

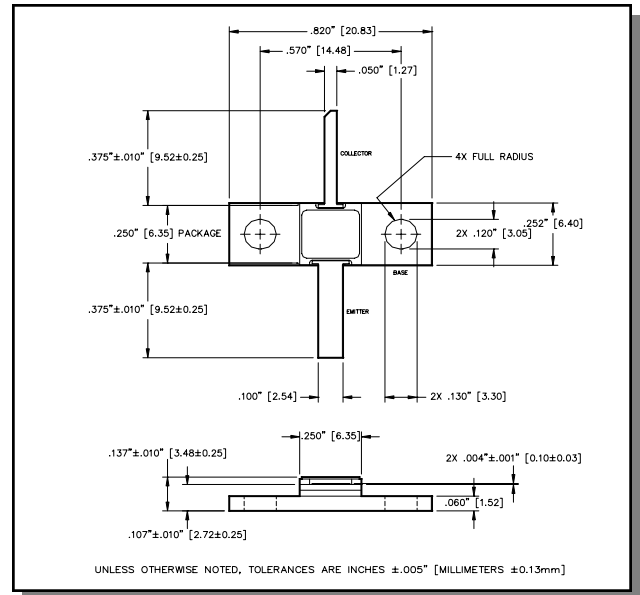
**Radar Pulsed Power Transistor**  
**0.85W, 1.2-1.4 GHz, 2ms Pulse, 20% Duty**

**M/A-COM Products**  
**Released, 30 May 07**

## Features

- NPN silicon microwave power transistors
- Common emitter configuration
- Broadband Class A 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	$V_{CES}$	27	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	3.5	V
Collector Current (Peak)	$I_C$	0.71	A
Power Dissipation @ +25°C	$P_{TOT}$	9.2	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	$I_C = 4\text{mA}$		$BV_{CES}$	27	-	V
Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$		$BV_{CEO}$	20	-	V
Collector-Emitter Leakage Current	$V_{CE} = 15\text{V}$		$I_{CES}$	-	1.0	mA
Thermal Resistance	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	$R_{TH(JC)}$	-	19.0	°C/W
Output Power	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	$P_{OUT}$	0.85	-	W
Power Gain	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	$G_P$	9.3	-	dB
Collector Efficiency	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	$\eta_C$	30	-	%
Input Return Loss	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	RL	-	-9	dB
Load Mismatch Tolerance	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	VSWR-T	-	2:1	-
Load Mismatch Stability	$V_{CC} = 11.5\text{V}$ , $P_{in} = 0.1\text{W}$	$F = 1.2, 1.3, 1.4\text{ GHz}$	VSWR-S	-	1.5:1	-

1

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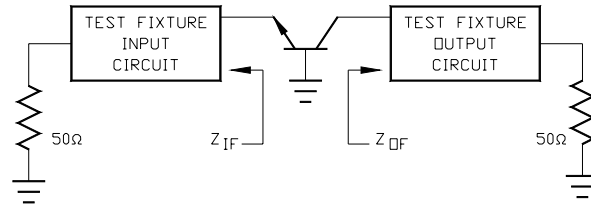
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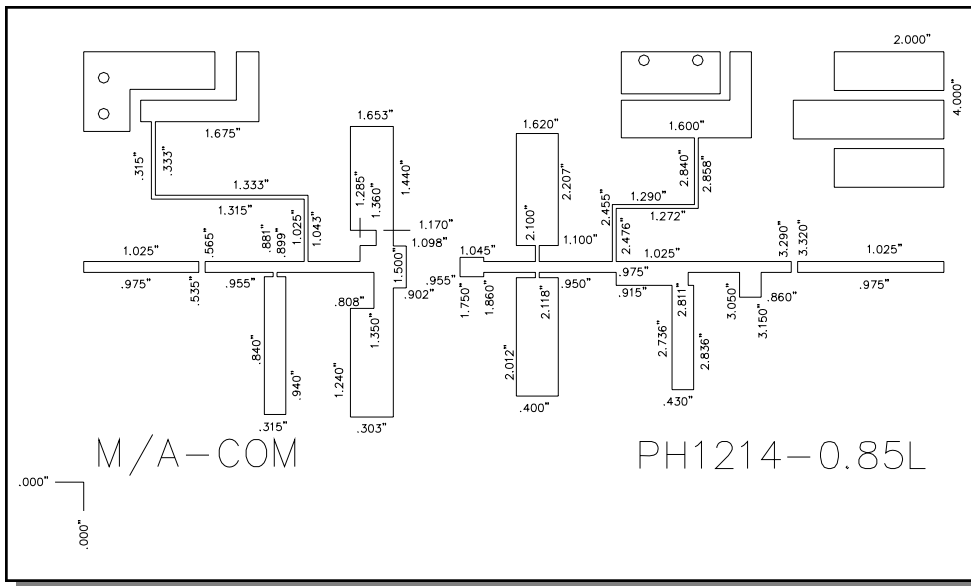
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## RF Test Fixture Impedance

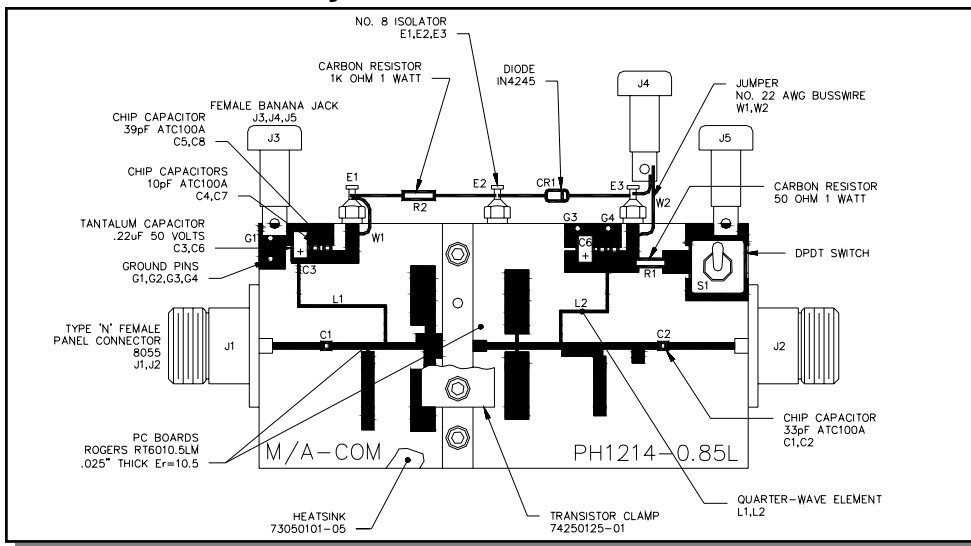
F (GHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
1.2	5.9 - j4.5	7.4 + j6.3
1.3	6.4 - j4.0	7.5 + j7.7
1.4	7.1 - j4.4	7.4 + j8.9



## Test Fixture Circuit Dimensions



## Test Fixture Assembly



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