

0104-100

100 Watts, 28 Volts, Class AB

Defcom 100 - 400 MHz

GENERAL DESCRIPTION

The 0104-100 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 100-400 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 270 Watts

Maximum Voltage and Current

BVces Collector to Emitter Voltage 60 Volts

BVebo Emitter to Base Voltage 4.0 Volts

Ic Collector Current 16 A

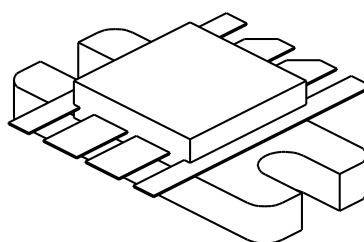
Maximum Temperatures

Storage Temperature - 65 to +150°C

Operating Junction Temperature +150°C

CASE OUTLINE

55JT, Style 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Output	F = 400 MHz	100			Watts
P_{in}	Power Input	V _{cc} = 28 Volts			20	Watts
P_g	Power Gain		7.0	8.0		dB
η_c	Efficiency			50		%
VSWR	Load Mismatch Tolerance				5:1	

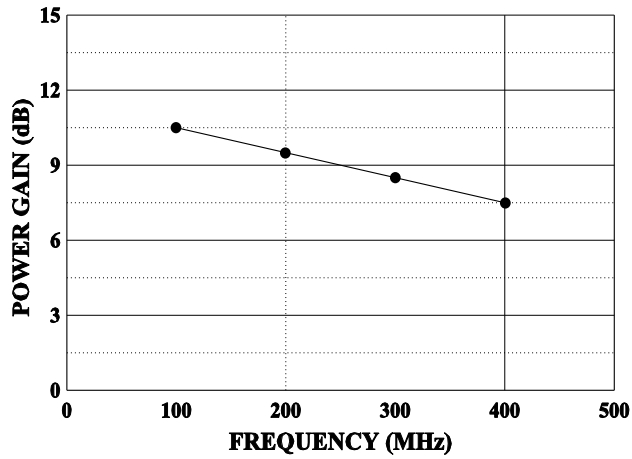
BVebo¹	Emitter to Base Breakdown	I _e = 5 mA	4.0			Volts
BVces¹	Collector to Emitter Breakdown	I _c = 100 mA	60			Volts
BVceo¹	Collector to Emitter Breakdown	I _e = 100 mA	32			Volts
Cob¹	Output Capacitance	V _{cb} = 28 V, F = 1 MHz		70		pF
h_{FE}¹	DC - Current Gain	V _{ce} = 5 V, I _c = 1 A	20			
θ_{jc}	Thermal Resistance				0.65	°C/W

Note 1: per side

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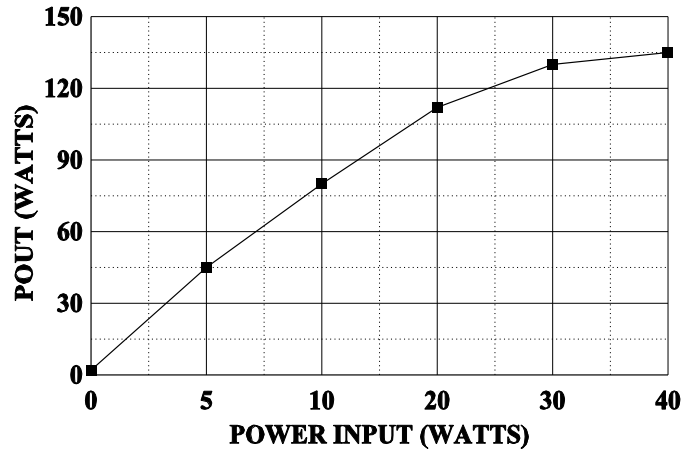
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POWER GAIN VS FREQUENCY

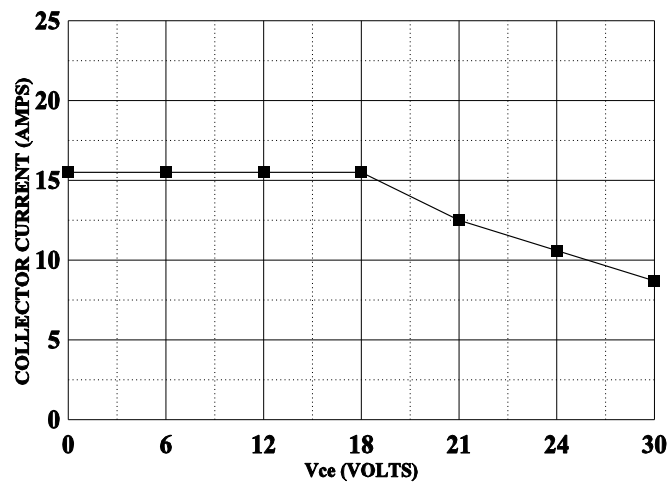


POWER OUTPUT vs POWER INPUT

$V_{CC} = 28V$ $f = 400MHz$

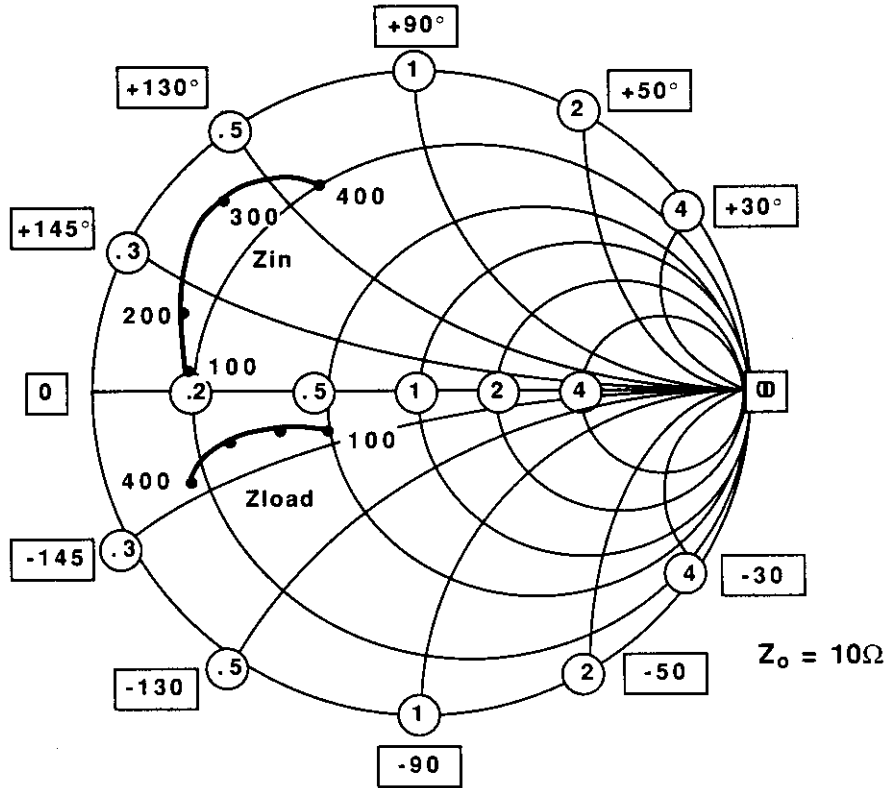


DC SAFE OPERATING AREA

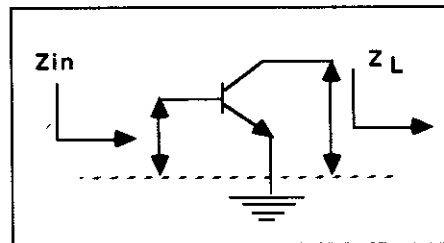


SMITH CHART

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



Typical series input and output impedances at rated power output conditions for single side normalized to 10 ohms.



FREQUENCY MHz	R	Z_{in} JX	FREQUENCY MHz	R	Z_{load} JX
100	2.2	1.0	100	5.0	-2.5
200	1.4	2.7	200	4.0	-1.7
300	1.0	4.0	300	3.0	-1.5
400	1.8	5.5	400	1.8	-2.0