



UMIL10P

10 Watts, 28 Volts, Class AB
UHF Communications 100 – 400 MHz

ADVANCED RELEASE

GENERAL DESCRIPTION

The UMIL10P is a COMMON EMITTER broadband transistor specifically intended for use in the 100-400 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C 28 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 55 V

Emitter to Base Voltage (BV_{ebo}) 4.0 V

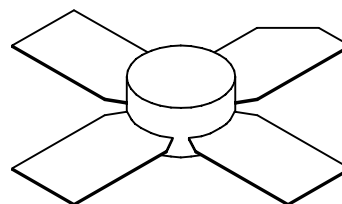
Collector Current (I_c) 1.5 A

Maximum Temperatures

Storage Temperature -65 to +150 °C

Operating Junction Temperature +200 °C

CASE OUTLINE 55FU Style 2



Backside Surface is Gold Metalized

ELECTRICAL CHARACTERISTICS @ 25°C

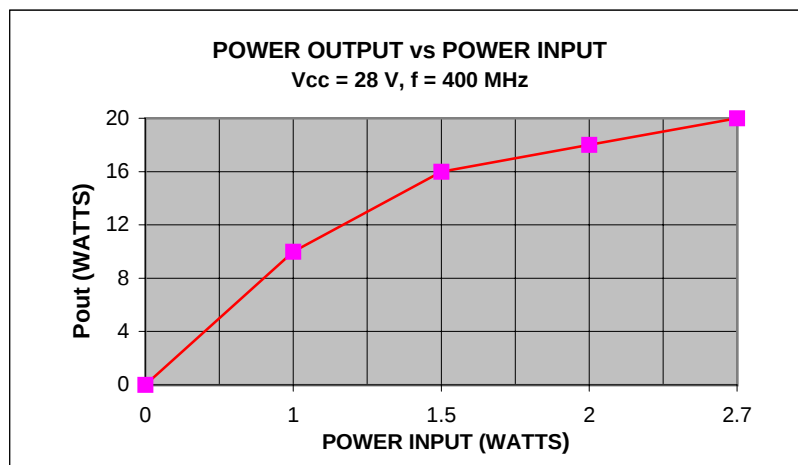
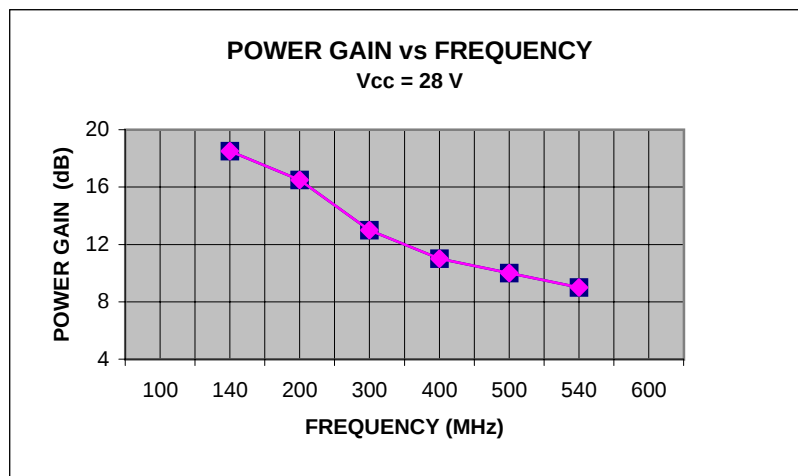
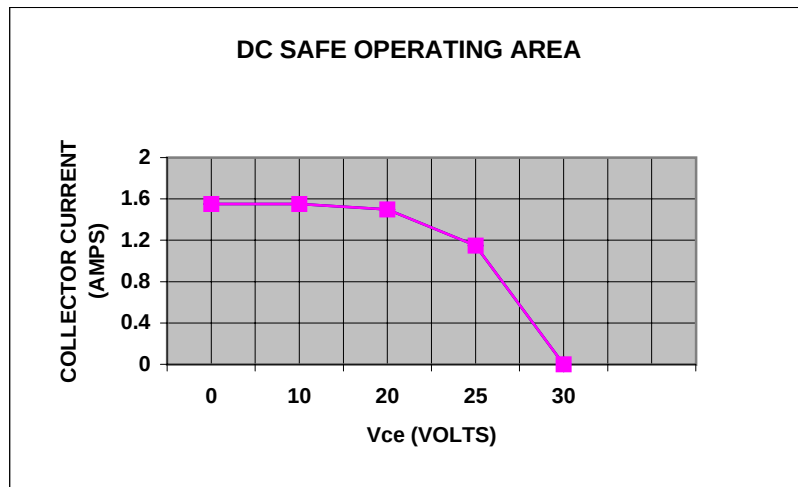
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	$F = 400 \text{ MHz}$	10			W
P_{in}	Power Input	$V_{CC} = 28 \text{ Volts}, P_{out} = 10W$			1.0	W
P_g	Power Gain		10.0			dB
η_c	Collector Efficiency		45	50		%
VSWR	Load Mismatch Tolerance				10:1	ψ

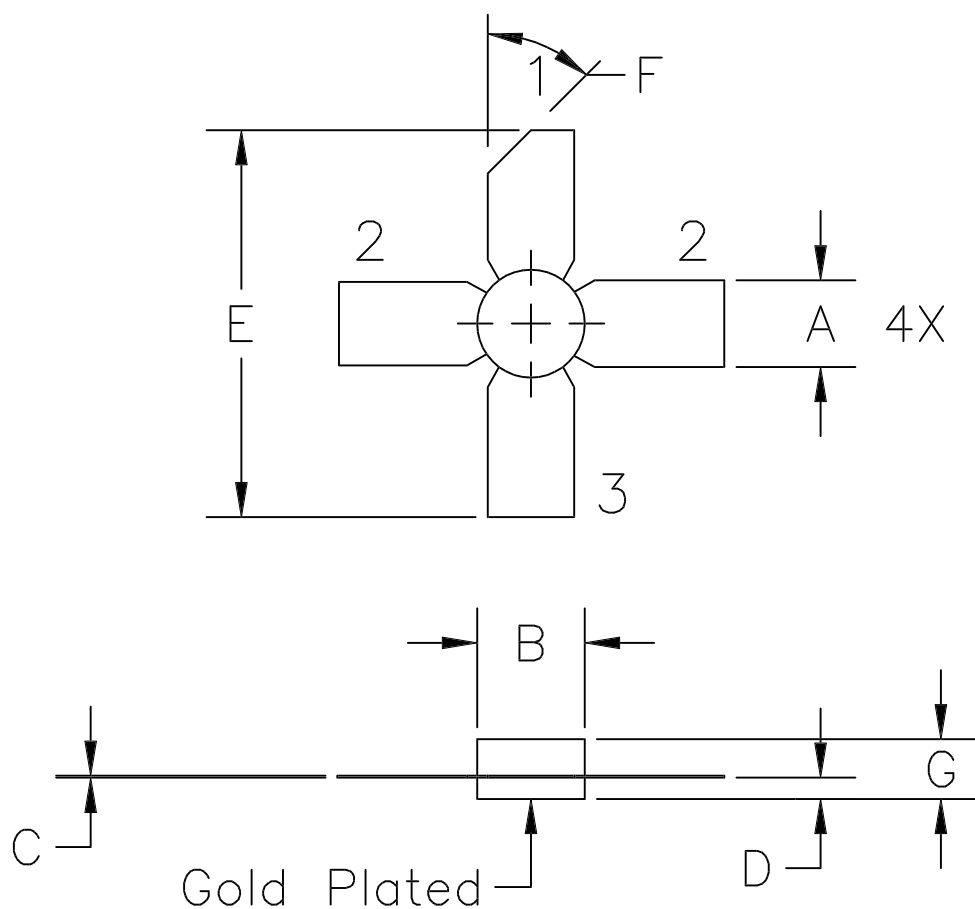
FUNCTIONAL CHARACTERISTICS @ 25°C

BV_{ebo}	Emitter to Base Breakdown	$I_e = 5 \text{ mA}$	4.0			V
BV_{ces}	Collector to Emitter Breakdown	$I_c = 50 \text{ mA}$	55			V
BV_{ceo}	Collector to Emitter Breakdown	$I_e = 50 \text{ mA}$	30			V
C_{ob}	Output Capacitance	$V_{cb} = 28V, F = 1 \text{ MHz}$		11.5		PF
h_{FE}	DC – Current Gain	$V_{ce} = 5V, I_c = 200mA$	10		150	β
θ_{jc}	Thermal Resistance				6.3	°C/W

Initial Issue May 1999

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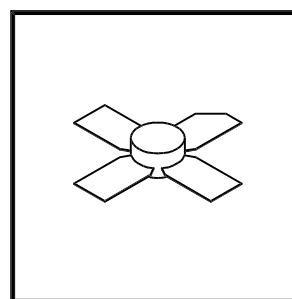




STYLE 1:
PIN1 = COLLECTOR
2 = BASE (2X)
3 = EMITTER

STYLE 2:
PIN1 = COLLECTOR
2 = EMITTER (2X)
3 = BASE

DIM	MILLIMETER	TOL	INCHES	TOL
A	5.71	.13	.225	.005
B	7.11 DIA	.13	.280 DIA	.005
C	0.13	.02	.005	.001
D	1.40	.13	.055	.005
E	25.53	.64	1.005	.025
F	45°	5°	45°	5°
G	3.94	REF	.155	REF



GHz TECHNOLOGY
 RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55FU