GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

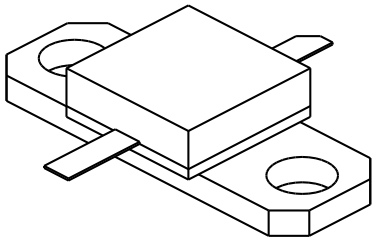
TAN15

15 Watts, 40 Volts, Pulsed
Avionics 960 - 1215 MHz

GENERAL DESCRIPTION

The TAN15 is a 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 prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE
55LT, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC[2]	175 Watts
Maximum Voltage and Current	
BVces Collector to Base Voltage	50 Volts
BVebo Emitter to Base Voltage	4.0 Volts
I_C[2] Collector Current	2.0 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 150ºC
Operating Junction Temperature	+ 200ºC

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 960-1215 MHz	15			Watts
Pin	Power Input	Vcc = 40 Volts			3.0	Watts
Pg	Power Gain	PW = 20 μsec	7.0	8.0		dB
η_c	Collector Efficiency	DF = 5%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			10:1	

BVebo	Emitter to Base Breakdown	Ie = 5 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 10 mA	50			Volts
h_{FE}	DC - Current Gain	Ic = 10 mA, Vce = 5 V				
θjc[2]	Thermal Resistance				1.0	ºC/W

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

Issue December 1995

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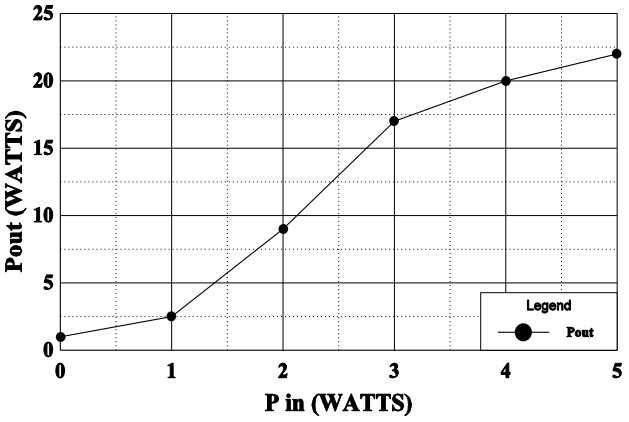
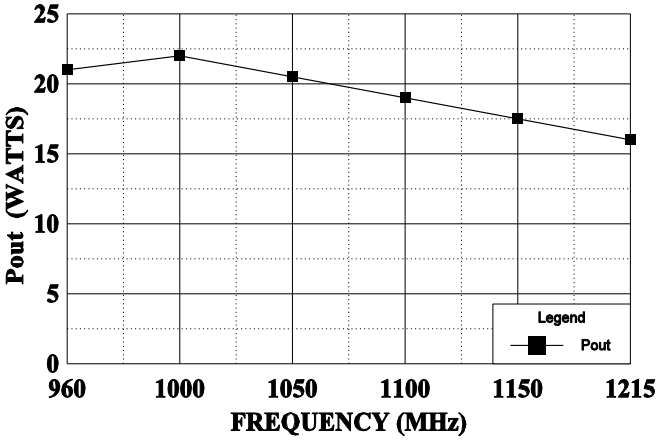
POWER OUTPUT vs POWER INPUT

Vcc = 40 V, 1090 HMz



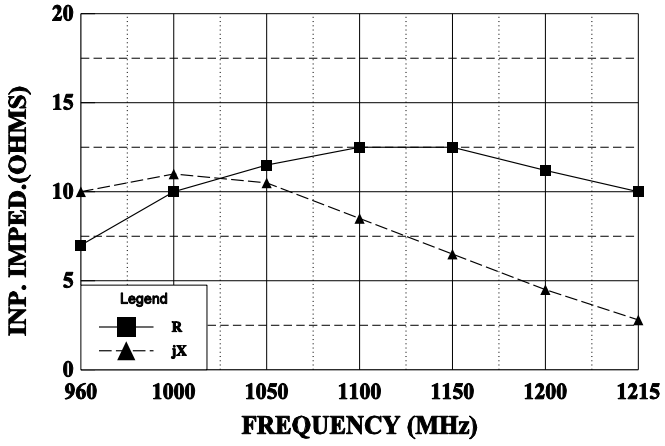
POWER OUTPUT VS FREQUENCY

Vcc = 40V, Pin = 3.0 W



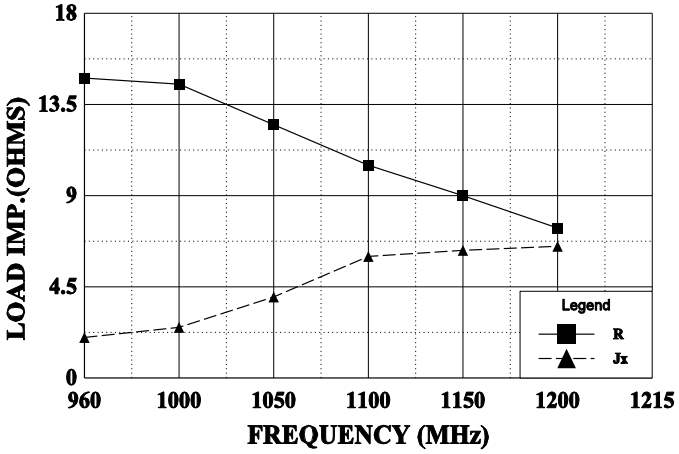
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 40 V, Pin = 15 W

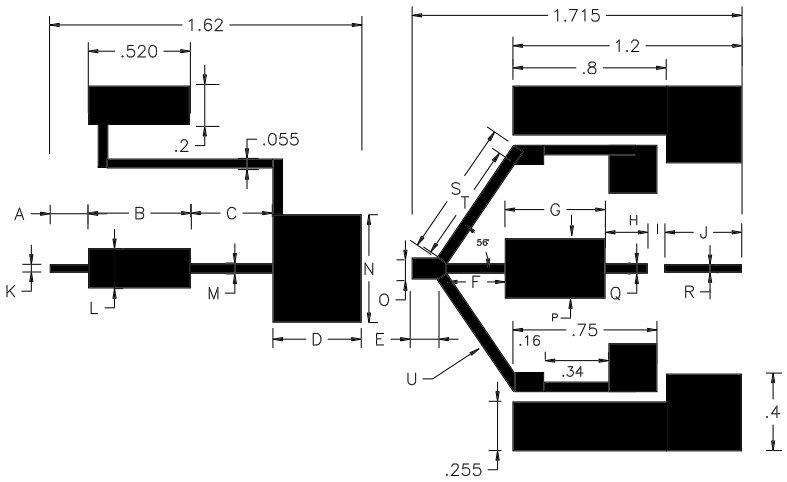


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 40 V, Po = 15 W



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.200
B	.530
C	.430
D	.460
E	.125
F	.300
G	.520
H	.240
I	.070
J	.400
K	.040
L	.205
M	.050
N	.560
O	.110
P	.310
Q	.050
R	.040
S	.710
T	.610
U	.060

TAN 15 TEST CIRCUIT

file:tan15ckt.dwg 8/17/95 jc

DIELECTRIC = 15 MIL THICK TFE Er = 2.55

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	TAN 15	–
		SCALE 1/1	SHEET