PH1214-30EL

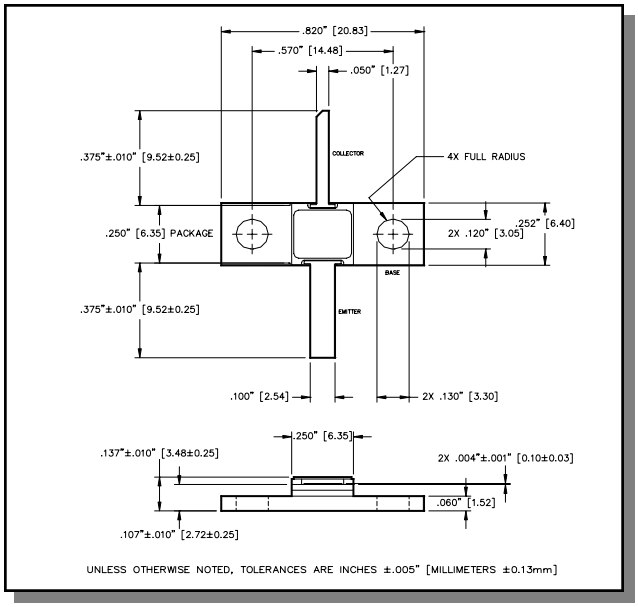
Radar Pulsed Power Transistor
30W, 1.2-1.4 GHz, 1ms Pulse, 10% Duty

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

Outline Drawing



Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	56	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	3.0	A
Power Dissipation @ +25°C	P_{TOT}	115	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

Electrical Specifications: T_C = 25 ± 5°C (Room Ambient)

Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	I_C = 60mA		BV_{CES}	56	-	V
Collector-Emitter Leakage Current	V_{CE} = 28V		I_{CES}	-	3.0	mA
Thermal Resistance	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	$R_{TH(JC)}$	-	1.5	°C/W
Output Power	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	P_{IN}	-	4.9	W
Power Gain	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	G_P	7.8	-	dB
Collector Efficiency	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	η_C	50	-	%
Input Return Loss	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	RL	-	-10	dB
Load Mismatch Tolerance	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	VSWR-T	-	3:1	-
Load Mismatch Stability	Vcc = 28V, Pout = 30W	F = 1.2, 1.3, 1.4 GHz	VSWR-S	-	1.5:1	-

- **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 for additional data sheets and product information.

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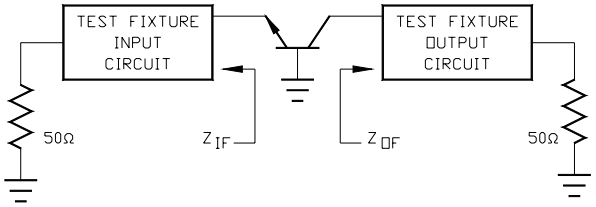
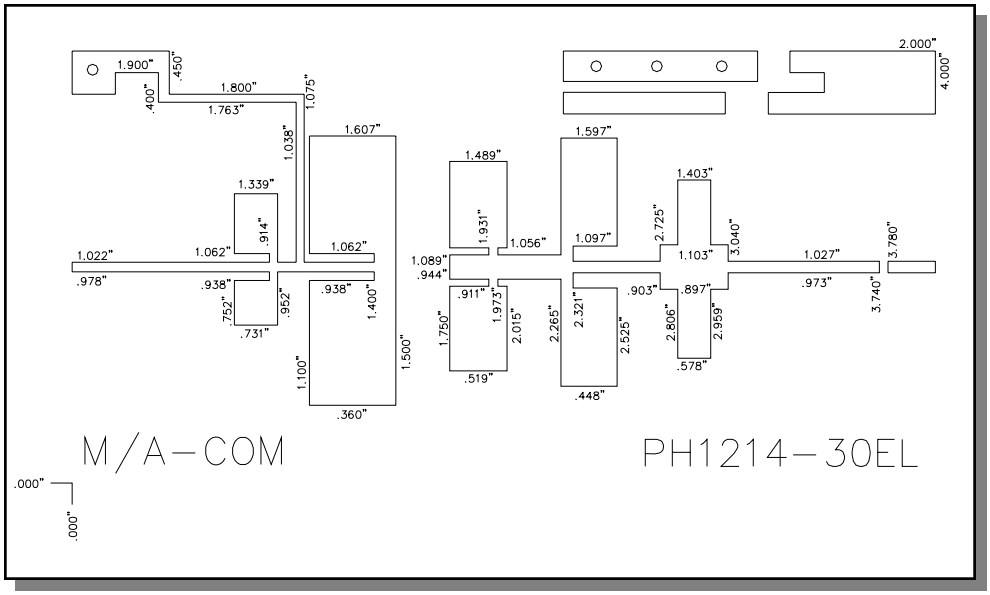
RF Test Fixture Impedance

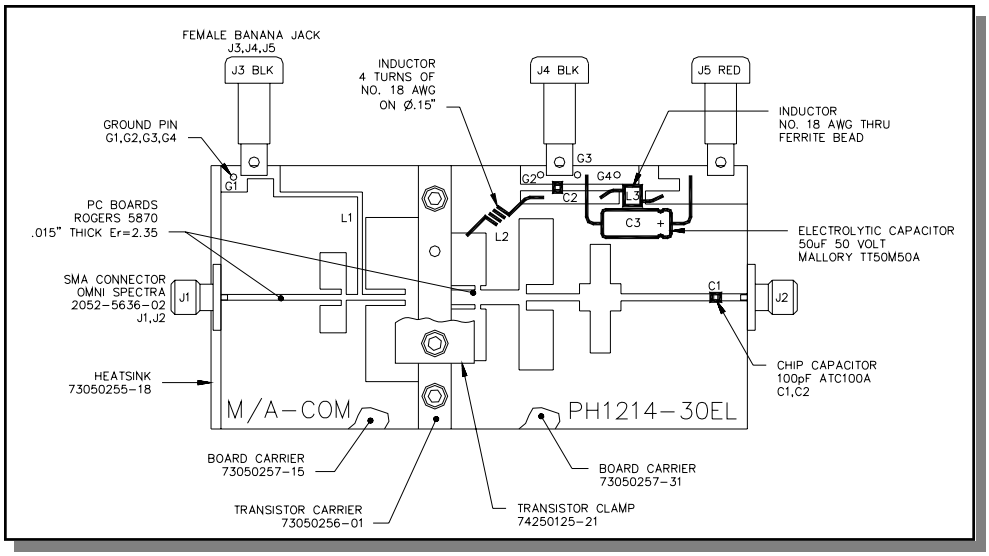
F (GHz)	Z_{IF} (Ω)	Z_{OF} (Ω)
1.2	2.5 - j3.5	10.5 + j2.0
1.3	2.7 - j2.7	6.3 + j2.0
1.4	3.5 - j3.5	5.3 + j1.5



Test Fixture Circuit Dimensions



Test Fixture Assembly



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