

UMIL 3

3 Watts, 28 Volts, Class AB
Defcom 225 - 400 MHz

GENERAL DESCRIPTION

The UMIL3 is a 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 11 Watts

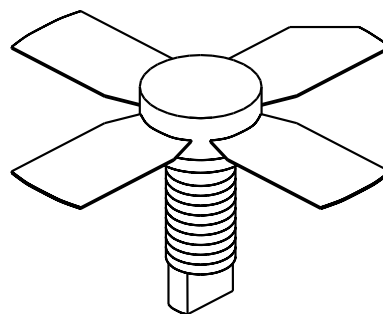
Maximum Voltage and Current

BVces	Collector to Emitter Voltage	55 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	0.7 A

Maximum Temperatures

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

CASE OUTLINE 55FT, Style 2



ELECTRICAL CHARACTERISTICS @ 25 °C

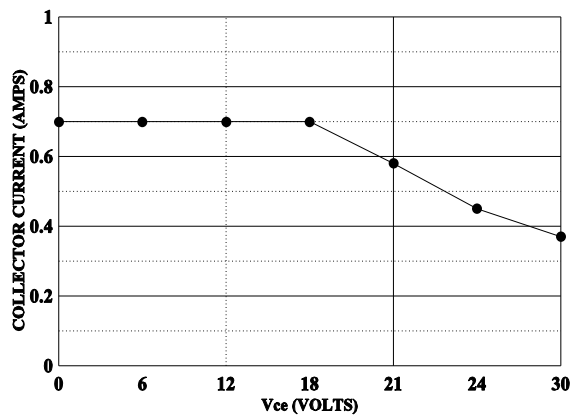
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Output	F = 400 MHz	3			Watts
P_{in}	Power Input	V _{cc} = 28 Volts			0.2	Watts
P_g	Power Gain		11.8	13		dB
η_c	Efficiency			60		%
VSWR	Load Mismatch Tolerance				30:1	

BVebo	Emitter to Base Breakdown	I _e = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	I _c = 20 mA	55			Volts
BVceo	Collector to Emitter Breakdown	I _e = 50 mA	30			Volts
Cob	Output Capacitance	V _{cb} = 28 V, F = 1 MHz		4.5		pF
h_{FE}	DC - Current Gain	V _{ce} = 5 V, I _c = 100 A	10	45	150	
θ_{jc}	Thermal Resistance				16	°C/W

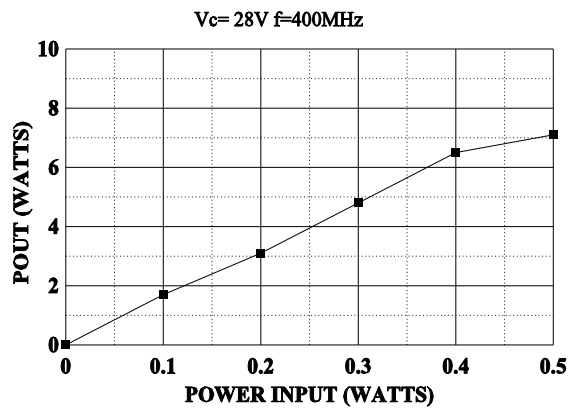
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DC SAFE OPERATING AREA

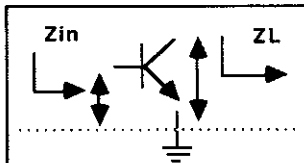
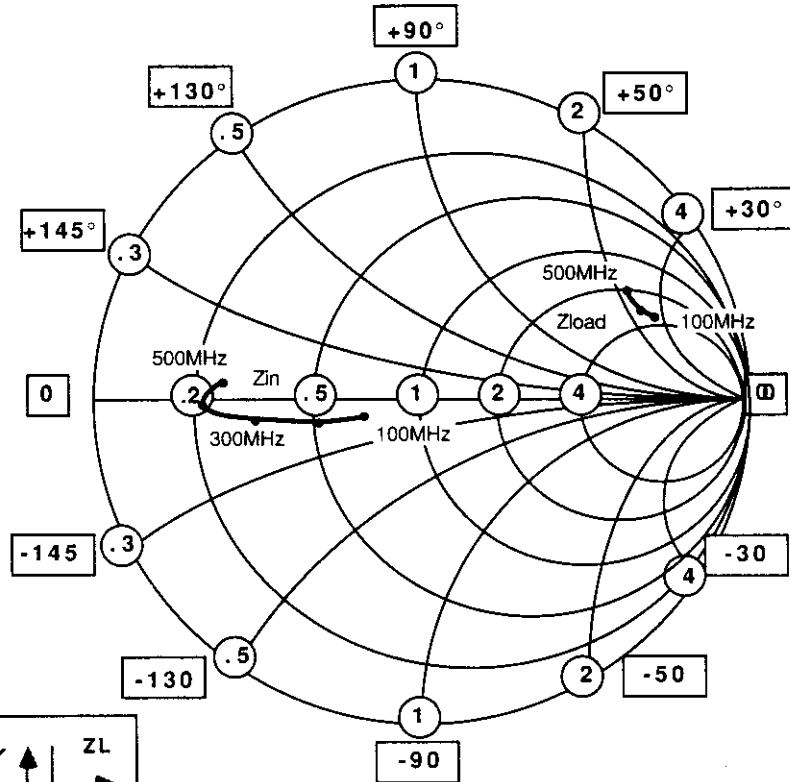


POWER OUTPUT vs POWER INPUT



SMITH CHART UMIL3

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM.

FREQUENCY MHz	R	Zin	JX	FREQUENCY MHz	R	Zload	JX
100	7.0	-1.6		100	35	+34	
200	5.3	-1.7		200	33	+30	
300	3.5	-1.2		300	20	+25	
400	2.1	-0.3		400	25	+23	
500	2.5	+0.5		500	20	+22	