

# 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**

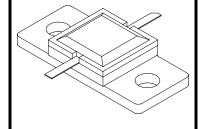
Device Dissipation @25°C 290 W

#### **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 °COperating Junction Temperature +200 °C



### **ELECTRICAL CHARACTERISTICS @ 25°C**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>out</sub>	Power Out	F = 960-1215 MHz	75	80		W
P <sub>in</sub>	Power Input	Vcc = 50 Volts			12	W
$P_{g}$	Power Gain	PW = 20 μsec	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

$\mathrm{BV}_{\mathrm{ebo}}$	Emitter to Base Breakdown	Ie = 10  mA	4		V
$BV_{ces}$	Collector to Emitter Breakdown	Ic = 15  mA	50		V
$h_{FE}$	DC – Current Gain	Vce = 5V, $Ic = 15  mA$	10	100	
$\theta jc^2$	Thermal Resistance			0.6	°C/W

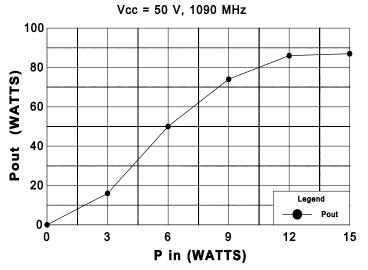
NOTE 1: At rated output power and pulse conditions

2. At rated pulse conditions

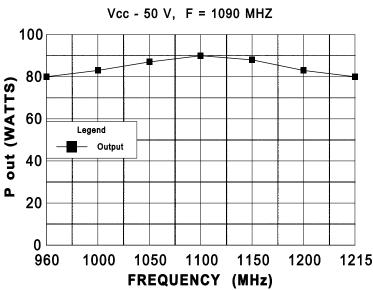
Revision A, August 2010

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# **POWER OUTPUT vs FREQUENCY**



#### SERIES INPUT IMPEDANCE vs FREQUENCY SERIES LOAD IMPEDANCE vs FREQUENCY

