

# Radar Pulsed Power Transistor, 20W, 100 $\mu$ s Pulse, 10% Duty 3.1 - 3.5 GHz

## PH3135-20M

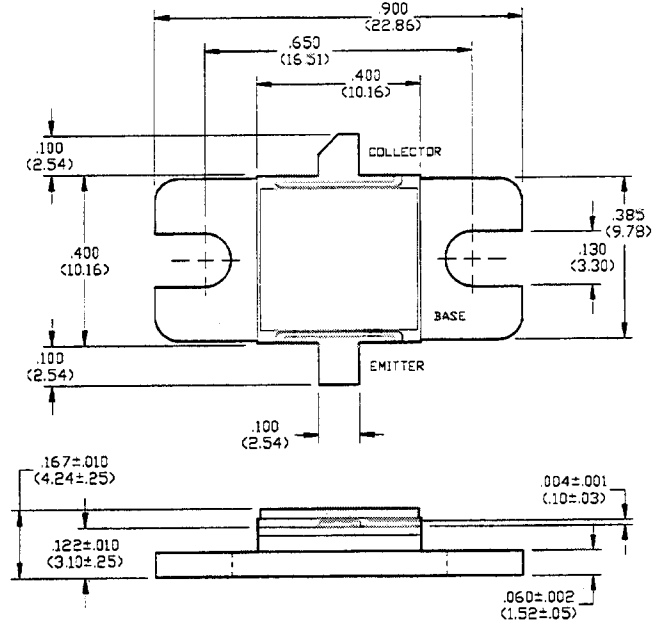
V2.00

### Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

### Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	65	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	$I_C$	2.4	A
Total Power Dissipation	$P_{TOT}$	160	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-65 to +200	°C



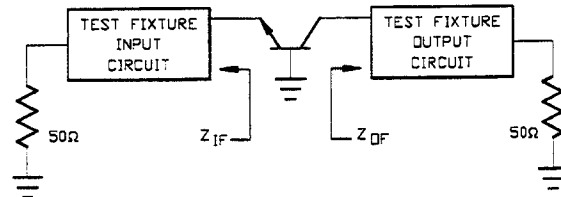
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES  $\pm .005$  MILLIMETERS  $\pm .13$ MM

### Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	$BV_{CES}$	65	-	V	$I_C = 10$ mA
Collector-Emitter Leakage Current	$I_{CES}$	-	1.5	mA	$V_{CE} = 40$ V
Thermal Resistance	$R_{TH(JC)}$	-	1.10	°C/W	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz
Input Power	$P_{IN}$	-	3.6	W	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz
Power Gain	$G_P$	7.5	-	dB	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz
Collector Efficiency	$\eta_C$	35	-	%	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz
Input Return Loss	RL	6	-	dB	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC} = 36$ V, $P_{OUT} = 20$ W, F=3.1, 3.3, 3.5 GHz

### Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	16.0 + j5.5	19.0 + j3.4
3.30	14.5 + j1.6	14.2 - j2.8
3.50	11.3 + j0.0	10.7 - j3.3



Specifications Subject to Change Without Notice.

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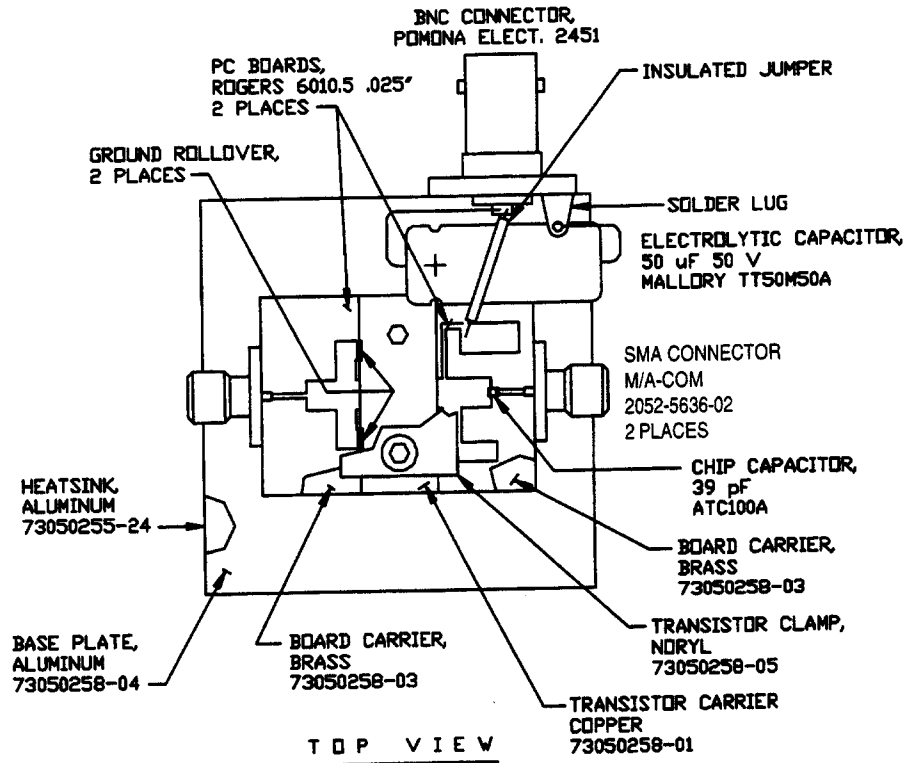
M/A-COM, Inc.

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Fax (800) 618-8883

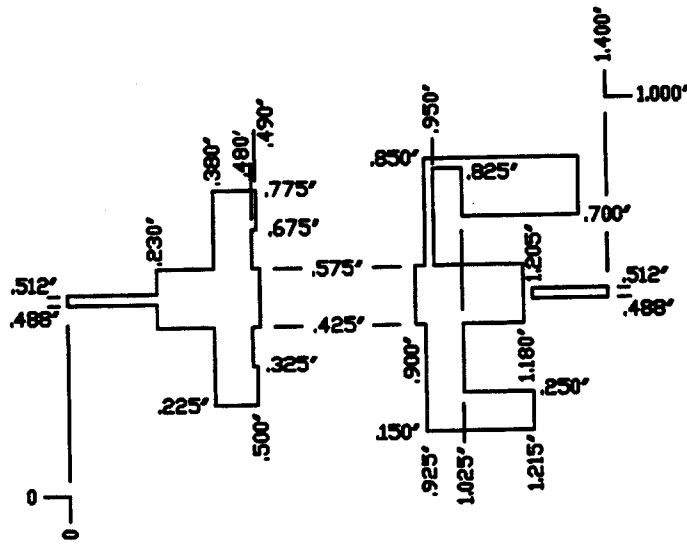
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RF Test Fixture



Test Fixture PC Board Dimensions



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