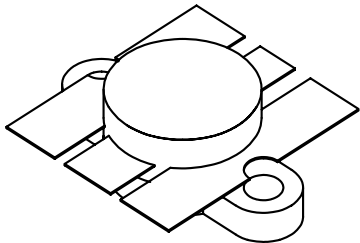


<p>GENERAL DESCRIPTION The UMIL 25 is an input matched COMMON EMITTER broadband transistor specifically intended for use in the 225-400 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.</p>	<p>CASE OUTLINE 55HV, Style 2</p> 													
<p>ABSOLUTE MAXIMUM RATINGS Maximum Power Dissipation @ 25°C 70 Watts</p> <p>Maximum Voltage and Current</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">BVces</td> <td style="width: 45%;">Collector to Emitter Voltage</td> <td style="width: 40%; text-align: right;">60 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td style="text-align: right;">4.0 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td style="text-align: right;">3 A</td> </tr> </table> <p>Maximum Temperatures</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Storage Temperature</td> <td style="text-align: right;">- 65 to +150°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+200°C</td> </tr> </table>	BVces	Collector to Emitter Voltage	60 Volts	BVebo	Emitter to Base Voltage	4.0 Volts	Ic	Collector Current	3 A	Storage Temperature	- 65 to +150°C	Operating Junction Temperature	+200°C	
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ELECTRICAL CHARACTERISTICS @ 25 °C

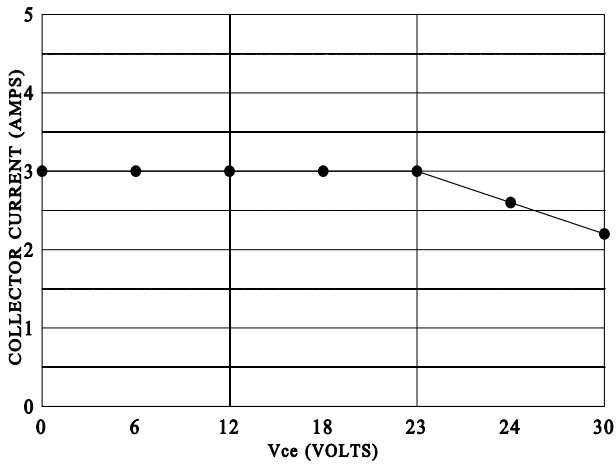
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{OUT}	Power Output	F = 400 MHz	25			W
P _{IN}	Power Input	V _{cc} = 28 Volts			3.2	W
P _G	Power Gain		8.9	10		dB
η _c	Collector Efficiency			50		%
VSWR	Load Mismatch Tolerance ¹				5:1	

BV _{EBO}	Emitter to Base Breakdown	I _e = 5 mA	4.0			Volts
BV _{CES}	Collector to Emitter Breakdown	I _c = 50 mA	65			Volts
BV _{CEO}	Collector to Emitter Breakdown	I _e = 50 mA	33			Volts
h _{FE}	DC - Current Gain	I _c = 0.5 A, V _{ce} = 5 V	10			
θ _{jc} ¹	Thermal Resistance				2.5	°C/W
C _{ob}	Output Capacitance	V _{cb} = 28 V, F = 1 MHz		22	27	pF
I _{EBO}	Emitter to Base Leakage	V _{eb} = 2 V			2	mA
I _{CBO}	Collector to Base Leakage	V _{cb} = 20 V			2	mA

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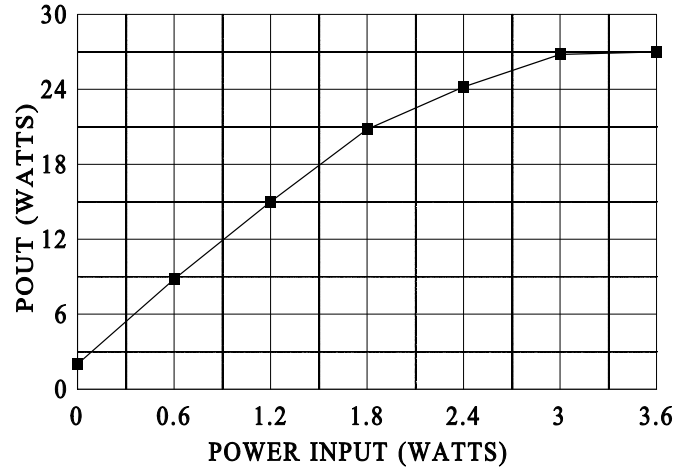
UMIL25

DC SAFE OPERATING AREA

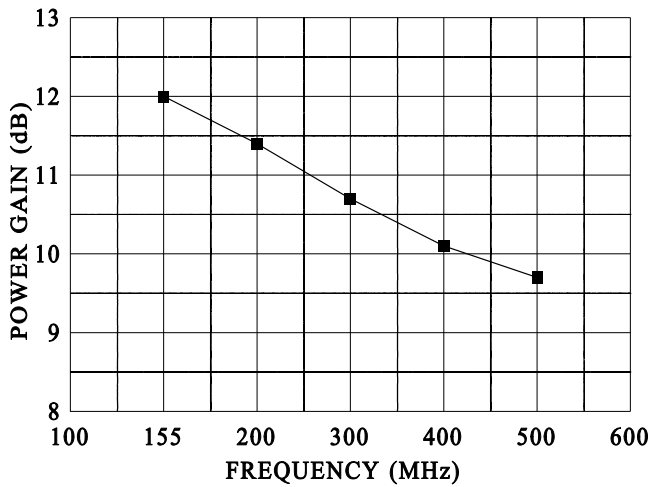


POWER OUTPUT vs POWER INPUT

Vcc= 28V f=400MHz

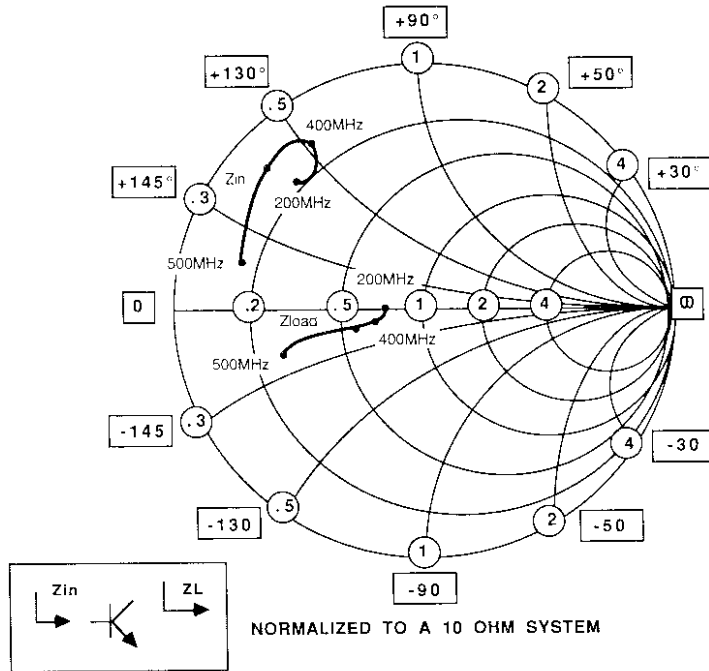


POWER GAIN VS FREQUENCY

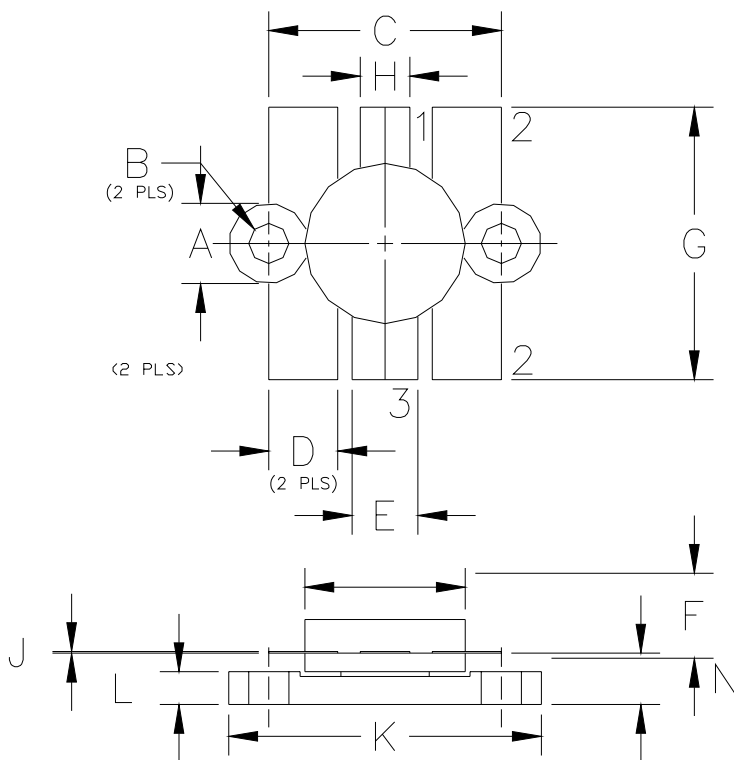


**SMITH CHART
UMIL25**

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



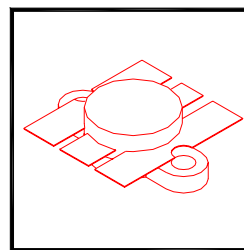
FREQUENCY MHz	R	Zin	JX	FREQUENCY MHz	R	Zload	JX
200	1.6		+1.5	200	7.6	0.0	
300	1.1		+4.0	300	7.5	-1.0	
400	1.7		+5.1	400	6.0	-1.3	
500	1.7		+4.2	500	3.0	-2.0	



DIM	MILLIMETER	±TOL	INCHES	±TOL
A	6.35 DIA	.13	.250 DIA	.005
B	3.17 DIA	.13	.325 DIA	.005
C	18.41	.13	.725	.005
D	5.46	.13	.215	.005
E	5.21	.13	.205	.005
F	6.73	REF	.265	REF
G	21.59	.38	.850	.015
H	3.94	.13	.155	.005
I	12.70 DIA	.13	.500 DIA	.005
J	0.13	.02	.005	.001
K	24.76	.13	.975	.005
L	2.59	.13	.102	.005
M	4.06	.25	.160	.010

STYLE 1:
 PIN 1 = COLLECTOR
 2 = BASE
 3 = EMITTER

STYLE 2:
 PIN 1 = COLLECTOR
 2 = EMITTER
 3 = BASE



GHz TECHNOLOGY
 RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55HV