PH1214-55EL

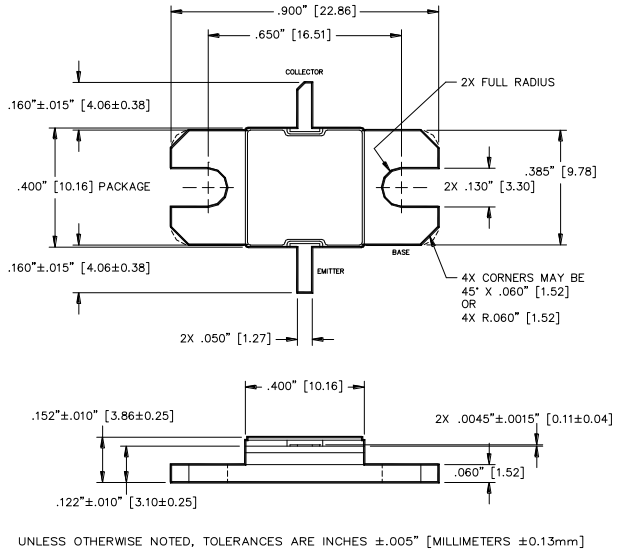
Radar Pulsed Power Transistor
55 W, 1.2 - 1.4 GHz, 1 ms Pulse, 10% Duty

Rev. V1

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



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" [MILLIMETERS ±0.13mm]

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	58	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	7.0	A
Power Dissipation @ +25°C	P_{TOT}	220	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 = 120mA		BV_{CES}	58	-	V
Collector-Emitter Leakage Current	V_{CE} = 28V		I_{CES}	-	6.0	mA
Thermal Resistance	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	$R_{TH(JC)}$	-	0.8	°C/W
Output Power	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	P_{OUT}	55	-	W
Power Gain	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	G_P	6.6	-	dB
Collector Efficiency	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	η_C	50	-	%
Input Return Loss	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	RL	-	-10	dB
Load Mismatch Tolerance	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	VSWR-T	-	3:1	-
Load Mismatch Stability	Vcc = 28V, Pin = 12W	F = 1.2, 1.3, 1.4 GHz	VSWR-S	-	1.5:1	-

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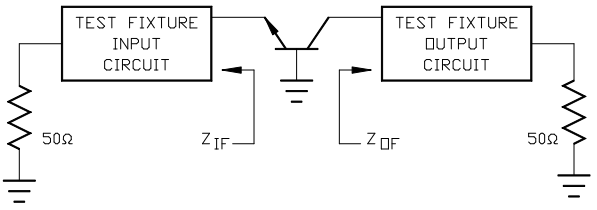
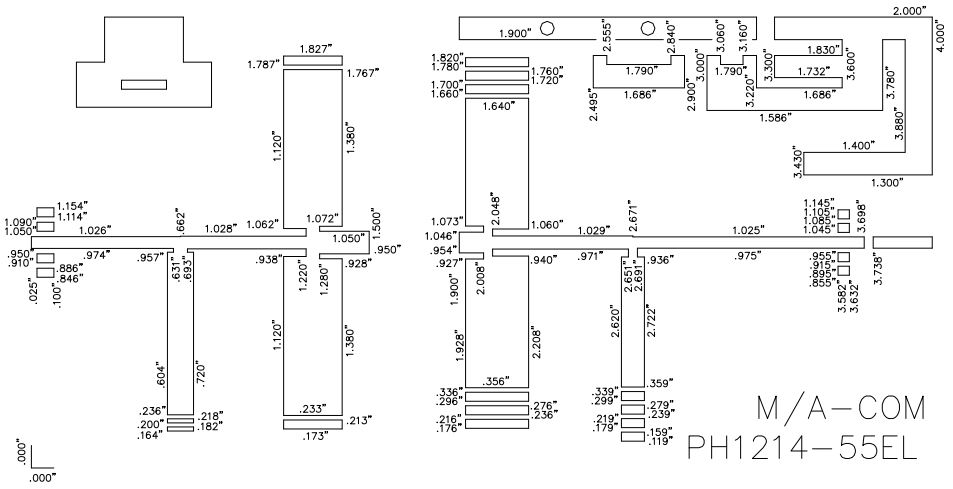
RF Test Fixture Impedance

F (GHz)	Z_{IF} (Ω)	Z_{OF} (Ω)
1.2	5.8 + j1.8	5.5 - j3.4
1.3	2.4 + j1.3	3.3 - j2.3
1.4	2.4 + j0.6	2.0 - j2.3



Test Fixture Circuit Dimensions



Test Fixture Assembly