

**0912-45** 45 Watts, 50 Volts, Pulsed

Avionics 960 - 1215 MHz

<b>GENERAL DESCRIPTION</b> 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
Maximum Power Dissipation @ 25°C <sup>2</sup>	225 Watts	
Maximum Voltage and Current		
BVces Collector to Base Voltage	60 Volts	
BVebo Emitter to Base Voltage	4.0 Volts	$\sim$
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	ТҮР	MAX	UNITS
Pout Pin Pg <sup>2</sup> η <sub>c</sub> VSWR <sup>2</sup>	Power Out Power Input Power Gain Collector Efficiency Load Mismatch Tolerance	F = 960-1215 MHz Vcc = 50 Volts PW = 10 $\mu$ sec DF = 1% F = 1090 MHz	45 8.0	9.0 45	7.0 10:1	Watts Watts dB %

BVebo BVces	Emitter to Base Breakdown Collector to Emitter Breakdown	Ie = 25 mA $Ic = 75 mA$	4.0 60			Volts Volts
Cob	Capacitance Collector to Base	Vcb = 50V		20		pF
h <sub>FE</sub> θ <b>jc</b> <sup>2</sup>	DC - Current Gain Thermal Resistance	Ic = 300 mA, Vce = 5 V	10		0.8	°C/W

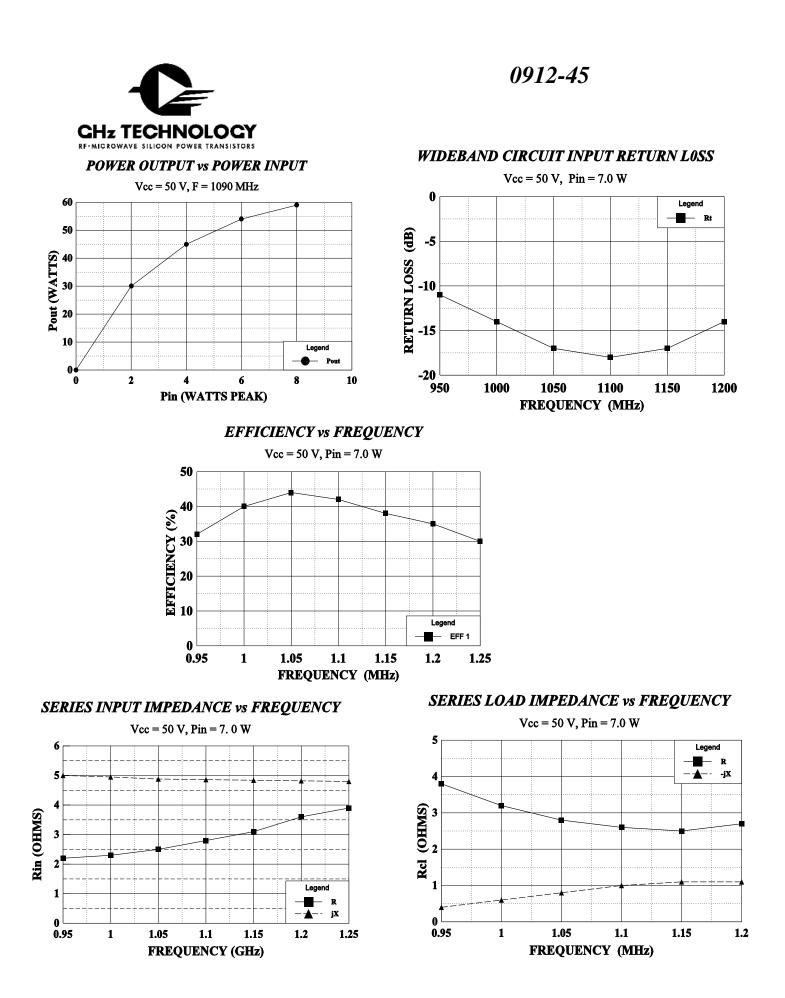
Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

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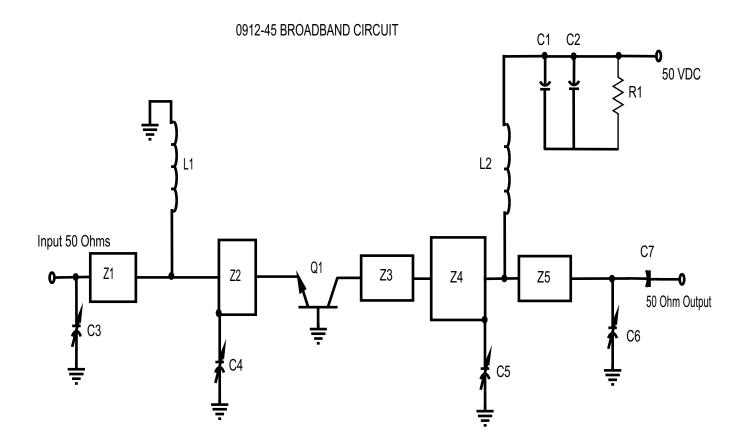
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## PC Board Material .010" Dielectric Teflon Fiberglass

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