

# Radar Pulsed Power Transistor 25W, 1.2-1.4 GHz, 300µs Pulse, 10% Duty

M/A-COM Products Released, 30 May 07

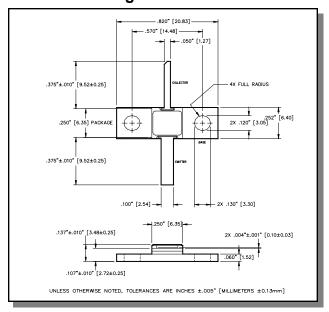
#### **Features**

- · 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

### Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	70	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	Ic	1.6	Α
Power Dissipation @ +25°C	P <sub>TOT</sub>	50	W
Storage Temperature	T <sub>STG</sub>	-65 to +200	°C
Junction Temperature	$T_J$	200	°C

#### **Outline Drawing**



## Electrical Specifications: T<sub>C</sub> = 25 ± 5°C (Room Ambient)

Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 25mA		BV <sub>CES</sub>	60	-	V
Collector-Emitter Leakage Current	V <sub>CE</sub> = 40V		I <sub>CES</sub>	-	2.5	mA
Thermal Resistance	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	R <sub>TH(JC)</sub>	-	3.6	°C/W
Output Power	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	P <sub>IN</sub>	-	2.8	W
Power Gain	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	$G_P$	9.5	-	dB
Collector Efficiency	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	ης	50	-	%
Input Return Loss	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	RL	-	-6	dB
Load Mismatch Tolerance	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	VSWR-T	-	3:1	-
Load Mismatch Stability	Vcc = 28V, Pout = 25W	F = 1.2, 1.3, 1.4 GHz	VSWR-S	-	1.5:1	-

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.

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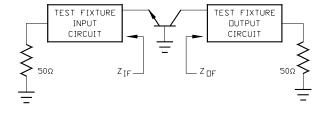
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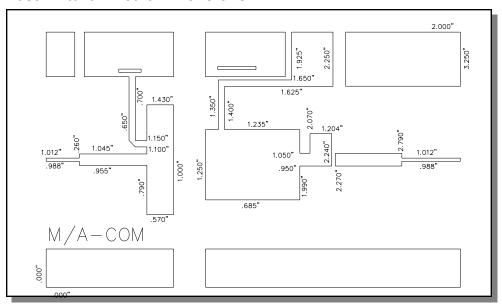
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### **RF Test Fixture Impedance**

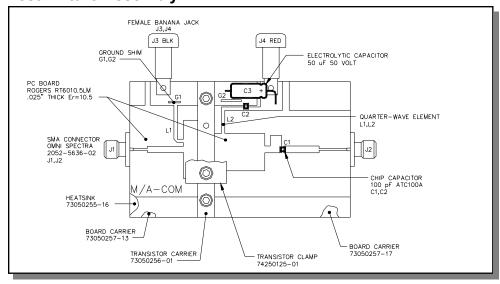
F (GHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
1.2	2.1 - j4.5	3.7 + j0.9
1.3	2.1 - j3.9	3.6 + j0.4
1.4	2.2 - j3.4	3.0 + j0.2



#### **Test Fixture Circuit Dimensions**



### **Test Fixture Assembly**



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