

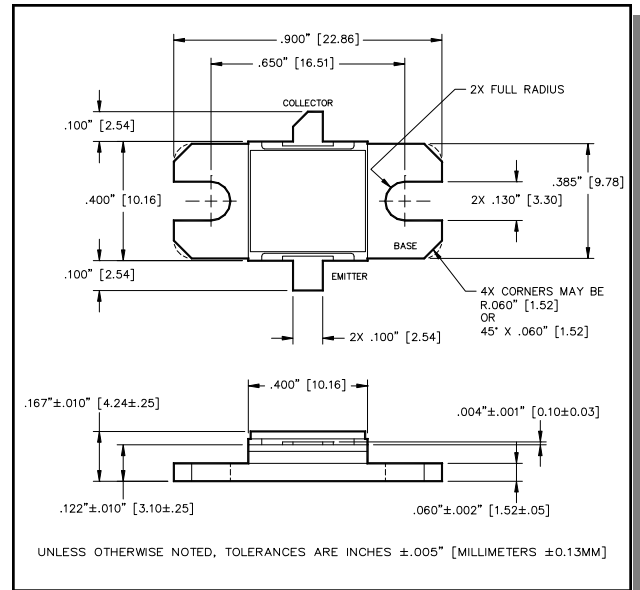
Radar Pulsed Power Transistor  
5W, 3.1-3.5 GHz, 2μs Pulse, 10% Duty

M/A-COM Products  
Released, 10 Aug 07

## Features

- NPN silicon microwave power transistors
- Common base configuration
- Broadband Class C operation
- High efficiency inter-digitized geometry
- Diffused emitter ballasting resistors
- Gold metallization system
- Internal input and output impedance matching
- Hermetic metal/ceramic package
- RoHS compliant

## Outline Drawing



## Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	60	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	$I_C$	0.75	A
Power Dissipation @ +25°C	$P_{TOT}$	60	W
Storage Temperature	$T_{STG}$	-65 to +200	°C
Junction Temperature	$T_J$	200	°C

## Electrical Specifications: $T_C = 25 \pm 5^\circ\text{C}$ (Room Ambient )

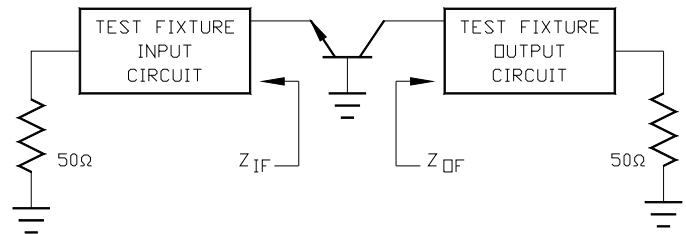
Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$		$BV_{CES}$	60	-	V
Collector-Emitter Leakage Current	$V_{CE} = 40\text{V}$		$I_{CES}$	-	1.0	mA
Thermal Resistance	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	$R_{TH(JC)}$	-	3.5	°C/W
Output Power	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	$P_{OUT}$	5.0	-	W
Power Gain	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	$G_P$	8.5	-	dB
Collector Efficiency	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	$\eta_C$	30	-	%
Input Return Loss	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	RL	-	-6	dB
Load Mismatch Tolerance	$V_{CC} = 33\text{V}$ , $P_{in} = 0.7\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	VSWR-T	-	2:1	-

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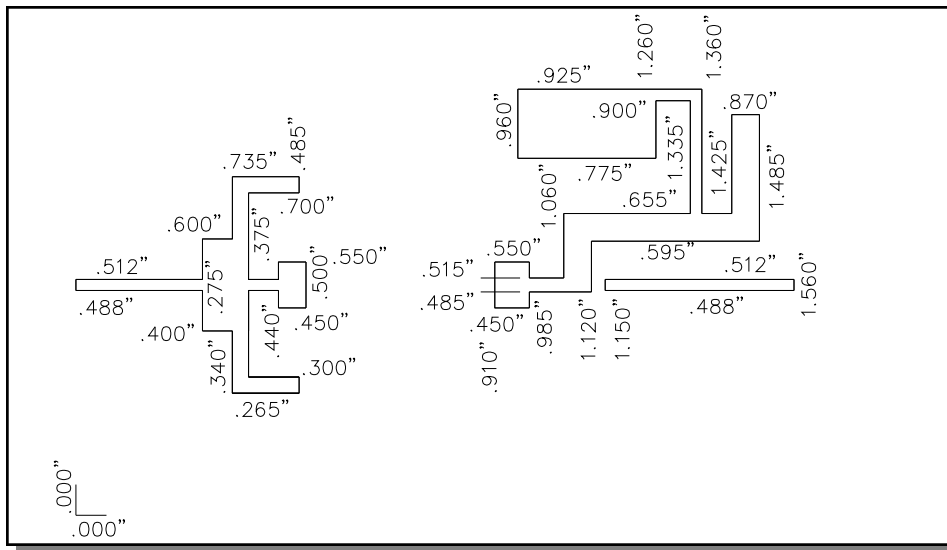
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## RF Test Fixture Impedance

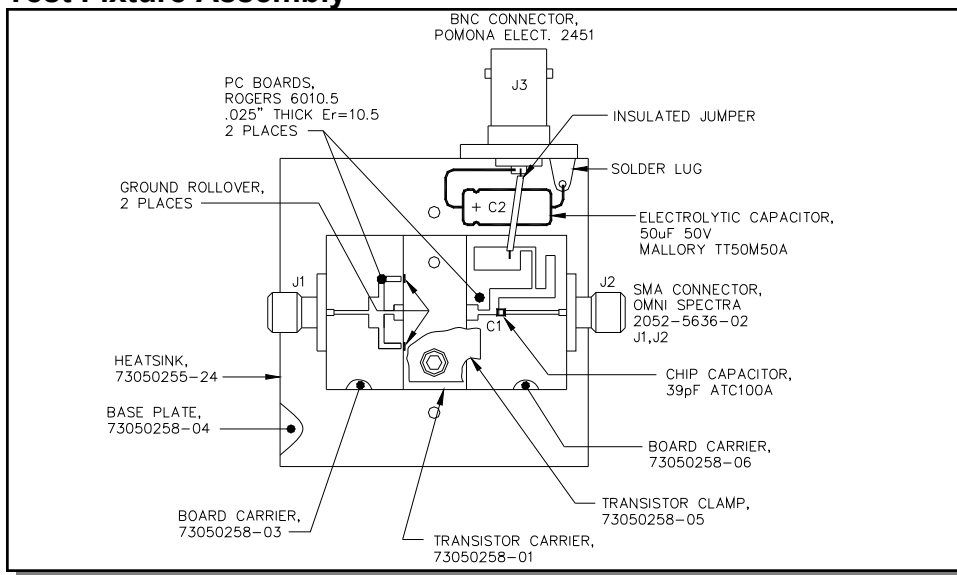
F (GHz)	Z <sub>IF</sub> ( $\Omega$ )	Z <sub>OF</sub> ( $\Omega$ )
3.1	24 - j4.4	24 - j20
3.3	20 - j0.7	18 - j11
3.5	17 + j3.9	15 - j3.0



## Test Fixture Circuit Dimensions



## Test Fixture Assembly



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