GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

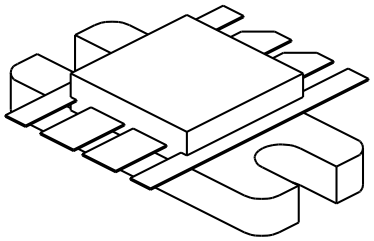
0204-125

125 Watts, 28 Volts, Class AB
Defcom 225 - 400 MHz

GENERAL DESCRIPTION

The 0204-125 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 225-400 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

CASE OUTLINE
55JT- Style 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC 270 Watts

Maximum Voltage and Current

BVces	Collector to Emiter Voltage	65 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	16.0 A

Maximum Temperatures

Storage Temperature	- 65 to +150ºC
Operating Junction Temperature	+200ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 400 MHz	125			Watts
Pin	Power Input	Vcc = 28 Volts			25	Watts
Pg	Power Gain		7.0	8.5		dB
η**c**	Efficiency			60		%
VSWR	Load Mismatch Tolerance				5:1	

BVebo[2]	Emitter to Base Breakdown	Ie = 10 mA	4.0			Volts
BVces[2]	Collector to Emitter Breakdown	Ic = 100 mA	60			Volts
BVceo[2]	Collector to Emitter Breakdown	Ie = 100 mA	32			Volts
Cob[2]	Output Capacitance	Vcb = 28 V, F = 1 MHz		70		pF
h_{FE}[2]	DC - Current Gain	Vce = 5 V, Ic = 1 A	20		100	
θ**jc**	Thermal Resistance				0.65	ºC/W

Note 2: Per side

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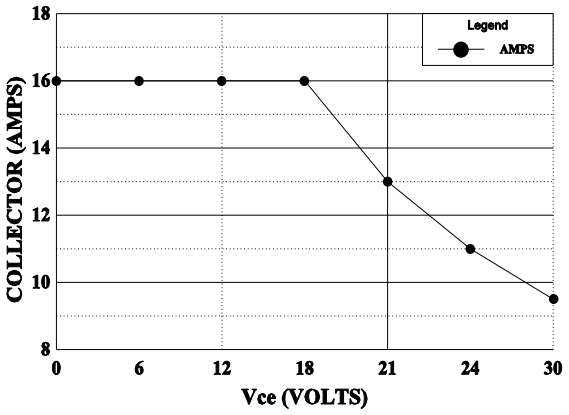
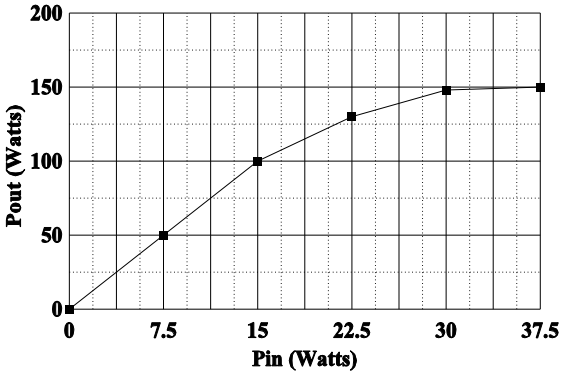
DC SAFE OPERATING AREA

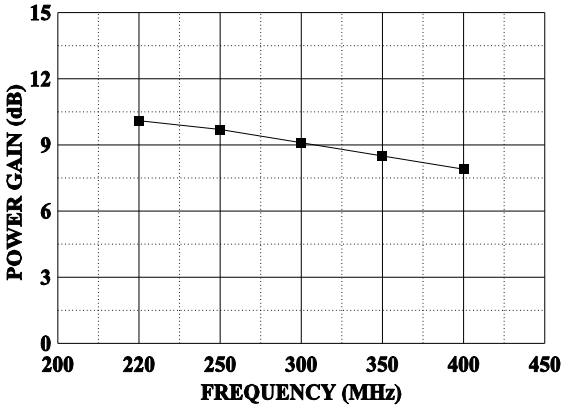


POWER OUTPUT vs POWER INPUT

Vcc=28V, f=400MHz

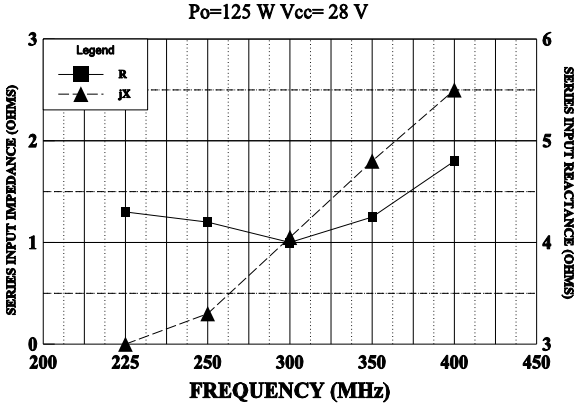


POWER GAIN VS FREQUENCY



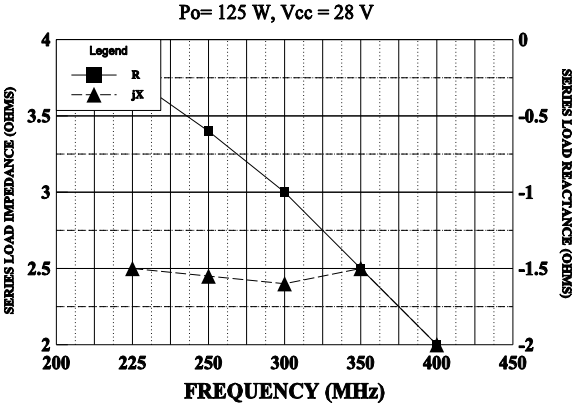
SERIES INPUT IMPENDANCE vs FREQUENCY

Po=125 W Vcc= 28 V



SERIES LOAD IMPENDANCE vs FREQUENCY

Po= 125 W, Vcc = 28 V



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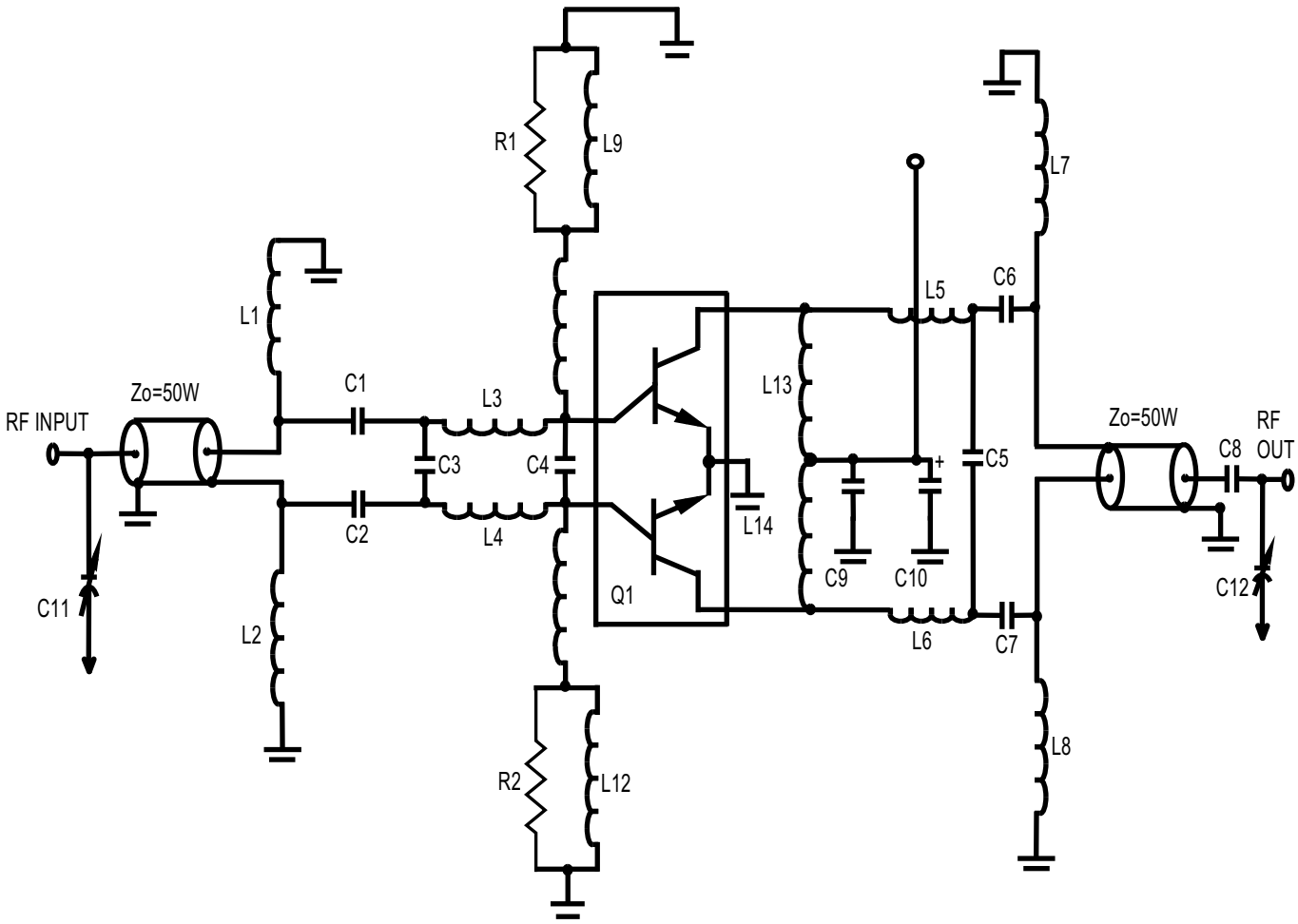

CAPACITORS
C1,C2=39pF ceramic chip capacitor
C3=33pF ceramic chip capacitor
C4=56pF ceramic chip capacitor
C5=18pF ceramic chip capacitor
C6,C7,C8=27pF ceramic chip capacitor
C9=0.1mF ceramic capacitor
C10=10mF electrolytic capacitor
C11,C12=.5-10pF Johanson

INDUCTORS
L1,L2,L3,L4,L5,L6,L7,L8=printed on the circuit board
L9,L12=4.7mH RF choke
L10,L11,L13,L14=0.1mH RF choke

RESISTORS
R1,R2=10 OHM, 1/4 W

TRANSISTOR
Q1=0204-125

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