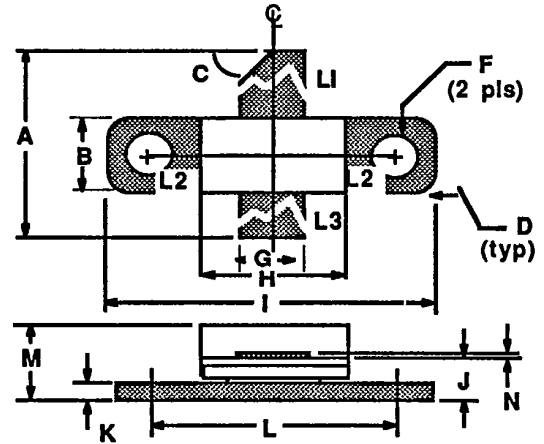


GENERAL DESCRIPTION

The 0912-25 is an internally matched, common base transistor providing 25 watts of pulsed RF output power across the 960-1215 MHz bandwidth. This hermetically sealed transistor is specifically designed for avionics pulsed radar applications.

0912-25
25 WATTS - 50 VOLTS
960-1215 MHz

AVIONICS PULSED BIPOLAR



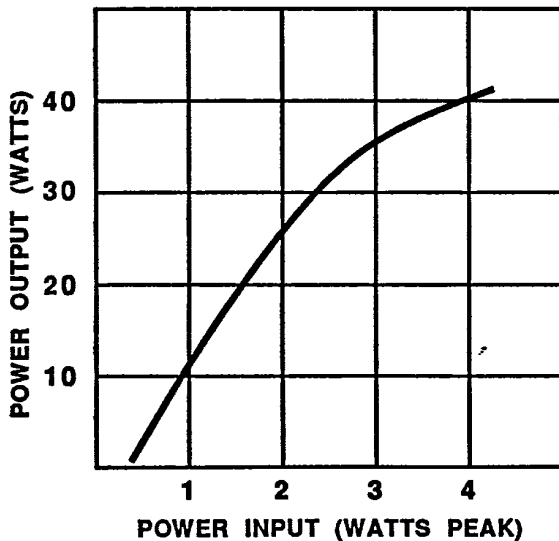
ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature	125W
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	60 V
BVebo Emitter to Base Voltage	4.0 V
Ic Collector Current	2.5 A

Maximum Temperatures	
Storage Temperature	-65 to +150°C
Operating Junction Temperature	+200°C

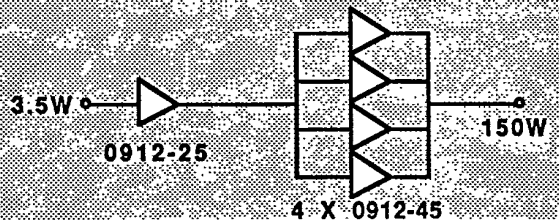
DIM	Millimeter	TOL	Inches	TOL
L1 : C				
L2 : B				
L3 : E				
A	17.78	.76	.70	.03
B	5.84	.13	.230	.005
C	45°	5°	45°	5°
D	0.63R	.13	.025R	.005
E	0.13	.02	.005	.001
F	3.30 DIA	.13	.130 DIA	.005
G	5.46	.13	.215	.005
H	9.14	.13	.360	.005
I	20.32	.13	.800	.005
J	3.17	.13	.125	.005
K	1.14	.13	.045	.010
L	14.22	.13	.560	.005
M	5.46	REF	.215	REF

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP

Vcc= 50 Volts
 Frequency Range= 960-1215 MHz



0912-25-2

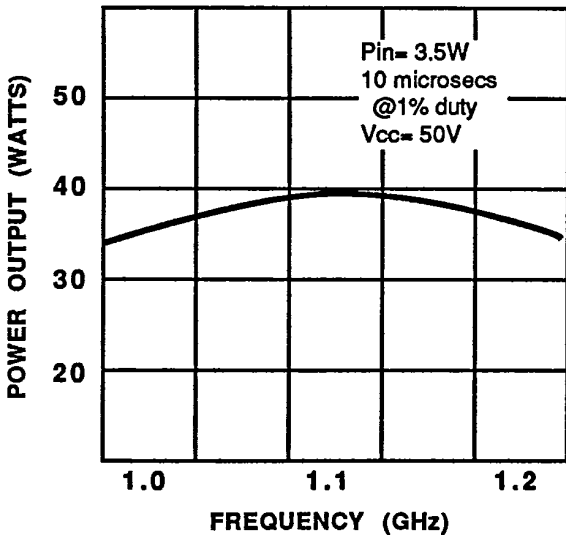
ELECTRICAL CHARACTERISTICS¹

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out} ²	Power Output	f=960 MHz, 1090 MHz, 1215 MHz	25			Watts
P _{in} ²	Power Input	At Rated Power Out			3.5	Watts
P _g ²	Power Gain	At Rated Power Out		10		dB
η_c	Collector Efficiency	f= 1090 MHz		45		%
VSWR ²	Load Mismatch Tolerance	At Rated Power Out			10:1	
BV _{ebo}	Voltage - Emitter to Base	I _e = 25mA	4.0			Volts
BV _{ces}	Voltage - Collector to Emitter	I _c = 60mA	55			Volts
C _{ob}	Capacitance-Collector to Base	V _{cb} = 50V, I _e = 0		14	17	pF
h _{FE}	DC-Current Gain	I _c = 200mA, V _{ce} = 5V	10			
θ_{jc}	Thermal Resistance				1.4	°C/W

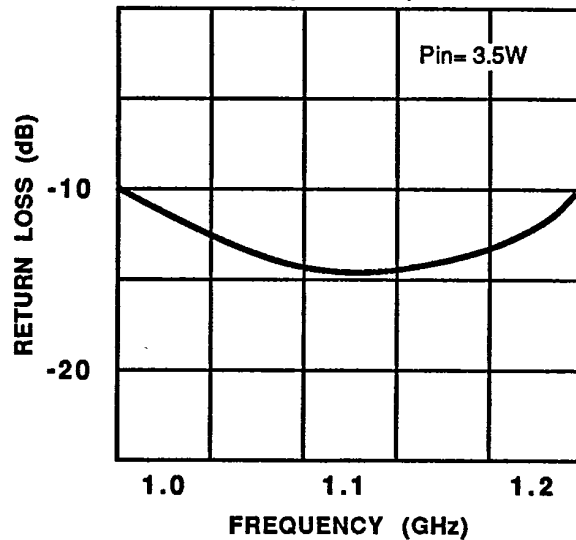
Note 1: T_c = +25°C

Note 2: Pulse width=10µsec, duty cycle=1%, V_{cc}=50V

**POWER OUTPUT VS FREQUENCY
(TYPICAL)**



**WIDEBOARD CIRCUIT
INPUT RETURN LOSS
(TYPICAL)**

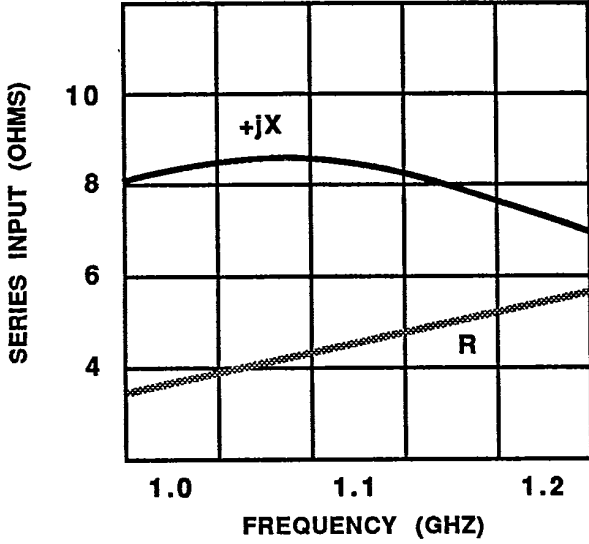


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

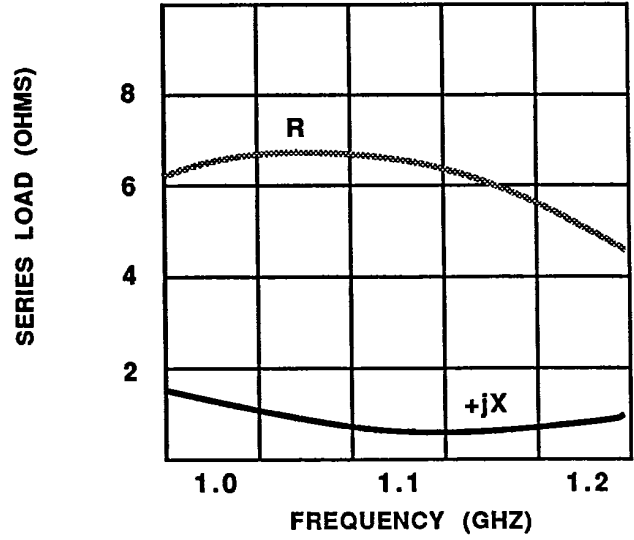
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0912-25-3

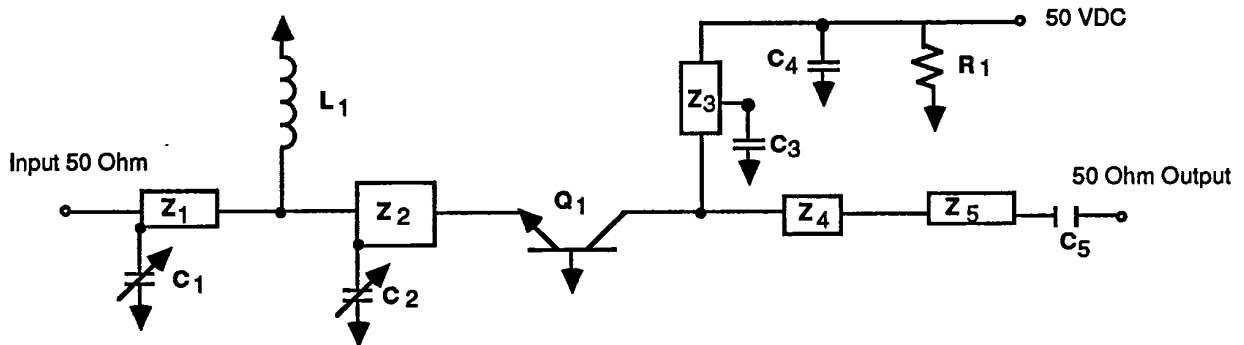
SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)



SERIES LOAD IMPEDANCE VS FREQUENCY (TYPICAL)



TEST CIRCUIT



PC Board Material .010" Dielectric Teflon Fiberglass

- Z1 = 50 Ω, .112" l, .027 w X .834L
- Z2 = 9 Ω, .116" l, .22 w X .811L
- Z3 = 50 Ω, .7" l, .027 w X .1.2L
Move along Z3 for best tuning
- Z4 = 10 Ω, .04" l, .2 w X .28
- Z5 = 18.3 Ω, .25" l, .1 w X .18L

- C1, C2 = Capacitor, .35 - 3.5 pF piston trimmer
- C3, C5 = Capacitor, 47 pF "B" (100mil) ATC
- C4 = Capacitor, 50 μf 75 V electrolytic
- L1 = Inductor, #18 wire 1 1/2 turns 1/4" diameter
- Q1 = CTC 0912-25

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