

UMIL 70

70 Watts, 28 Volts, Class AB

Defcom 225 - 400 MHz

GENERAL DESCRIPTION

The UMIL70 is a double input matched COMMON EMITTER broadband transistor specifically intended for use in the 225-400 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 140 Watts

Maximum Voltage and Current

BVces Collector to Emitter Voltage 60 Volts

BVebo Emitter to Base Voltage 4.0 Volts

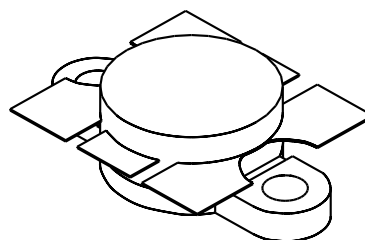
Ic Collector Current 8.0 A

Maximum Temperatures

Storage Temperature - 65 to +150°C

Operating Junction Temperature +200°C

CASE OUTLINE 55HU, Style 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Output	F = 400 MHz	70			Watts
P_{in}	Power Input	V _{cc} = 28 Volts			10	Watts
P_g	Power Gain		8.5	10		dB
η_c	Efficiency		60			%
VSWR	Load Mismatch Tolerance	F = 400 MHz			5:1	

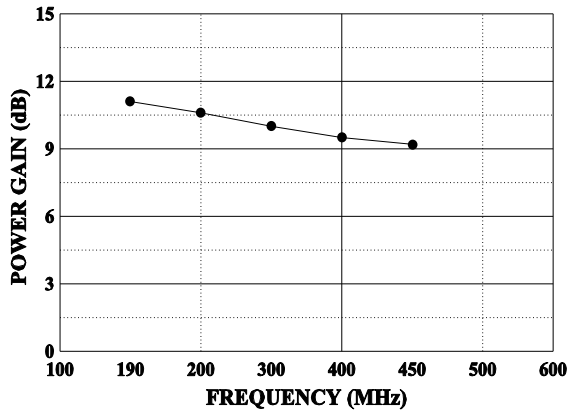
BVebo	Emitter to Base Breakdown	I _e = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	I _c = 50 mA	60			Volts
BVceo	Collector to Emitter Breakdown	I _e = 50 mA	33			Volts
Cob	Output Capacitance	V _{cb} = 28 V, F = 1 MHz			76	pF
h_{FE}	DC - Current Gain	V _{ce} = 5 V, I _c = 2 A	20			
θ_{jc}	Thermal Resistance				1.25	°C/W

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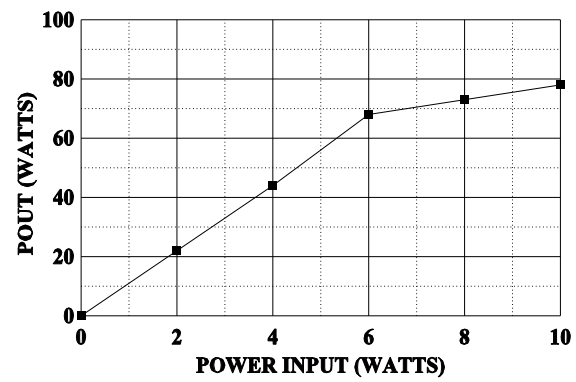
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POWER GAIN VS FREQUENCY

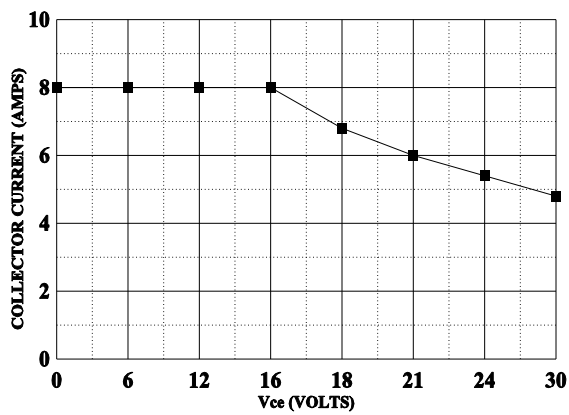


POWER OUTPUT vs POWER INPUT

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

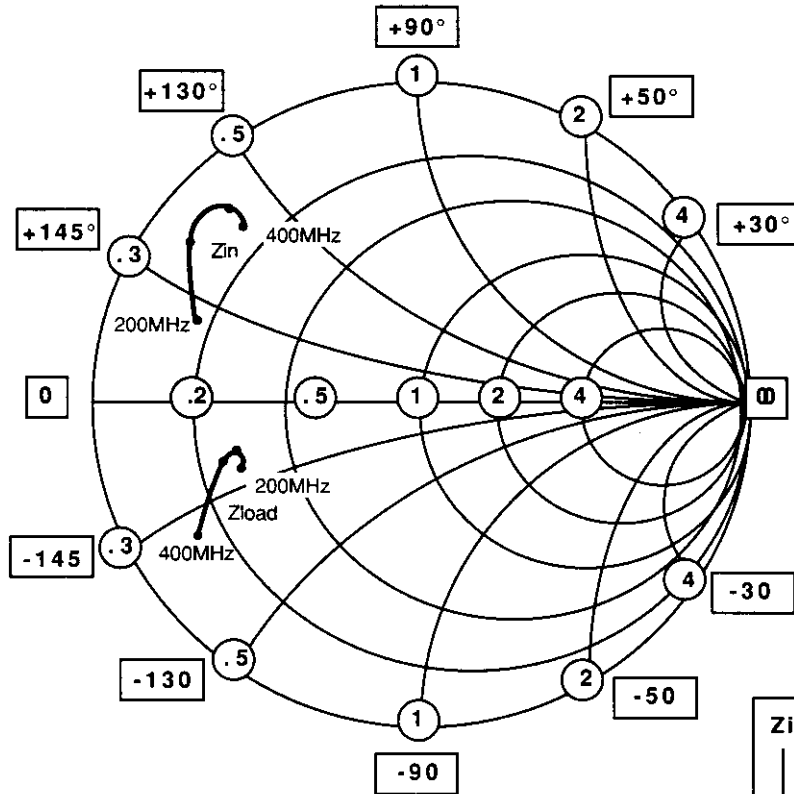


DC SAFE OPERATING AREA

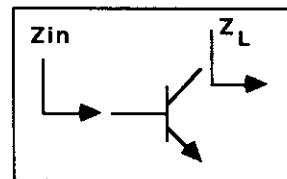


SMITH CHART UMIL70

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM.



FREQUENCY MHz	R	Z _{in} JX	FREQUENCY MHz	R	Z _{load} JX
200	1.8	+2.6	200	3.3	-2.2
250	1.1	+3.6	250	3.3	-2.0
300	1.2	+4.5	300	3.0	-2.0
400	1.3	+4.3	400	1.4	-3.5