

# Radar Pulsed Power Transistor 9W, 3.1-3.4 GHz, 300µs Pulse, 10% Duty

# M/A-COM Products Released, 10 Jul 07

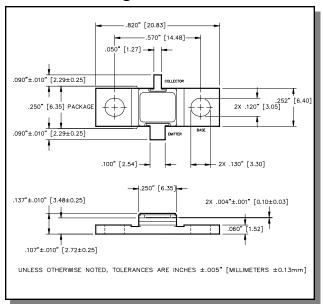
### **Features**

- 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	$V_{CES}$	60	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	I <sub>C</sub>	1.1	Α
Power Dissipation @ +25°C	P <sub>TOT</sub>	65	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> = 12.5mA		BV <sub>CES</sub>	60	-	V
Collector-Emitter Leakage Current	V <sub>CE</sub> = 36V		I <sub>CES</sub>	-	1.25	mA
Thermal Resistance	Vcc = 36V, Pout = 9W	F = 3.1, 3.25, 3.4 GHz	R <sub>TH(JC)</sub>	-	2.7	°C/W
Input Power	Vcc = 36V, Pout = 9W	F = 3.1, 3.25, 3.4 GHz	P <sub>IN</sub>	-	1.43	W
Power Gain	Vcc = 36V, Pout = 9W	F = 3.1, 3.25, 3.4 GHz	G <sub>P</sub>	8.0	-	dB
Collector Efficiency	Vcc = 36V, Pout = 9W	F = 3.1, 3.25, 3.4 GHz	ης	35	-	%
Input Return Loss	Vcc = 36V, Pout = 9W	F = 3.1, 3.25, 3.4 GHz	RL	-	-6	dB
Load Mismatch Tolerance	Vcc = 36V, Pout = 9W	F = 3.25 GHz	VSWR-T	-	2:1	-

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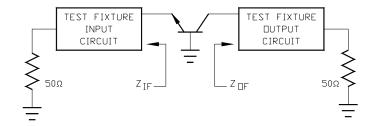


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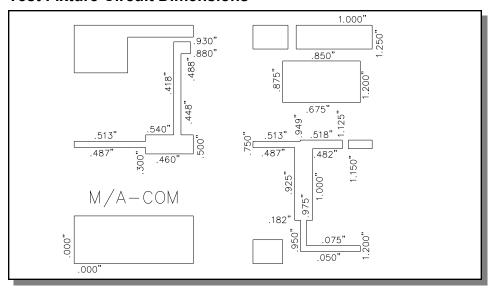
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## **RF Test Fixture Impedance**

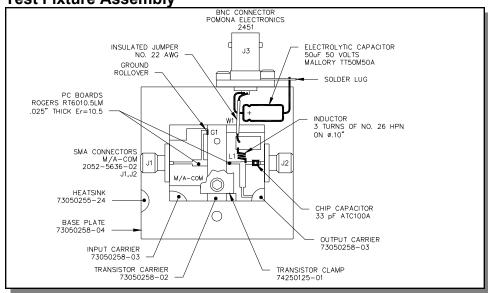
F (GHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
3.10	17.5 - j8.5	90 + j37
3.25	15.0 - j8.2	58 + j7.0
3.40	13.0 - j8.0	30 + j14.5



## **Test Fixture Circuit Dimensions**



**Test Fixture Assembly** 



**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.

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## Contact Us:

## Address:

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd Minhang District, Shanghai , China

## > Sales:

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

## Customer Service :

Email service@ameya360.com

# Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com