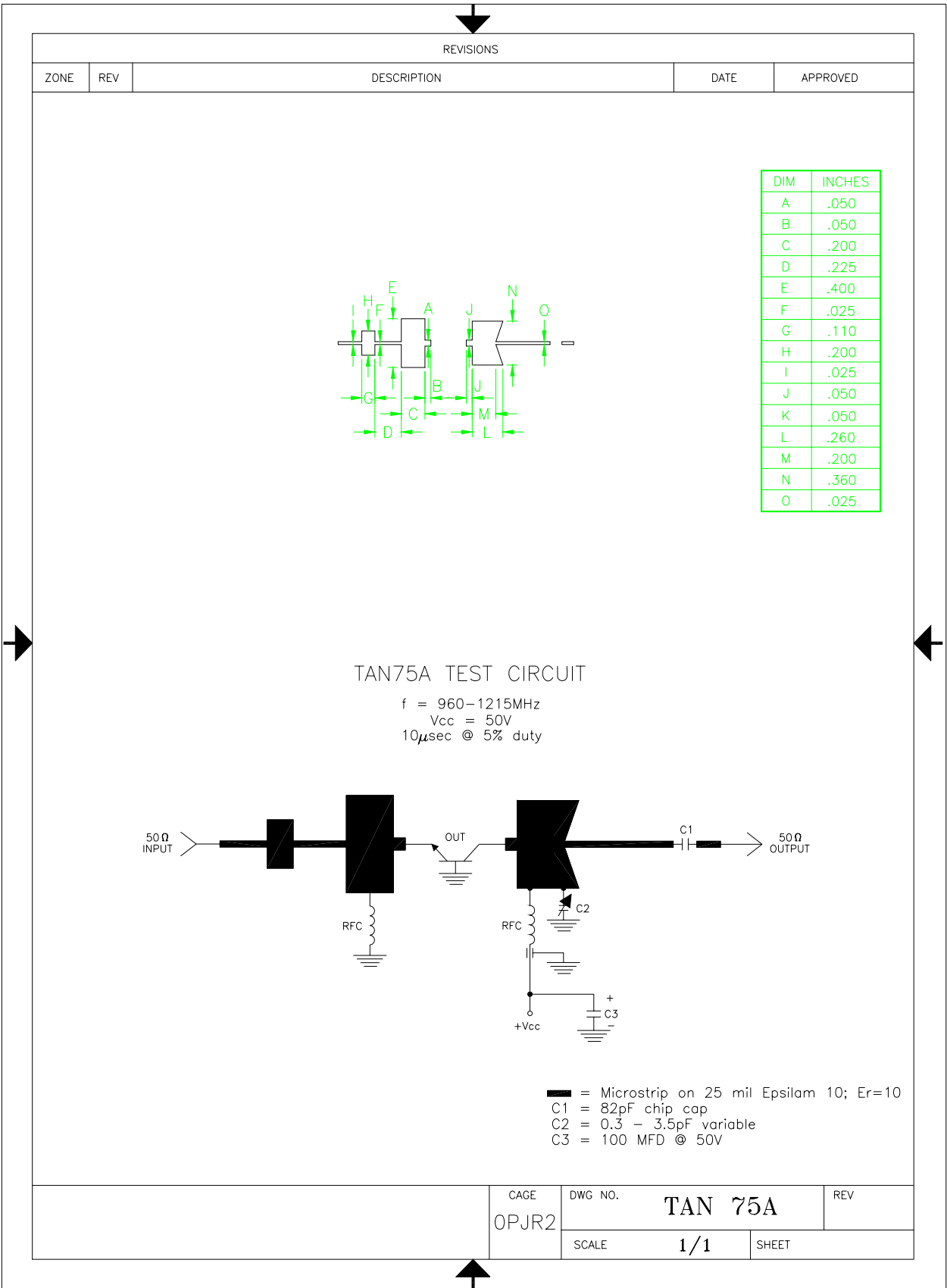
Vcc = 50 V, Po = 75 W

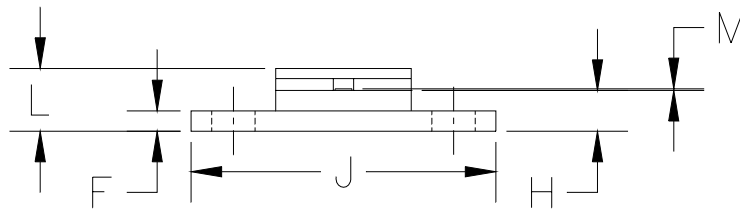
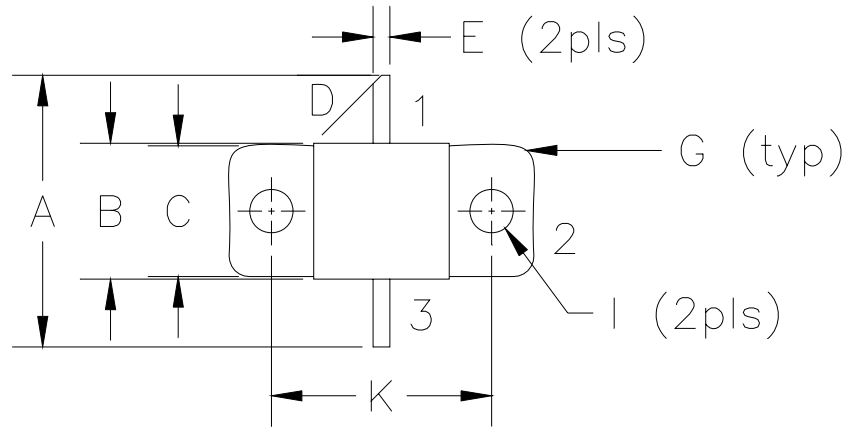


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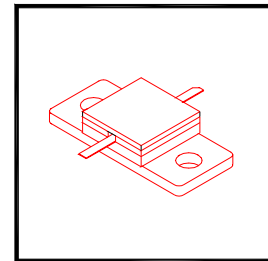
DIM	MILLIMETER	±TOL	INCHES	±TOL
A	20.32	.76	.800	.030
B	10.16	.13	.400	.005
C	9.78	.13	.385	.005
D	45°	5°	45°	5°
E	1.27	.13	.050	.005
F	1.52	.13	.060	.005
G	1.52 R	.13	.060 R	.005
H	3.05	.13	.120	.005
I	3.30 DIA	.13	.128 DIA	.007
J	22.86	.13	.900	.005
K	16.51	.13	.650	.005
L	4.70	REF	.185	REF
M	0.13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

STYLE 1:

PIN 1 = COLLECTOR  
 2 = BASE  
 3 = EMITTER

STYLE 2:

PIN 1 = COLLECTOR  
 2 = EMITTER  
 3 = BASE



DWG NO.

55AZ