GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

UMIL 80

80 Watts, 28 Volts, Class AB
Defcom 200 - 500 MHz

GENERAL DESCRIPTION

The UMIL80 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 200-500 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 @ 25ºC 220 Watts

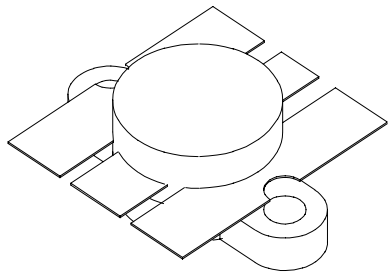
Maximum Voltage and Current

BVces	Collector to Emiter Voltage	65 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	12 A

Maximum Temperatures

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

CASE OUTLINE
55HV, Style 2



ELECTRICAL CHARACTERISTICS @ 25 ºC

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 400 MHz	80			Watts
Pin	Power Input	Vcc = 28 Volts			10	Watts
Pg	Power Gain		9.0	9.5		dB
η**c**	Efficiency		55			%
VSWR	Load Mismatch Tolerance				5:1	

BVebo	Emitter to Base Breakdown	Ie = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 20 mA	60			Volts
BVceo	Collector to Emitter Breakdown	Ie = 20 mA	31			Volts
BVcbo	Collector to Base Breakdown	Ic = 20 mA	60			Volts
Cob	Output Capacitance	Vcb=28 V, F= 1 MHz		80		pF
$\mathbf{h_{FE}}$	DC - Current Gain	Vce = 5 V, Ic = 1 A	10			
θ**jc**	Thermal Resistance				0.8	ºC/W

Issue October 1998 : Correct Case from Hu to HV

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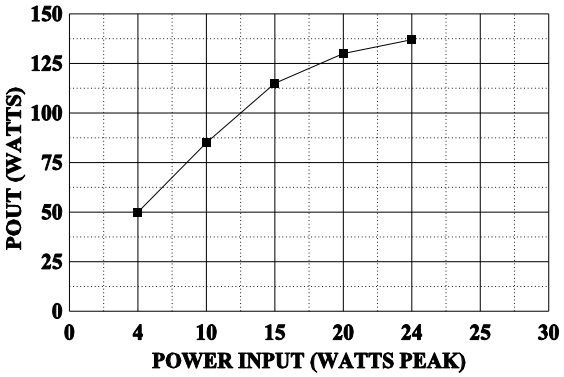
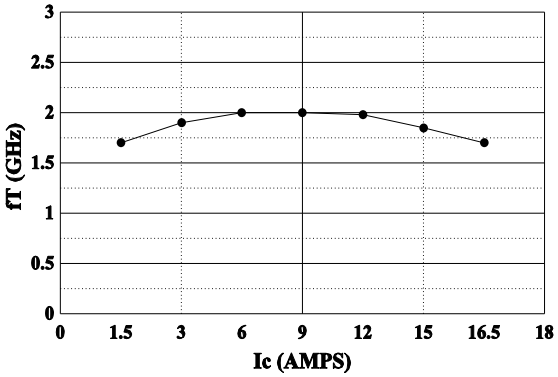
POWER OUTPUT vs POWER INPUT

Vcc= 28V f=400MHz

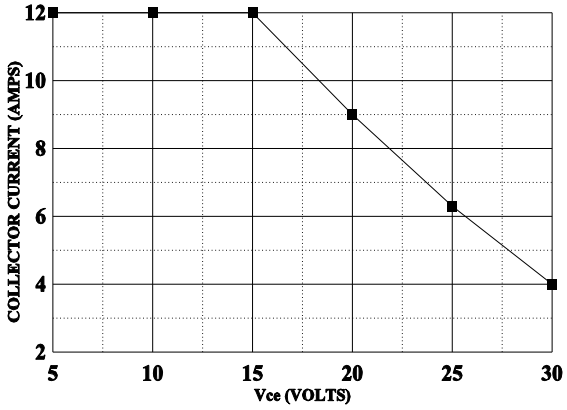


fT vs Ic

Vcc=5V, Tc=25 C



DC SAFE OPERATING AREA



August 1996