

M/A-COM Products

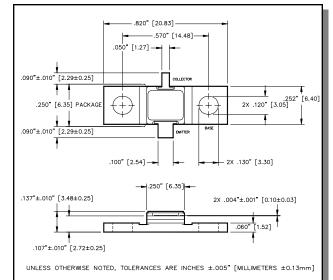
Released, 10 Jul 07

Radar Pulsed Power Transistor 11W, 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}	60	V
Emitter-Base Voltage	V _{EBO}	3.0	V
Collector Current (Peak)	Ι _C	1.3	А
Power Dissipation @ +25°C	P _{TOT}	125	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	Max	Units
Collector-Emitter Breakdown Voltage	I _C = 12.5mA		BV _{CES}	60	-	V
Collector-Emitter Leakage Current	V _{CE} = 36V		I _{CES}	-	1.25	mA
Thermal Resistance	Vcc = 36V, Pout = 11W	F = 3.1, 3.25, 3.4 GHz	R _{TH(JC)}	-	1.4	°C/W
Input Power	Vcc = 36V, Pout = 11W	F = 3.1, 3.25, 3.4 GHz	P _{IN}	-	1.74	W
Power Gain	Vcc = 36V, Pout = 11W	F = 3.1, 3.25, 3.4 GHz	G _P	8.0	-	dB
Collector Efficiency	Vcc = 36V, Pout = 11W	F = 3.1, 3.25, 3.4 GHz	η _c	35	-	%
Input Return Loss	Vcc = 36V, Pout = 11W	F = 3.1, 3.25, 3.4 GHz	RL	-	-6	dB
Load Mismatch Tolerance	Vcc = 36V, Pout = 11W	F = 3.25 GHz	VSWR-T	-	2:1	-

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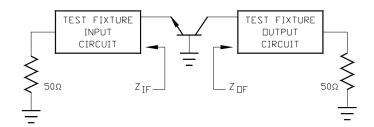


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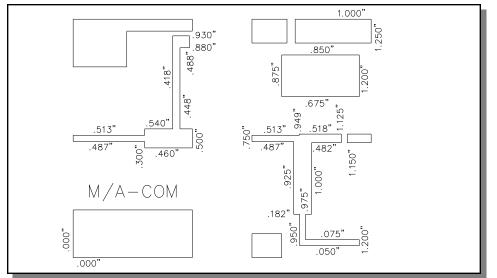
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RF Test Fixture Impedance

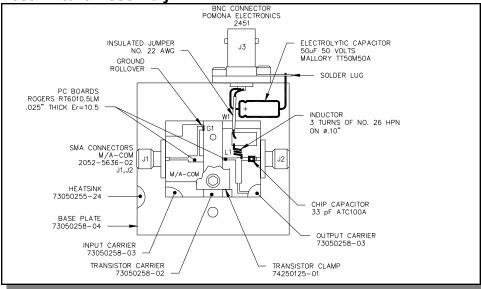
F (GHz)	Z _{IF} (Ω)	Z _{OF} (Ω)
3.10	17.5 - j8.5	90 + j37
3.25	15.0 - j8.2	58 + j7.0
3.40	13.0 - j8.0	30 + j14.5



Test Fixture Circuit Dimensions



Test Fixture Assembly



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