GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

0105-100

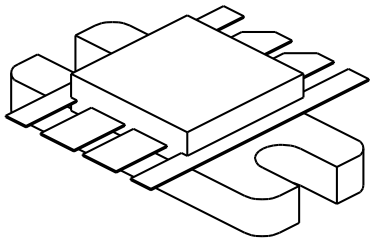
100 Watts, 28 Volts, Class AB
Defcom 100 - 500 MHz

GENERAL DESCRIPTION

The 0105-100 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.

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 A

Maximum Temperatures

Storage Temperature	- 40 to +150ºC
Operating Junction Temperature	+200ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 500 MHz	100			Watts
Pin	Power Input	Vcc = 28 Volts		18	24	Watts
Pg	Power Gain		6.2	7.5		dB
η**c**	Efficiency			50		%
VSWR	Load Mismatch Tolerance				5:1	

BVebo	Emitter to Base Breakdown	Ie = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 100 mA	60			Volts
BVceo	Collector to Emitter Breakdown	Ie = 50 mA	31			Volts
Cob[2]	Output Capacitance	Vcb = 28 V, F = 1 MHz		140		pF
$\mathbf{h_{FE}}$	DC - Current Gain	Vce = 5 V, Ic = 500 mA	10			
θ**jc**	Thermal Resistance				0.65	ºC/W

Note 2: Both sides together, all other specifications each side tested separately

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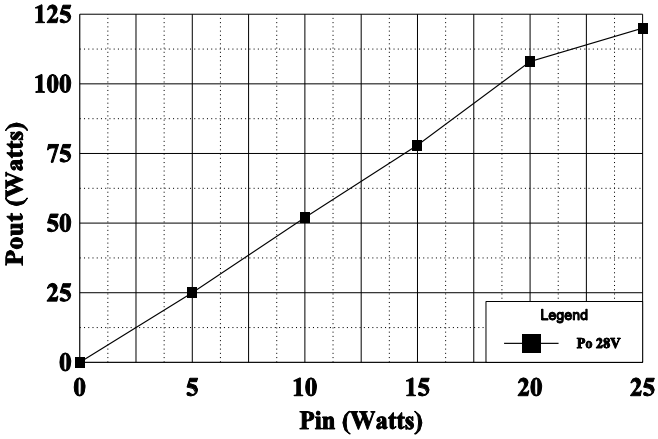
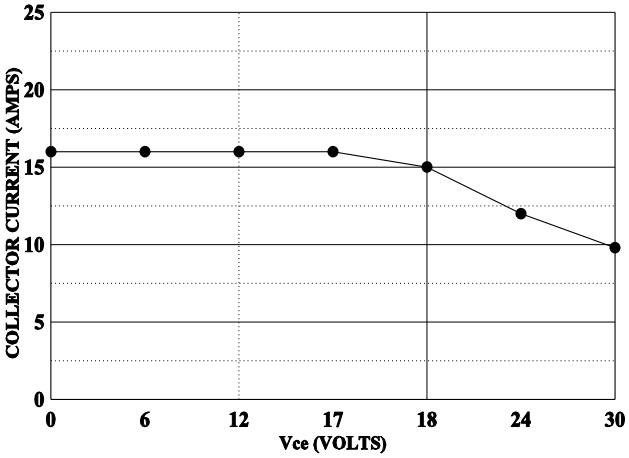
POWER OUTPUT vs POWER INPUT

Vcc=28V, f=500MHz

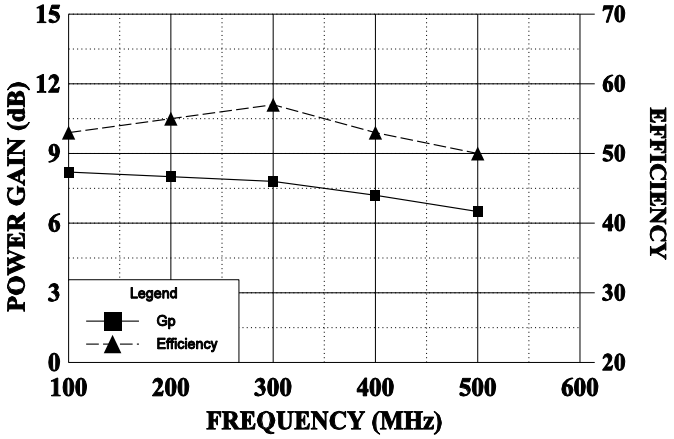


DC SAFE OPERATING AREA

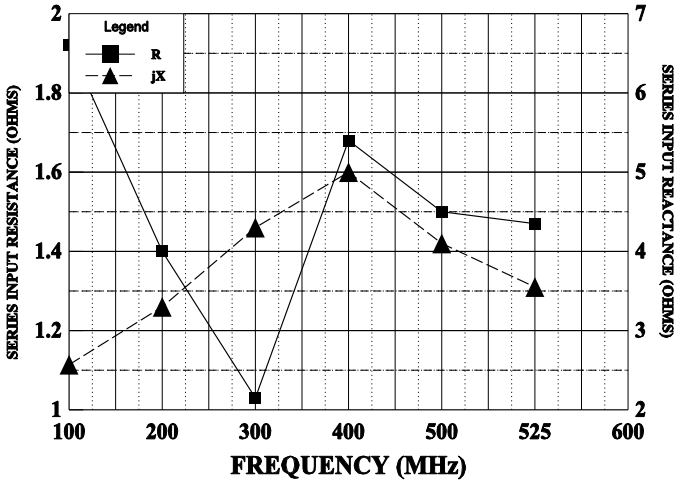


PERFORMANCE VS FREQUENCY

Vcc=28V, Pout=100W, Class AB



SERIES INPUT IMPEDANCE vs FREQUENCY



SERIES LOAD IMPENDANCE vs FREQUENCY