



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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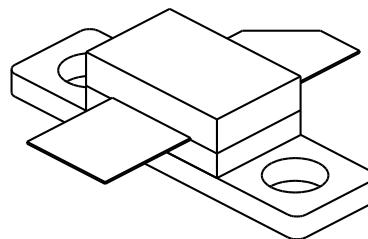
0912-45

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

GENERAL DESCRIPTION

The 0912-45 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 for proven highest MTTF. The transistor includes input prematch for broadband capacity. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE 55CX, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C² 225 Watts

Maximum Voltage and Current

BVces Collector to Base Voltage 60 Volts
BVebo Emitter to Base Voltage 4.0 Volts
Ic Collector Current 4.5 Amps

Maximum Temperatures

Storage Temperature - 65 to + 150°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	45			Watts
P_{in}	Power Input	V _{cc} = 50 Volts			7.0	Watts
P_{g2}²	Power Gain	PW = 10 μsec	8.0	9.0		dB
η_c	Collector Efficiency	DF = 1%		45		%
VSWR²	Load Mismatch Tolerance	F = 1090 MHz			10:1	

BVebo	Emitter to Base Breakdown	I _e = 25 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	I _c = 75 mA	60			Volts
C_{ob}	Capacitance Collector to Base	V _{cb} = 50V		20		pF
h_{FE}	DC - Current Gain	I _c = 300 mA, V _{ce} = 5 V	10			
θ_{jc}²	Thermal Resistance				0.8	°C/W

Note 1: At rated output power and pulse conditions

Note 2: At rated pulse conditions

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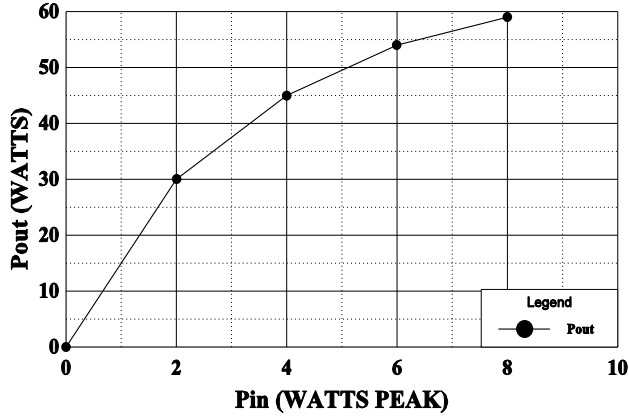


GHz TECHNOLOGY
RF-MICROWAVE SILICON POWER TRANSISTORS

0912-45

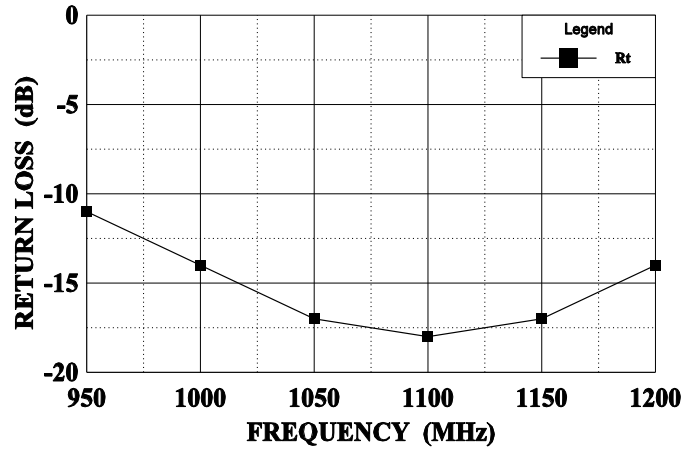
POWER OUTPUT vs POWER INPUT

Vcc = 50 V, F = 1090 MHz



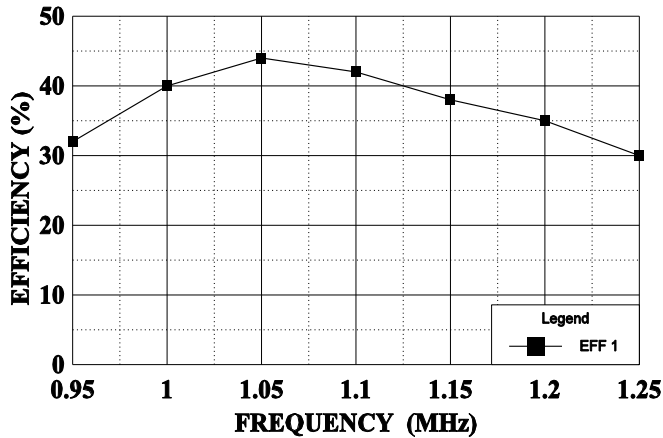
WIDEBAND CIRCUIT INPUT RETURN LOSS

Vcc = 50 V, Pin = 7.0 W



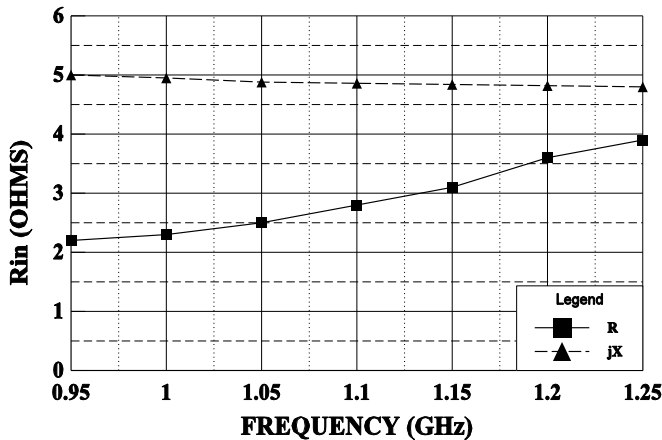
EFFICIENCY vs FREQUENCY

Vcc = 50 V, Pin = 7.0 W



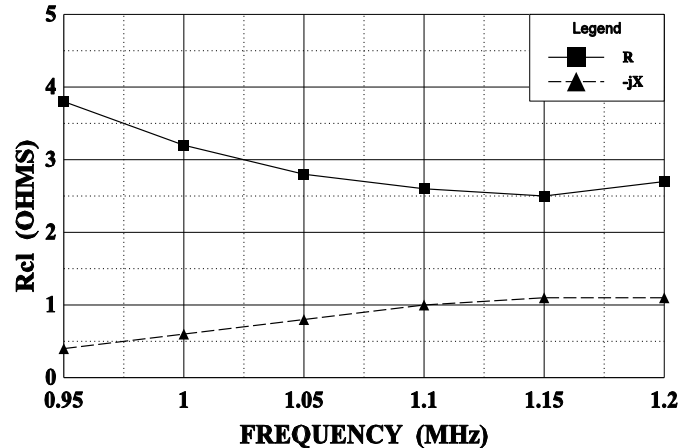
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Pin = 7.0 W

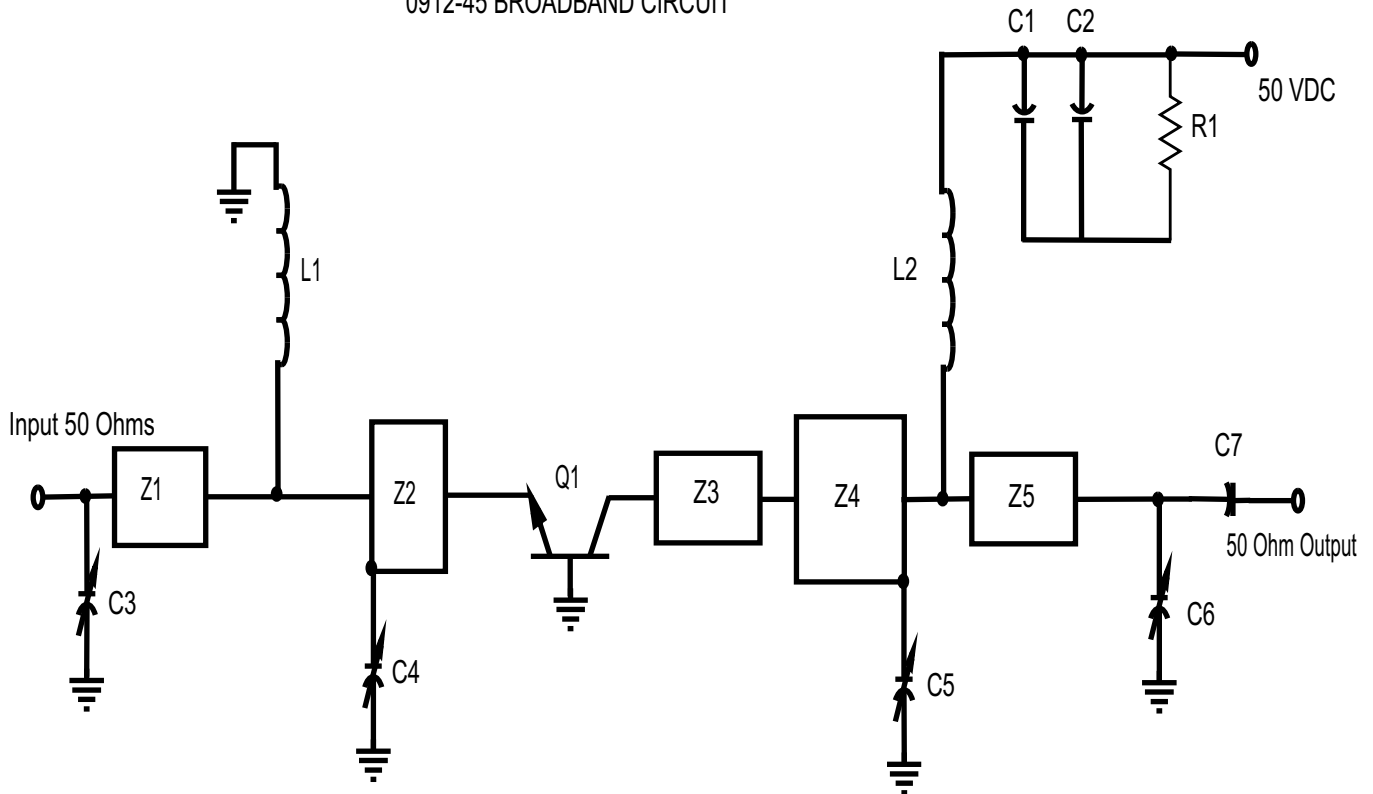


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 50 V, Pin = 7.0 W



0912-45 BROADBAND CIRCUIT



PC Board Material .010" Dielectric Teflon Fiberglass

Z1=50 , .08 , = .027"w X .59"L
 Z2=2.7 .064 , = .80"w X .44"L
 Z3=10 , .062 , = .20"w X .443"L
 Z4=3.7 , .08 , = .55"w X .55"L
 Z5=50 , .075 , = .027"w X .56"L
 L1= Inductor #14 wire, 0.7" long
 L2= Inductor #18 wire, 1.5" long

C1=Capacitor 100 pF "B" (100mil) ATC
 C2=Capacitor 68mfd, 75V Electrolytic
 C3, C4, C5, C6= Capacitor .35-3.5pF Piston Trimmer
 C4=Capacitor 47pF "B" (100mil) ATC
 R1= Resistor, 15WK 1/4W
 Q1=GHz Transistor 0912-45

All electrical lengths taken at 1.09 GHz