



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

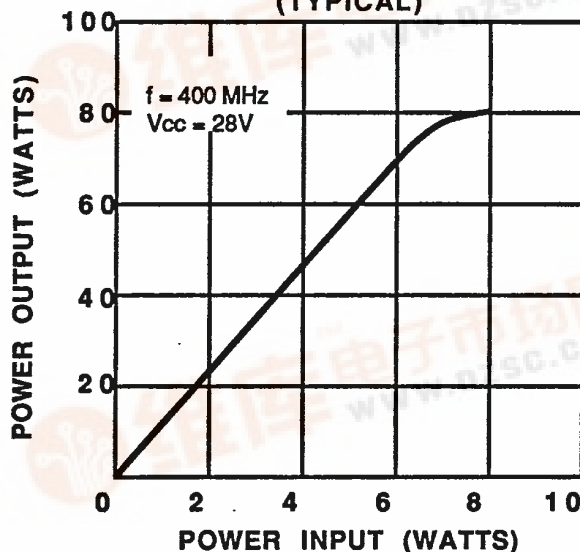
Ic Collector Current 8.0 A

Maximum Temperatures

Storage Temperature -65 to +150 °C

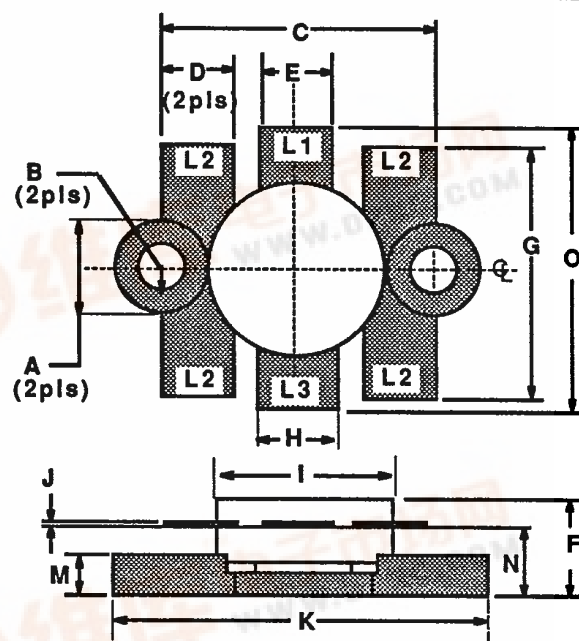
Operating Junction Temperature +200 °C

POWER OUTPUT VS POWER INPUT
(TYPICAL)



UMIL70
70 WATTS - 28 VOLTS
225-400 MHz

UHF COMMUNICATIONS



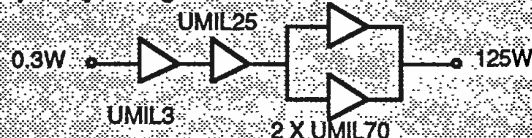
L1 : C
L2 : E
L3 : B

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

TYPICAL AMPLIFIER LINE UP

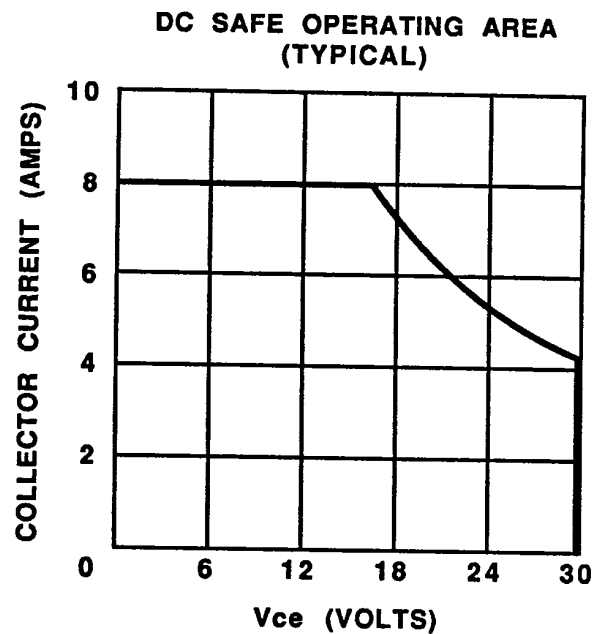
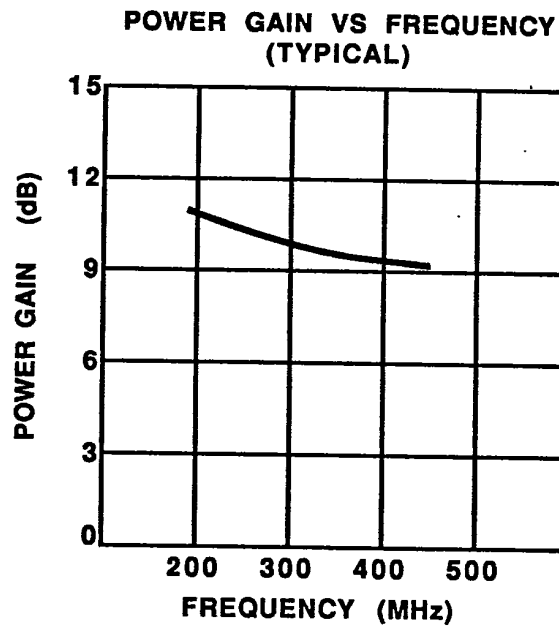
Vcc= 28 Volts

Frequency Range= 225-400 MHz



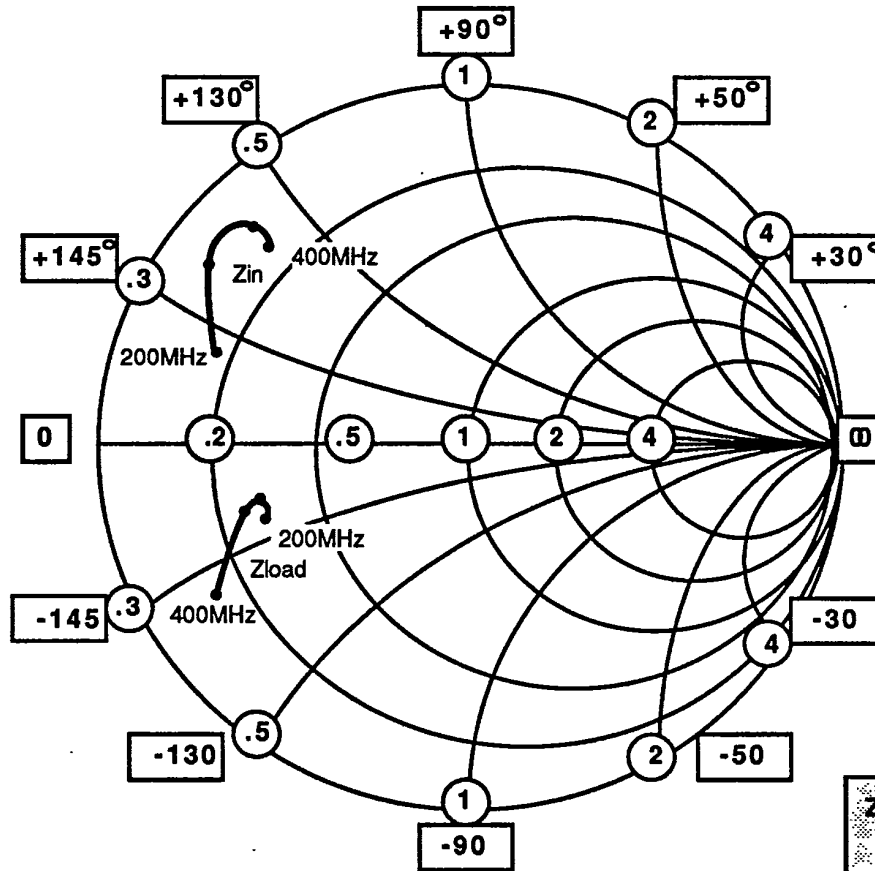
UMIL70-2**ELECTRICAL CHARACTERISTICS¹**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 400 MHz V _{cc} = 28V	70			Watts
P _{in}	Power Input				10	Watts
P _g	Power Gain		8.5	10		dB
η_c	Collector Efficiency		60			%
VSWR	Load Mismatch Tolerance				5:1	
BV _{ebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 5mA	4.0			Volts
BV _{ces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 50mA	60			Volts
BV _{ceo}	Breakdown Voltage (Collector to Emitter)	I _b = 0A, I _c = 50mA	33			Volts
C _{ob}	Capacitance- Collector to Base	V _{cb} = 28V, f = 1MHz			76	pF
h _{FE}	DC-Current Gain	I _c = 2A, V _{ce} = 5V	20			
θ_{jc}	Thermal Resistance				1.25	°C/W

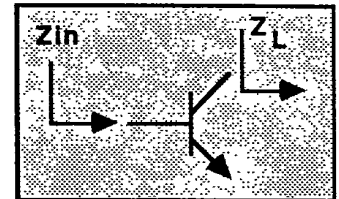
Note 1: T_c = +25°C unless otherwise specified

SMITH CHART UMIL70

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 10 OHM SYSTEM.



FREQUENCY MHz	R	Z_{in} JX	FREQUENCY MHz	R	Z_{load} 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