GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

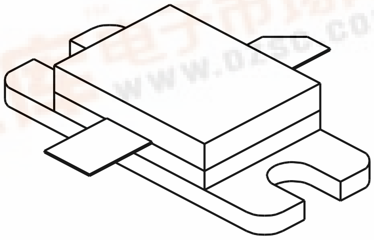
JTDA 150A

145 Watts, 36 Volts, Pulsed
Avionics 960 - 1215 MHz

GENERAL DESCRIPTION

The JTDA-150A is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 960-1215 MHz. The transistor includes input and output prematch for broadband performance. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. Low thermal resistance Solder Sealed Package reduces junction temperature, extends life.

CASE OUTLINE 55KT, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C[2]		350 Watts
Maximum Voltage and Current		
BVces	Collector to Base Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	15 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
Pout	Power Out	F = 960-1215 MHz	145			Watts
Pin	Power Input	Vcc = 36 Volts			24	Watts
Pg	Power Gain	PW = Note 1	8			dB
η_c	Collector Efficiency	DF = Note 1		45		%
VSWR	Load Mismatch Tolerance	F = 1215 MHz			3:1	

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
BVebo	Emitter to Base Breakdown	Ie = 20 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 60 mA	55			Volts
h_{FE}	DC - Current Gain	Ic = 5.0A, Vce = 5 V	20			
θjc[2]	Thermal Resistance				0.5	°C/W

Note 1: JTIDS Pulse = 7 Micorseconds On / Off for 3.3 Millisec, 22 % Long term duty
2: At rated pulse conditions

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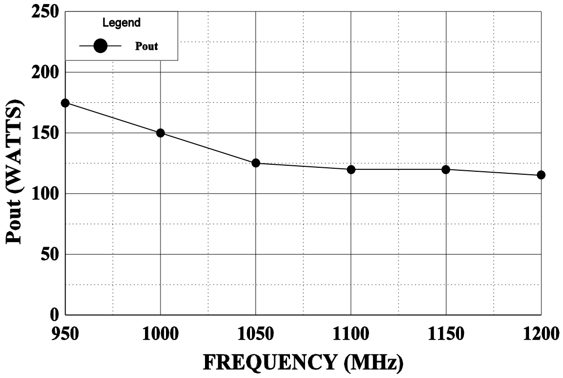
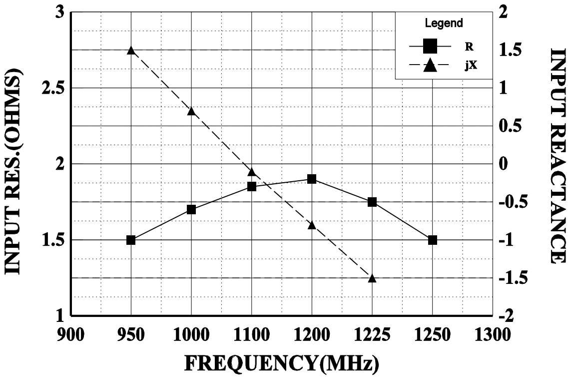
POWER OUTPUT vs FREQUENCY

Vcc = 36 V, Pin = 25 W



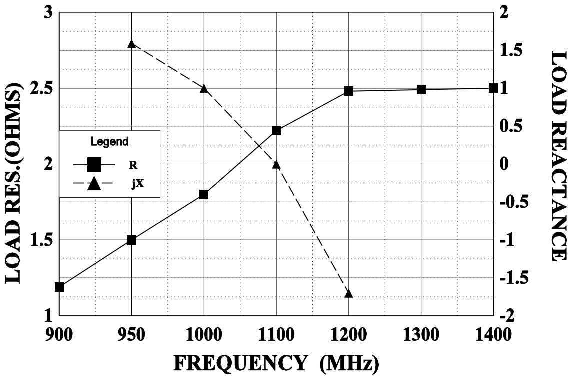
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 36 V, Po = 145 W

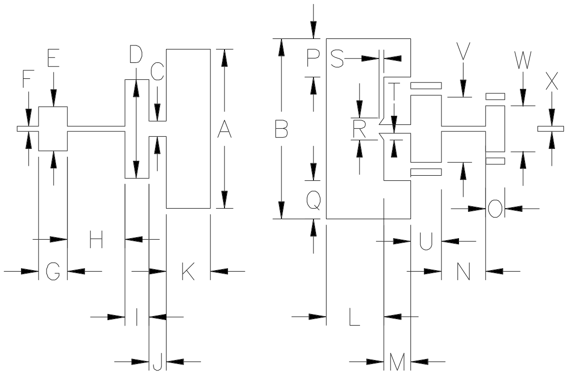


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 36 V, Po = 145 W

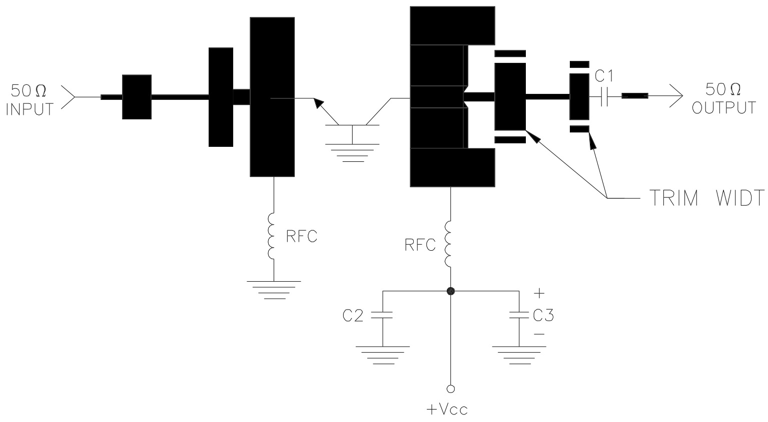


REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.830
B	.940
C	.080
D	.515
E	.230
F	.026
G	.150
H	.300
I	.125
J	.090
K	.230
L	.300
M	.140
N	.230
O	.100
P	.200
Q	.200
R	.115
S	.025
T	.035
U	.160
V	.350
W	.240
X	.026

JTDA 150A TEST CIRCUIT



TRIM WIDTH TO TUNE

DIELECTRIC = ROGERS 6010
Er = 10.2, t = 25
C1, C2 = 82pF CHIP ATC "A"
C3 = 1000 MFD @ 50V
RFC = 5 turns #22 wire 1/16" I.D.

GHz TECHNOLOGY	CAGE 0PJR2	DWG NO. JTDA 150A	REV A
		SCALE 1/1	SHEET