

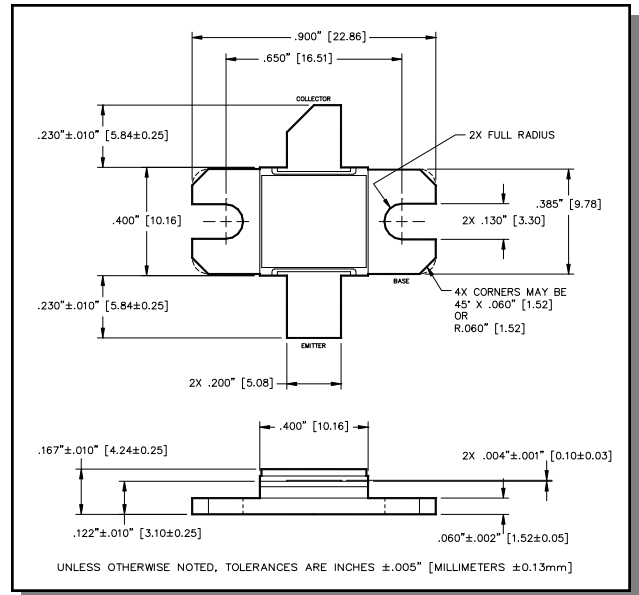
**Radar Pulsed Power Transistor**  
**55W, 3.1-3.4 GHz, 300µs Pulse, 10% Duty**

**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	$V_{CES}$	65	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	$I_C$	6.5	A
Power Dissipation @ +25°C	$P_{TOT}$	350	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 )

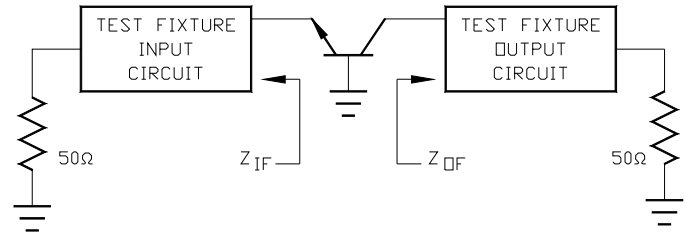
Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	$I_C = 25\text{mA}$		$BV_{CES}$	65	-	V
Collector-Emitter Leakage Current	$V_{CE} = 36\text{V}$		$I_{CES}$	-	5.0	mA
Thermal Resistance	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.1, 3.25, 3.4\text{ GHz}$	$R_{TH(JC)}$	-	0.5	°C/W
Input Power	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.1, 3.25, 3.4\text{ GHz}$	$P_{IN}$	-	9.8	W
Power Gain	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.1, 3.25, 3.4\text{ GHz}$	$G_P$	7.5	-	dB
Collector Efficiency	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.1, 3.25, 3.4\text{ GHz}$	$\eta_C$	35	-	%
Input Return Loss	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.1, 3.25, 3.4\text{ GHz}$	RL	-	-6	dB
Load Mismatch Tolerance	$V_{CC} = 36\text{V}$ , $P_{out} = 55\text{W}$	$F = 3.25\text{ GHz}$	VSWR-T	-	2:1	-

**Radar Pulsed Power Transistor**  
 55W, 3.1-3.4 GHz, 300µs Pulse, 10% Duty

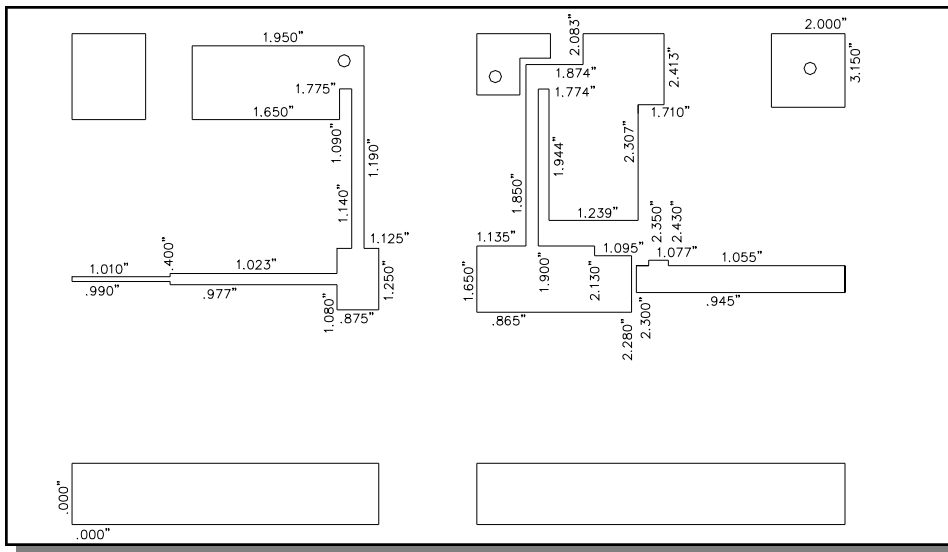
**M/A-COM Products**  
 Released, 10 Aug 07

### RF Test Fixture Impedance

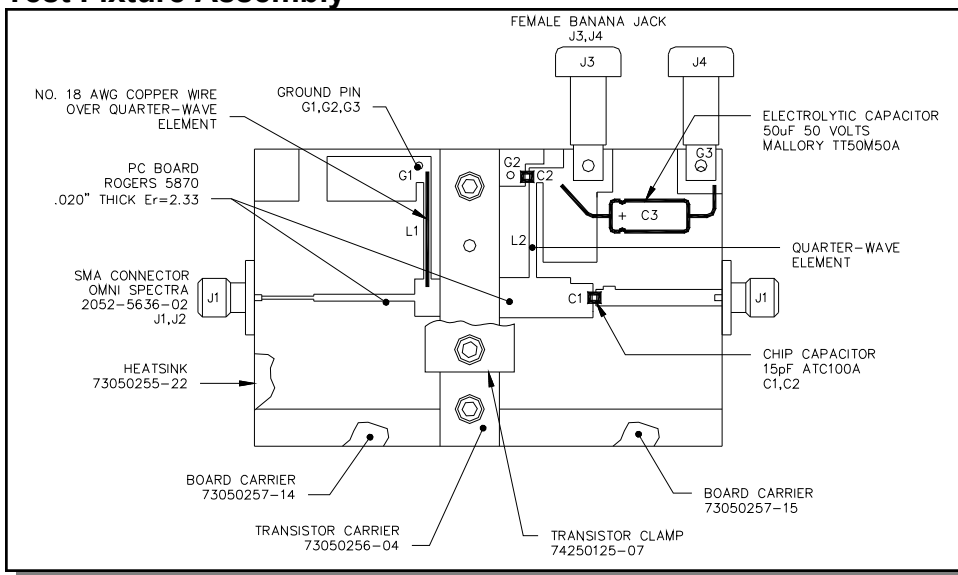
F (GHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
3.10	11.2 - j11.7	8.1 - j5.3
3.25	11.5 - j9.5	7.1 - j4.3
3.40	12.7 - j7.6	6.4 - j3.3



### Test Fixture Circuit Dimensions



### Test Fixture Assembly



**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.  
**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
  - **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
  - **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298
- Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.