UMIL70

70 WATTS - 28 VOLTS
225-400 MHz

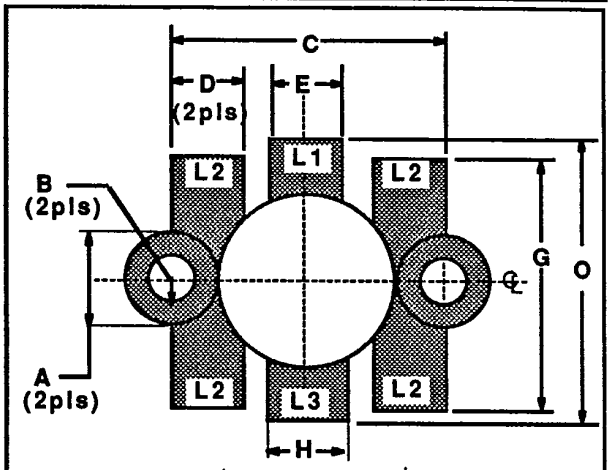
UHF COMMUNICATIONS

GENERAL DESCRIPTION

The UMIL70 is a double input matched broadband transistor specifically intended for use in the 225-400MHz frequency band. It may be operated in Class A, AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability. The UMIL70 is an improved drop-in replacement for the C2M70-28.

ABSOLUTE MAXIMUM RATINGS

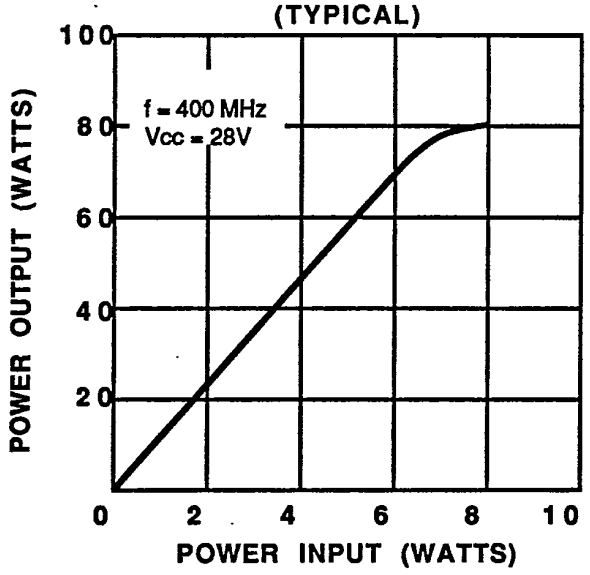
Maximum Power Dissipation @ 25°C Case Temperature	140 W
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	60V
BVebo Emitter to Base Voltage	4.0 V
Ic Collector Current	8.0 A
Maximum Temperatures	
Storage Temperature	-65 to +150 °C
Operating JunctionTemperature	+200 °C



L1 : C
L2 : E
L3 : B

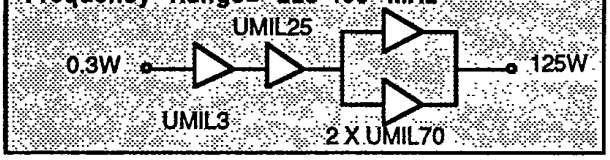
DIM	Millimeter	TOL	Inches	TOL
A	6.35 DIA	.13	.250 DIA	.005
B	3.17 DIA	.13	.125 DIA	.005
C	18.49	.13	.728	.005
D	5.08	.13	.200	.005
E	4.57	.13	.180	.005
F	6.60	REF	.260	REF
G	25.14	.25	.990	.010
H	6.69	.13	.224	.005
I	12.70 DIA	.13	.500 DIA	.005
J	0.13	.02	.005	.001
K	24.76	.13	.975	.005
M	3.17	.13	.125	.005
N	4.32	.13	.170	.005
O	36.83	.25	1.450	.010

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP

Vcc= 28 Volts
Frequency Range= 225-400 MHz



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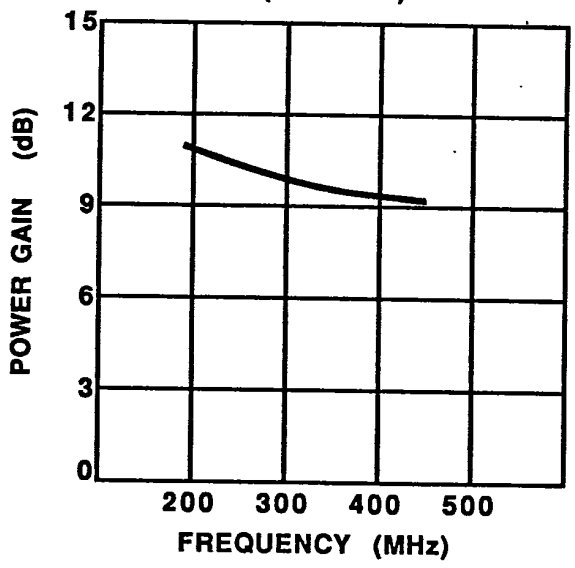
REV A AUG 1987
Printed in USA

ELECTRICAL CHARACTERISTICS[1]

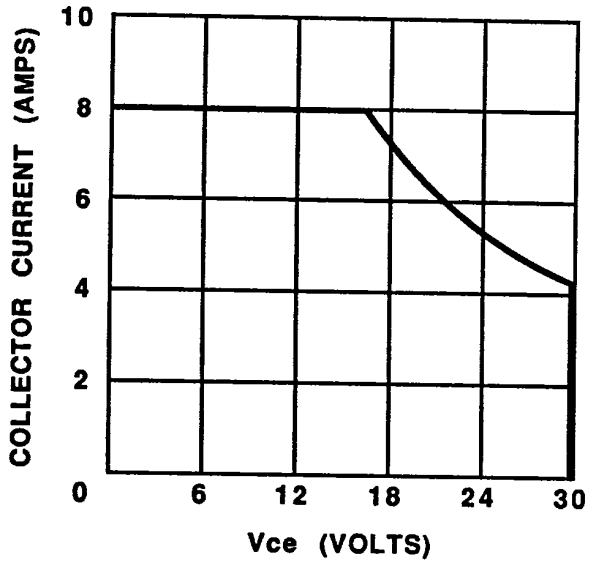
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 400 MHz Vcc= 28V	70			Watts
Pin	Power Input				10	Watts
Pg	Power Gain		8.5	10		dB
η_c	Collector Efficiency		60			%
VSWR	Load Mismatch Tolerance				5:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ic= 0A, Ie= 5mA	4.0			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Vbe= 0A, Ic= 50mA	60			Volts
BVceo	Breakdown Voltage (Collector to Emitter)	Ib= 0A, Ic= 50mA	33			Volts
Cob	Capacitance- Collector to Base	Vcb= 28V, f= 1MHz			76	pF
h_{FE}	DC-Current Gain	Ic= 2A, Vce= 5V	20			
θjc	Thermal Resistance				1.25	°C/W

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

POWER GAIN VS FREQUENCY (TYPICAL)



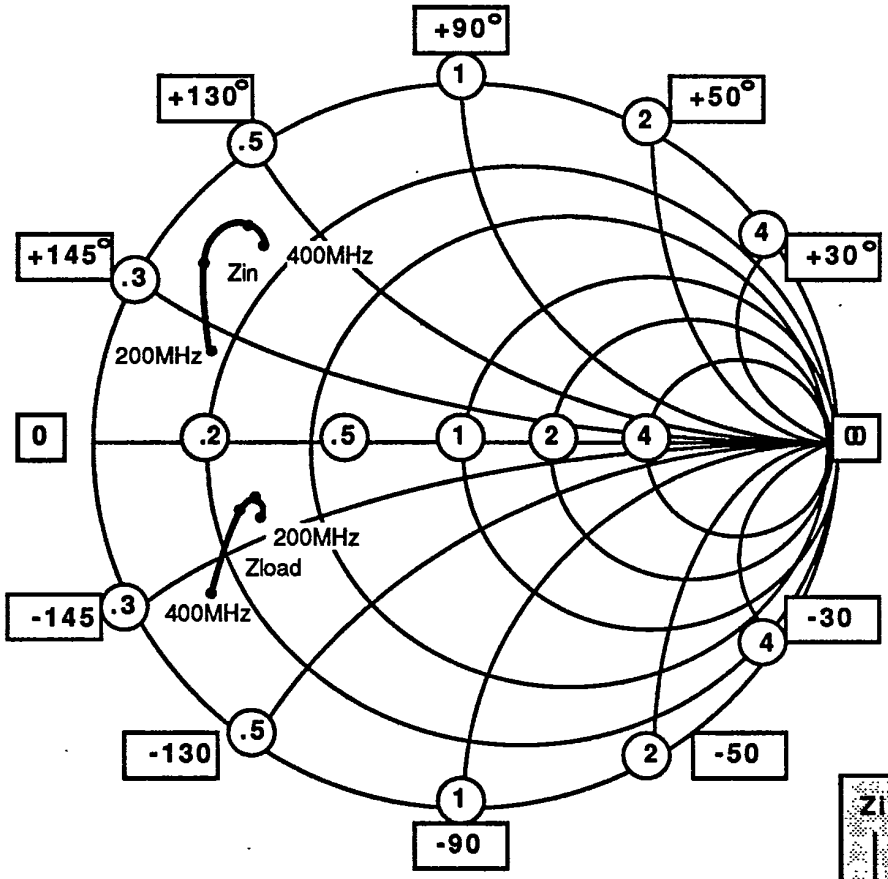
DC SAFE OPERATING AREA (TYPICAL)



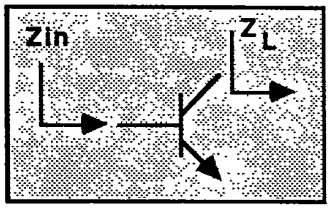
SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

SMITH CHART
UMIL70

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM.



FREQUENCY MHz	Zin R	Zin JX	FREQUENCY MHz	Zload R	Zload 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