

GENERAL DESCRIPTION

The UMIL10 is a general purpose UHF power common emitter transistor designed for use through 400 MHz. It features gold metallization for high reliability and diffused ballasting for superior ruggedness. It can be operated full Class A at 3 watts PEP or used in Class AB, B, or C at up to 15 watts continuous output power.

UMIL10
10 WATTS - 28 VOLTS
400 MHz

UHF COMMUNICATIONS

C (4 pls)

8-32 UNC - 2A

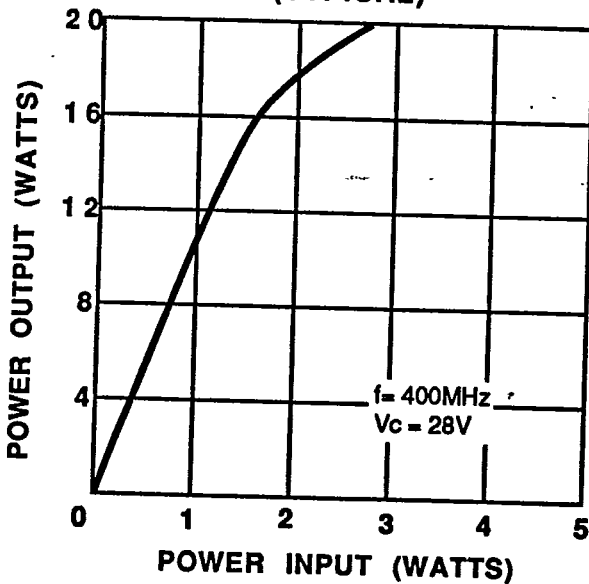
L1 : C	DIM	Millimeter	TOL	Inches	TOL
L2 : E	A	25.40	.25	1.000	.010
L3 : B	B	45°	5°	45°	5°
	C	5.71	.13	.225	.005
	D	6.99 DIA	.13	.275 DIA	.005
	E	4.44	.13	.175	.005
	F	1.52	.13	.060	.005
	G	3.05	.13	.120	.005
	H	12.95	.25	.510	.010
	I	3.30	.13	.130	.005
	J	16.64	REF	.655	REF
	K	0.13	.02	.005	.001

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature	28 W
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	55 V
BVebo Emitter to Base Voltage	4.0 V
Ic Collector Current	1.5 A

Maximum Temperatures	
Storage Temperature	-65 to +150°C
Operating Junction Temperature	+200°C

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP
Vcc = 28 Volts
Frequency Range = 400 MHz

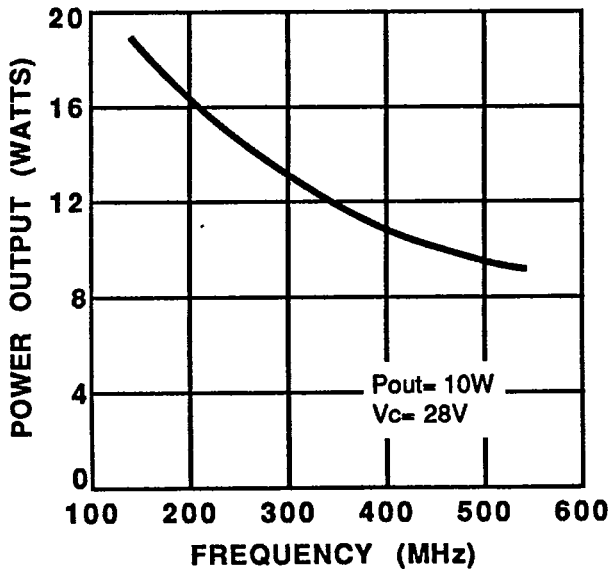
UMIL10-2

ELECTRICAL CHARACTERISTICS¹

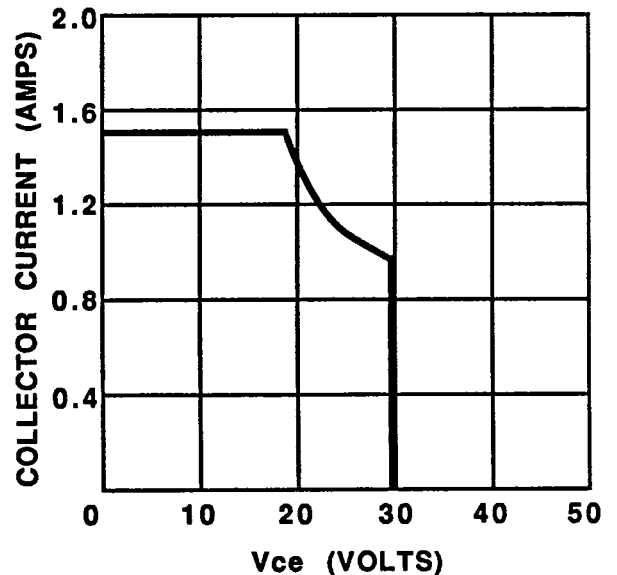
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 400 MHz V _{cc} = 28V	10			Watts
P _{in}	Power Input				1.0	Watts
P _g	Power Gain		10.0			dB
η _c	Collector Efficiency			60		%
VSWR	Load Mismatch Tolerance				30:1	
B _{Vebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 5mA	4.0			Volts
B _{Vces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 50mA	55			Volts
B _{Vceo}	Breakdown Voltage (Collector to Emitter)	I _b = 0A, I _c = 50mA	30			Volts
C _{ob}	Capacitance-Collector to Base	V _{cb} = 28V, f = 1MHz		11.5		pF
h _{FE}	DC-Current Gain	V _c = 5V, I _c = 200mA	10			
θ _{jc}	Thermal Resistance				6.3	°C/W

Note 1: T_c = +25°C unless otherwise specified

POWER GAIN VS FREQUENCY (TYPICAL)



DC SAFE OPERATING AREA (TYPICAL)

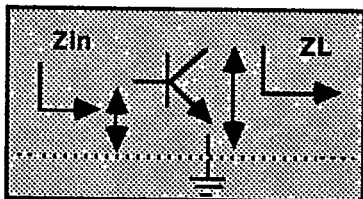
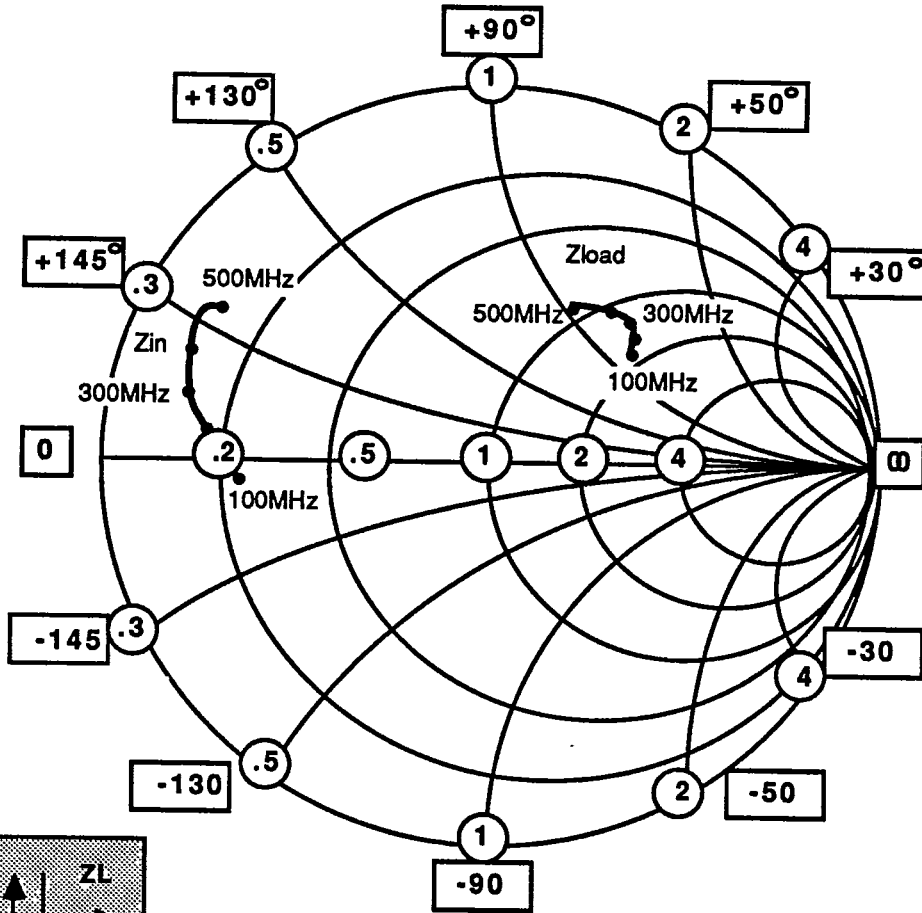


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

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**SMITH CHART
UMIL10**

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM

FREQUENCY MHz	R	Zin JX	FREQUENCY MHz	R	Zload JX
100	2.3	- j0.9	100	18	+ j14
200	1.8	+ j0.4	200	15	+ j15
300	1.4	+ j1.3	300	13	+ j15
400	1.25	+ j2.4	400	10.5	+ j13
500	1.4	+ j3.3	500	9.0	+ j10.5

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