

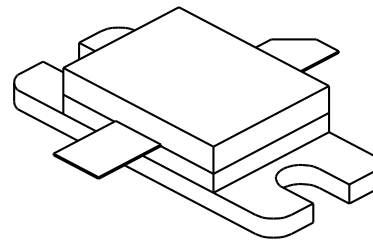
TAN 300

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

GENERAL DESCRIPTION

The TAN 300 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.

CASE OUTLINE 55KT Style 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C² 1166 Watts

Maximum Voltage and Current

BVces Collector to Base Voltage 65 Volts
BVebo Emitter to Base Voltage 2.0 Volts
Ic Collector Current 20 Amps

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	300			Watts
P_{in}	Power Input	V _{cc} = 50 Volts			60	Watts
P_g	Power Gain	PW = 10 μsec	6.6			dB
η_c	Collector Efficiency	DF = 10%		45		%
V_{SWR}	Load Mismatch Tolerance	F = 1090 MHz			10:1	

BVebo	Emitter to Base Breakdown	I _e = 25 mA	2.0			Volts
BVces	Collector to Emitter Breakdown	I _c = 50 mA	65			Volts
h_{FE}	DC - Current Gain	I _c = 1A, V _{ce} = 5 V	10			
θ_{jc}²	Thermal Resistance			.15		°C/W

Note 1: At rated output power and pulse conditions

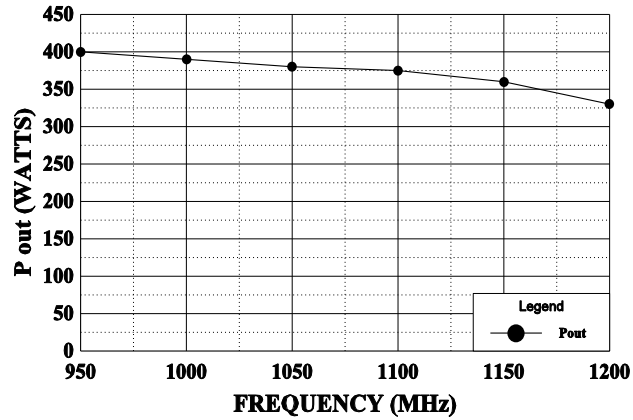
2: At rated pulse conditions

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BROADBAND POWER OUTPUT vs FREQUENCY

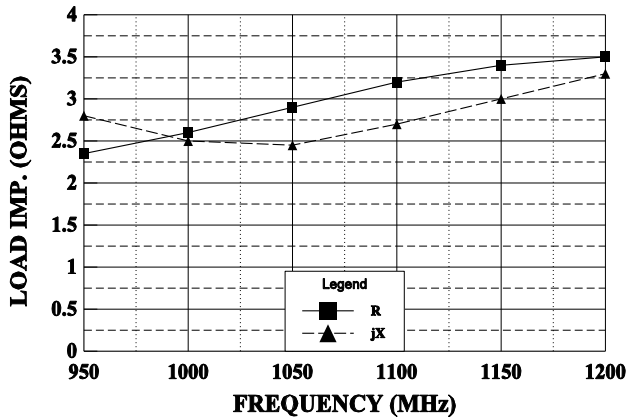
V_{cc} = 50 V, P_{in} = 60 W



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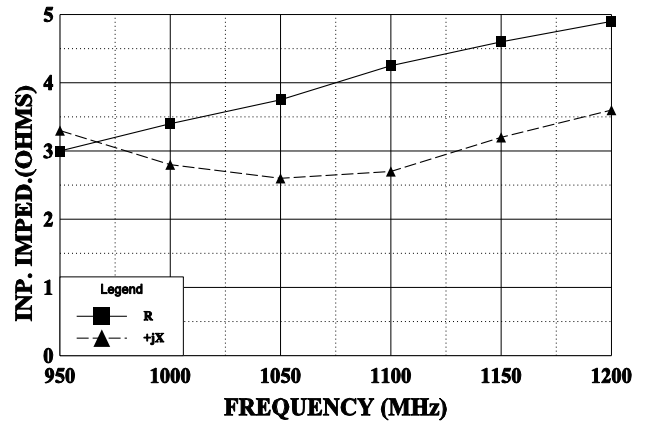
SERIES COLLECTOR LOAD IMPEDANCE

V_{cc} = 50 V, P_{in} = 60 W



SERIES INPUT IMPEDANCE vs FREQUENCY

V_{cc} = 50 V, P_{in} = 60 W

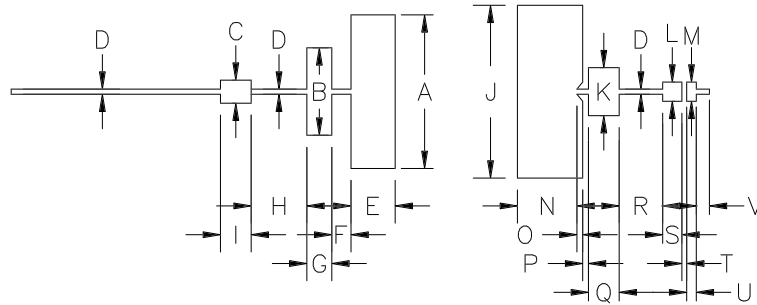


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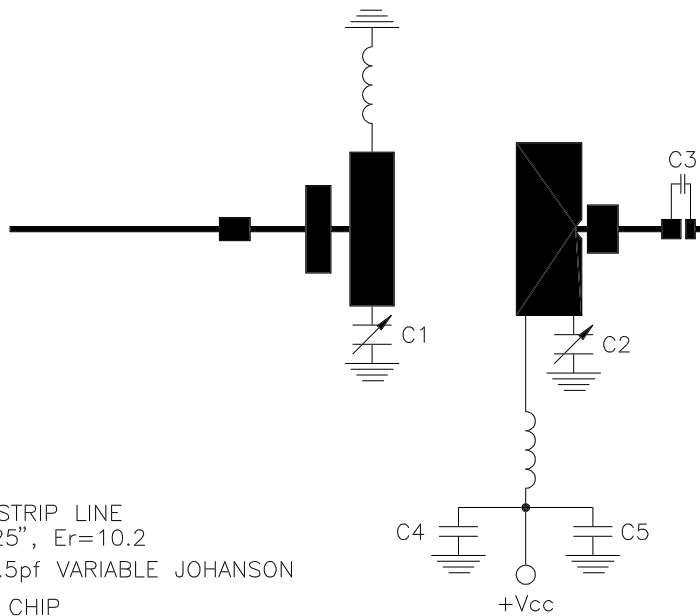
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.800
B	.455
C	.120
D	.026
E	.230
F	.100
G	.130
H	.290
I	.160
J	.900
K	.250
L	.100
M	.100
N	.310
O	.030
P	.030
Q	.160
R	.227
S	.100
T	.025
U	.050
V	.068



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- MICROSTRIP LINE
t=0.025", Er=10.2
- C1,C2 = 0.3-3.5pf VARIABLE JOHANSON
- C3 = 100pf CHIP
- C4 = 0.1μfd
- C5 = 220μfd @ 65V