

M/A-COM Products

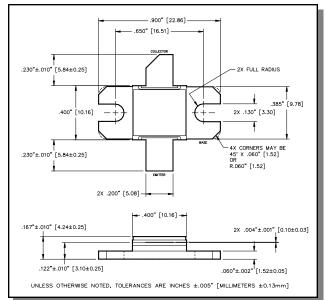
Released, 10 Aug 07

Radar Pulsed Power Transistor 75W, 3.1-3.4 GHz, 1µs Pulse, 10% Duty

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}	65	V
Emitter-Base Voltage	V _{EBO}	3.0	V
Collector Current (Peak)	Ι _C	8.9	А
Power Dissipation @ +25°C	P _{TOT}	700	W
Storage Temperature	T _{STG}	-65 to +200	°C
Junction Temperature	TJ	200	°C

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

Parameter	Test Conditions	Frequency	Symbol	Min	Мах	Units
Collector-Emitter Breakdown Voltage	I _C = 25mA		BV _{CES}	65	-	V
Collector-Emitter Leakage Current	V _{CE} = 36V		I _{CES}	-	5.0	mA
Thermal Resistance	Vcc = 36V, Pout = 75W	F = 3.1, 3.25, 3.4 GHz	R _{TH(JC)}	-	0.25	°C/W
Input Power	Vcc = 36V, Pout = 75W	F = 3.1, 3.25, 3.4 GHz	P _{IN}	-	13.3	W
Power Gain	Vcc = 36V, Pout = 75W	F = 3.1, 3.25, 3.4 GHz	G _P	7.5	-	dB
Collector Efficiency	Vcc = 36V, Pout = 75W	F = 3.1, 3.25, 3.4 GHz	η _c	35	-	%
Input Return Loss	Vcc = 36V, Pout = 75W	F = 3.1, 3.25, 3.4 GHz	RL	-	-6	dB
Load Mismatch Tolerance	Vcc = 36V, Pout = 75W	F = 3.25 GHz	VSWR-T	-	2:1	-

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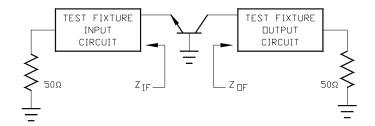


Radar Pulsed Power Transistor					
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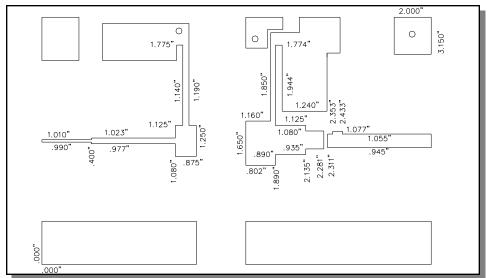
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RF Test Fixture Impedance

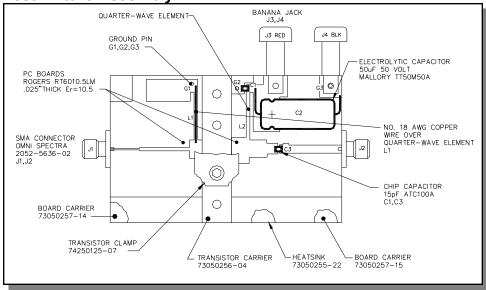
F (GHz)	Z _{IF} (Ω)	Z _{OF} (Ω)
3.10	11.2 - j11.7	8.1 - j5.3
3.25	11.5 - j9.5	7.1 - j4.3
3.40	12.7 - j7.6	6.4 - j3.3



Test Fixture Circuit Dimensions



Test Fixture Assembly



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