

0105-50

50 Watts, 28 Volts, Class AB

Defcom 100 - 500 MHz

GENERAL DESCRIPTION

The 0105-50 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 100-500 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 140 Watts

Maximum Voltage and Current

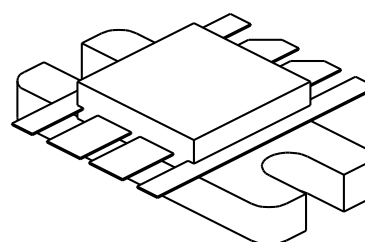
BVces	Collector to Emitter Voltage	65 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	7.0 A

Maximum Temperatures

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

CASE OUTLINE

55JT, Style 2



ELECTRICAL CHARACTERISTICS @ 25 °C

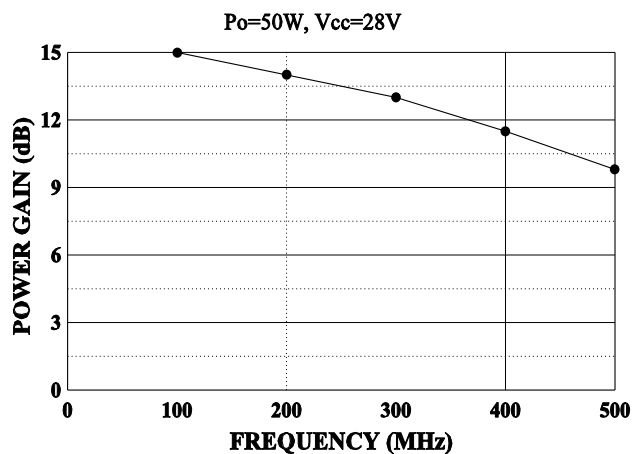
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 500 MHz	50			Watts
Pin	Power Input	Vcc = 28 Volts		5.0	7.0	Watts
Pg	Power Gain		8.5	10		dB
ηc	Efficiency			55		%
VSWR	Load Mismatch Tolerance				5:1	

BVebo	Emitter to Base Breakdown	Ie = 10 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 100 mA	60			Volts
BVceo	Collector to Emitter Breakdown	Ie = 100 mA	33			Volts
Cob	Output Capacitance	Vcb = 28 V, F = 1 MHz		52		pF
hFE	DC - Current Gain	Vce = 5 V, Ic = 1 A	10			
θjc	Thermal Resistance				1.25	°C/W

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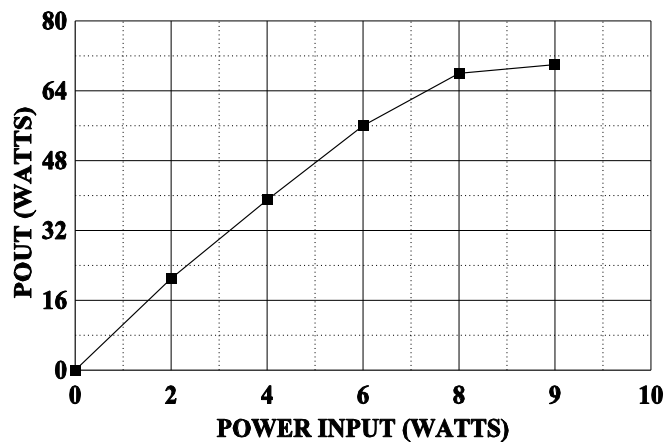
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POWER GAIN VS FREQUENCY

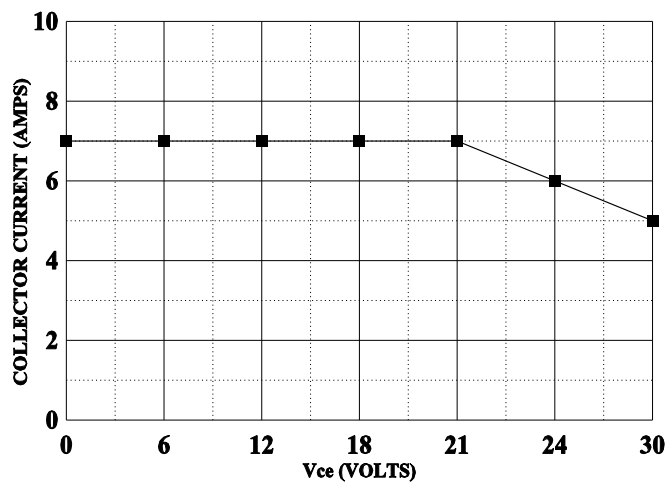


POWER OUTPUT vs POWER INPUT

Vcc= 28V f=400MHz



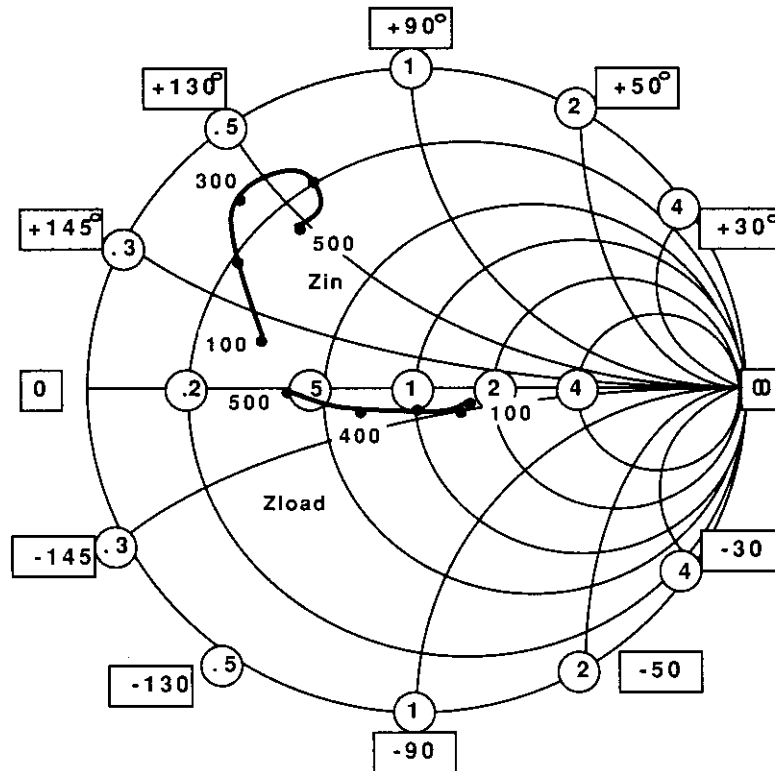
DC SAFE OPERATING AREA



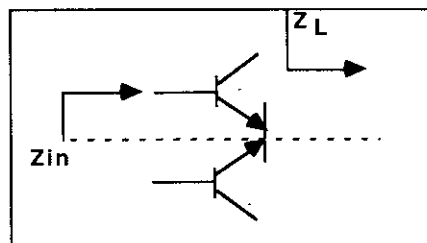
SMITH CHART

0105-50

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO 10 OHM SYSTEM



FREQUENCY MHz	R	Zin	JX	FREQUENCY MHz	R	Zload	JX
100	3.5		+ 1.8	100	12.2		- 2.0
200	2.2		+ 3.0	200	11.0		- 2.5
300	1.5		+ 4.4	300	10.0		- 1.4
400	2.4		+ 5.2	400	7.0		- 1.4
500	2.8		+ 4.0	500	4.0		- 0.5