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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

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# Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China









# Avionics Pulsed Power Transistor 350W, 1090 MHz, 250µs Pulse, 10% Duty

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

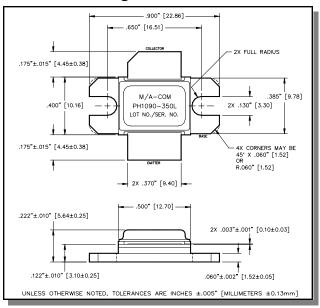
#### **Features**

- 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	$V_{CES}$	80	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	I <sub>C</sub>	17	Α
Power Dissipation @ +25°C	P <sub>TOT</sub>	875	W
Storage Temperature	$T_{STG}$	-65 to +200	°C
Junction Temperature	$T_J$	200	°C

### **Outline Drawing**



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

Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 250mA		BV <sub>CES</sub>	80	-	V
Collector-Emitter Leakage Current	V <sub>CE</sub> = 45V		I <sub>CES</sub>	-	25	mA
Thermal Resistance	Vcc = 45V, Pout = 350W	F = 1090 MHz	R <sub>TH(JC)</sub>	-	0.2	°C/W
Input Power	Vcc = 45V, Pout = 350W	F = 1090 MHz	P <sub>IN</sub>	35	55	W
Power Gain	Vcc = 45V, Pout = 350W	F = 1090 MHz	G <sub>P</sub>	8.0	10.0	dB
Collector Efficiency	Vcc = 45V, Pout = 350W	F = 1090 MHz	ης	55	-	%
Input Return Loss	Vcc = 45V, Pout = 350W	F = 1090 MHz	RL	-	-9	dB
Load Mismatch Tolerance	Vcc = 45V, Pout = 350W	F = 1090 MHz	VSWR-T	-	2:1	-
Load Mismatch Stability	Vcc = 45V, Pout = 350W	F = 1090 MHz	VSWR-S	-	1.5:1	-

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<sup>•</sup> Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300

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# PH1090-350L



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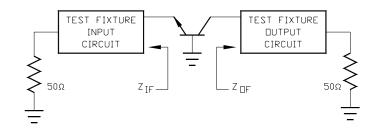
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### **Typical RF Performance**

Freq.	Pin	Pout	Gain	Ic	Eff	RL	VSWR-S	VSWR-T
(MHz)	(W)	(W)	(dB)	(A)	(%)	(dB)	(1.5:1)	(2:1)
1090	51.6	350	8.32	12.8	61.0	-15.0	S	

### **RF Test Fixture Impedance**

F (MHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)		
1090	2.5 - j1.5	1.0 - j0.9		



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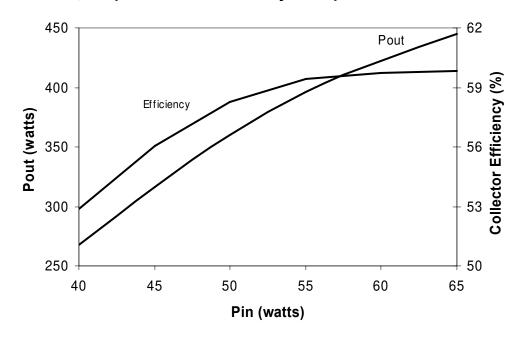
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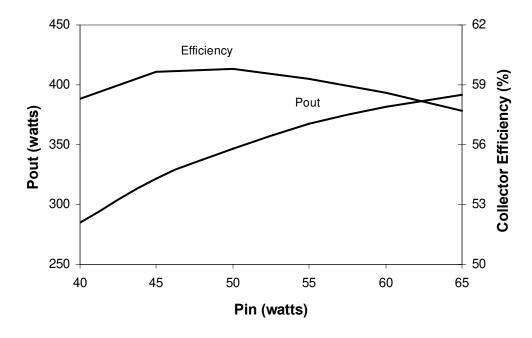
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### RF Power Transfer Curve 1030 MHz, Output Power & Efficiency vs. Input Power



### RF Power Transfer Curve 1090 MHz, Output Power & Efficiency vs. Input Power



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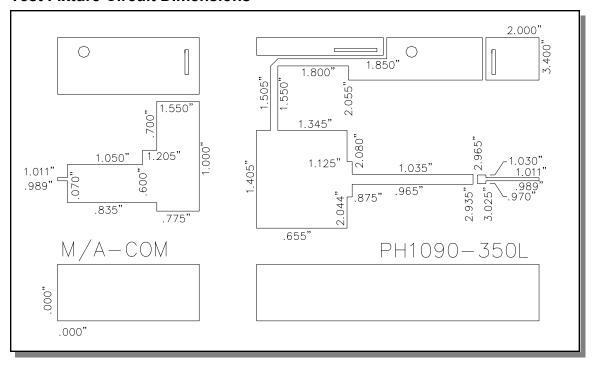
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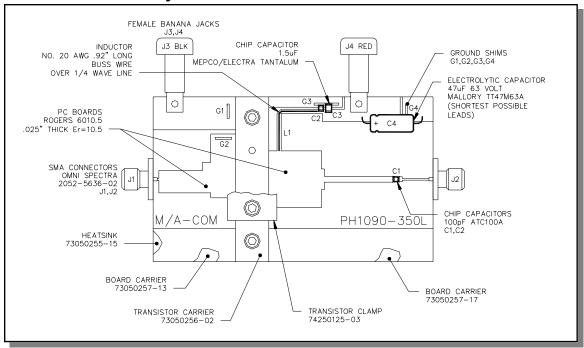
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#### **Test Fixture Circuit Dimensions**



### **Test Fixture Assembly**



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