GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

UMIL 60

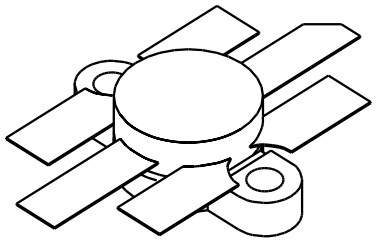
60 Watts, 28 Volts, Class AB
Defcom 225 - 400 MHz

GENERAL DESCRIPTION

The UMIL60 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.

CASE OUTLINE

55HW, Style 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC 140 Watts

Maximum Voltage and Current

BVces	Collector to Emiter Voltage	60 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	8.0 A

Maximum Temperatures

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

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Output	F = 400 MHz	60			Watts
Pin	Power Input	Vcc = 28 Volts			8	Watts
Pg	Power Gain		8.8	9.0		dB
ηc	Efficiency			60		%
VSWR	Load Mismatch Tolerance				5:1	

BVebo	Emitter to Base Breakdown	Ie = 5 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 50 mA	60			Volts
BVceo	Collector to Emitter Breakdown	Ie = 50 mA	33			Volts
Cob	Output Capacitance	Vcb = 28 V, F = 1 MHz			75	pF
h_{FE}	DC - Current Gain	Vce = 5 V, Ic = 2 A	10			
θjc	Thermal Resistance				.65	ºC/W

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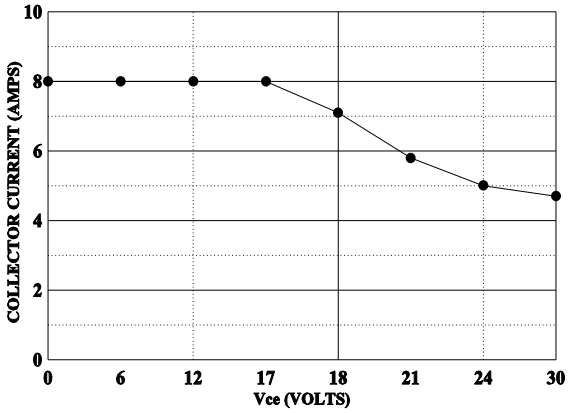
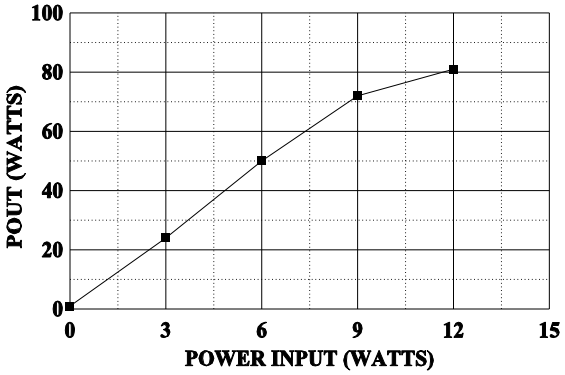
DC SAFE OPERATING AREA

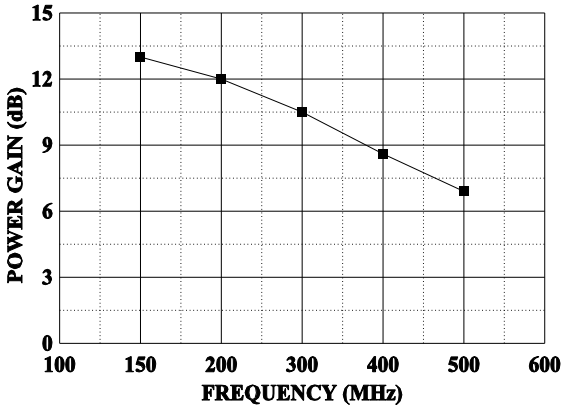


POWER OUTPUT vs POWER INPUT

Vcc= 28V f=400MHz



POWER GAIN VS FREQUENCY



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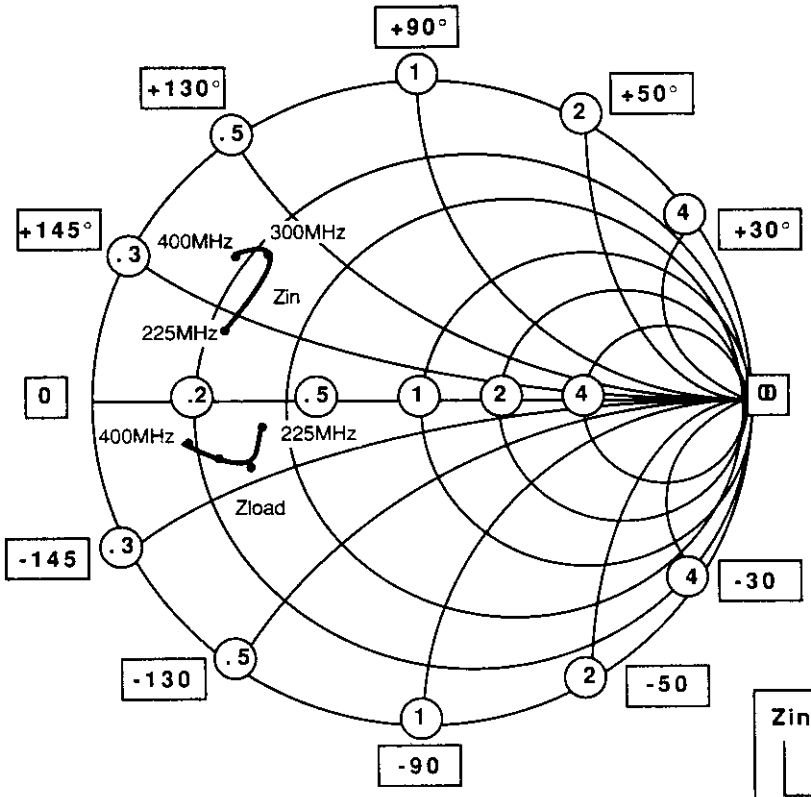
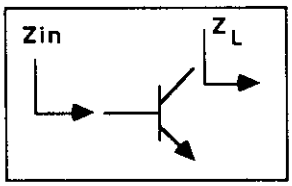
SMITH CHART
UMIL60

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM.



FREQUENCY MHz	Zin R	Zin JX	FREQUENCY MHz	Zload R	Zload JX
225	2.4	+2.5	225	4.0	-1.6
300	2.3	+4.4	300	3.6	-2.5
350	2.3	+4.0	350	2.7	-1.8
400	2.0	+2.9	400	2.0	-1.5