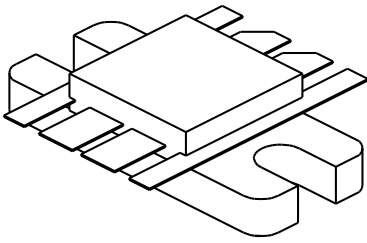


# 0105-50

50 Watts, 28 Volts, Class AB  
Defcom 100 - 500 MHz

<p><b>GENERAL DESCRIPTION</b> 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.</p>	<p><b>CASE OUTLINE</b> <b>55JT, Style 2</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C                      140 Watts</p> <p><b>Maximum Voltage and Current</b></p> <p>BVces    Collector to Emitter Voltage                      65 Volts BVebo    Emitter to Base Voltage                              4.0 Volts Ic         Collector Current                                        7.0 A</p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature                                        - 65 to +150°C Operating Junction Temperature                            +200°C</p>	

## ELECTRICAL CHARACTERISTICS @ 25 °C

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

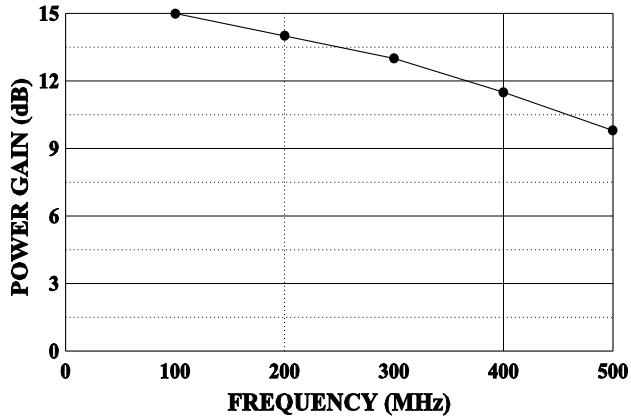
<b>BVebo</b>	Emitter to Base Breakdown	Ie = 10 mA	4.0			Volts
<b>BVces</b>	Collector to Emitter Breakdown	Ic = 100 mA	60			Volts
<b>BVceo</b>	Collector to Emitter Breakdown	Ie = 100 mA	33			Volts
<b>Cob</b>	Output Capacitance	Vcb = 28 V, F = 1 MHz		52		pF
<b>h<sub>FE</sub></b>	DC - Current Gain	Vce = 5 V, Ic = 1 A	10			
$\theta_{jc}$	Thermal Resistance				1.25	°C/W

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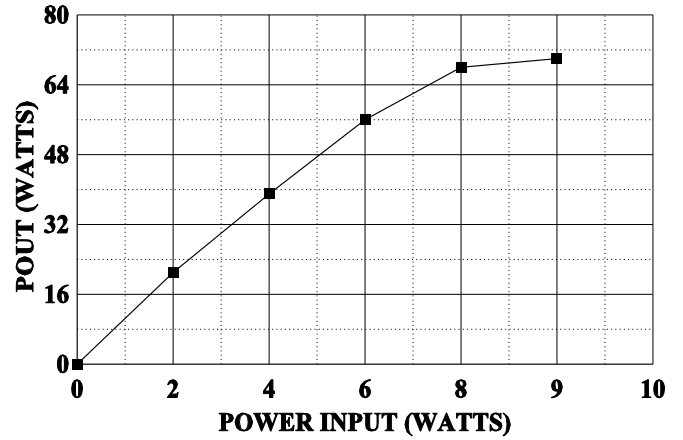
**POWER GAIN VS FREQUENCY**

Po=50W, Vcc=28V

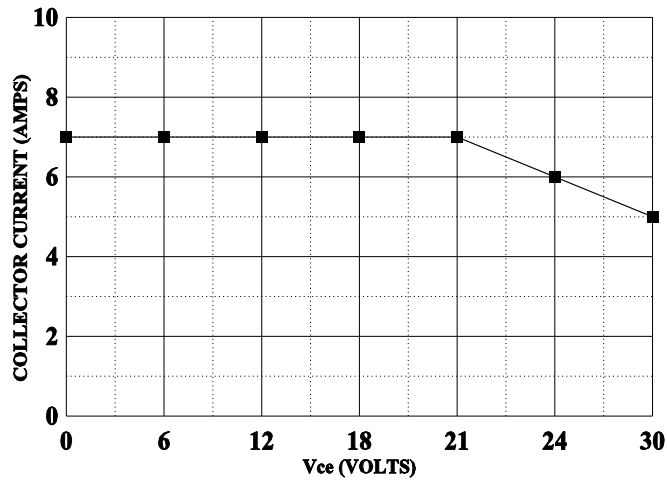


**POWER OUTPUT vs POWER INPUT**

Vcc= 28V f=400MHz



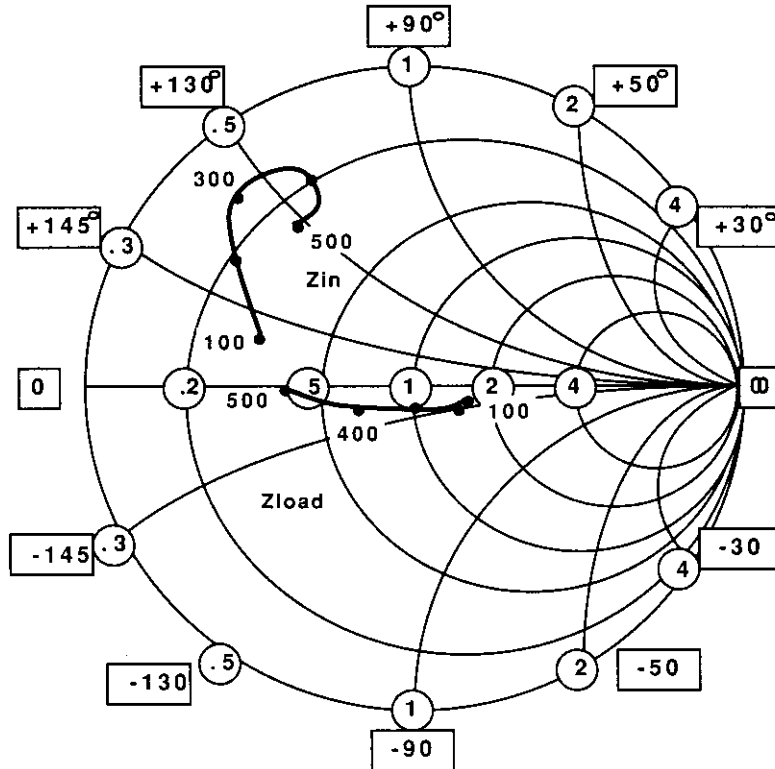
**DC SAFE OPERATING AREA**



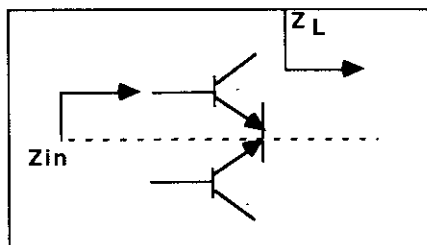
# SMITH CHART

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	