



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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



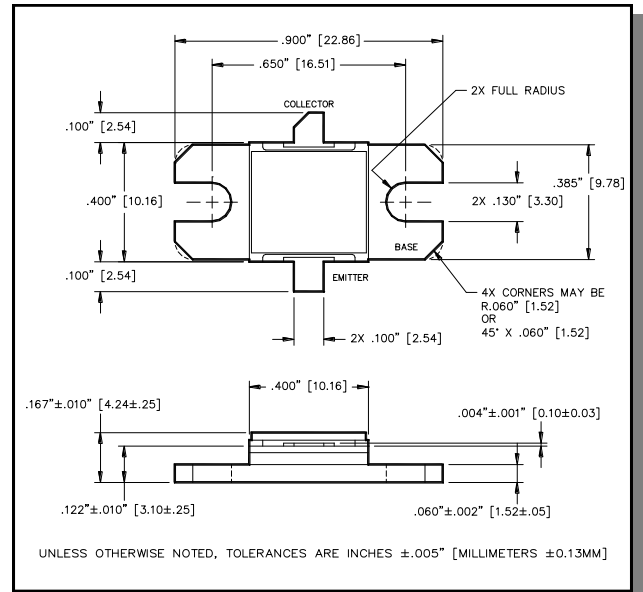
Radar Pulsed Power Transistor 20W, 3.1-3.5 GHz, 100µs Pulse, 10% Duty

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



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)	I_C	2.4	A
Power Dissipation @ +25°C	P_{TOT}	200	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

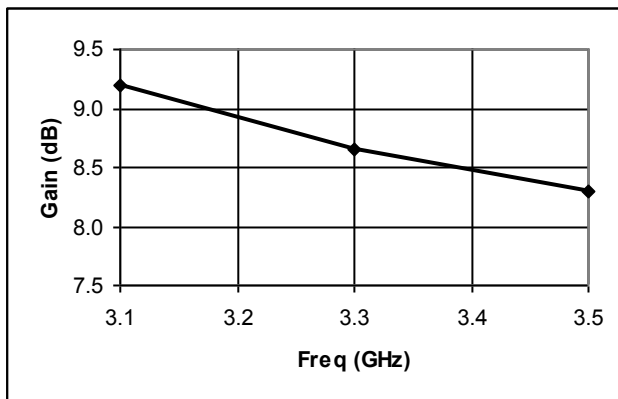
Electrical Specifications: $T_C = 25 \pm 5^\circ\text{C}$ (Room Ambient)

Parameter	Test Conditions	Frequency	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$		BV_{CES}	65	-	V
Collector-Emitter Leakage Current	$V_{CE} = 40\text{V}$		I_{CES}	-	1.5	mA
Thermal Resistance	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	$R_{TH(JC)}$	-	1.1	°C/W
Output Power	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	P_{IN}	-	3.6	W
Power Gain	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	G_P	7.5	-	dB
Collector Efficiency	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	η_C	35	-	%
Input Return Loss	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	RL	-	-6	dB
Load Mismatch Tolerance	$V_{CC} = 36\text{V}$, $P_{out} = 20\text{W}$	$F = 3.1, 3.3, 3.5\text{ GHz}$	VSWR-T	-	2:1	-

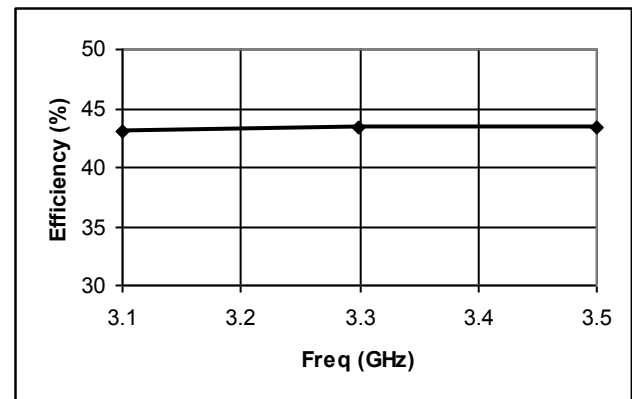
Typical RF Performance

Freq. (GHz)	Pin (W)	Pout (W)	Gain (dB)	Ic (A)	Eff (%)	RL (dB)	VSWR-T (2:1)
3.1	2.4	20	9.19	1.29	43.1	-10.2	P
3.3	2.7	20	8.65	1.28	43.4	-10.9	P
3.5	3.0	20	8.30	1.28	43.4	-13.0	P

Gain vs. Frequency

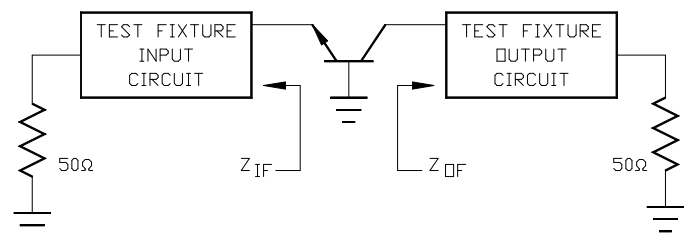


Collector Efficiency vs. Frequency

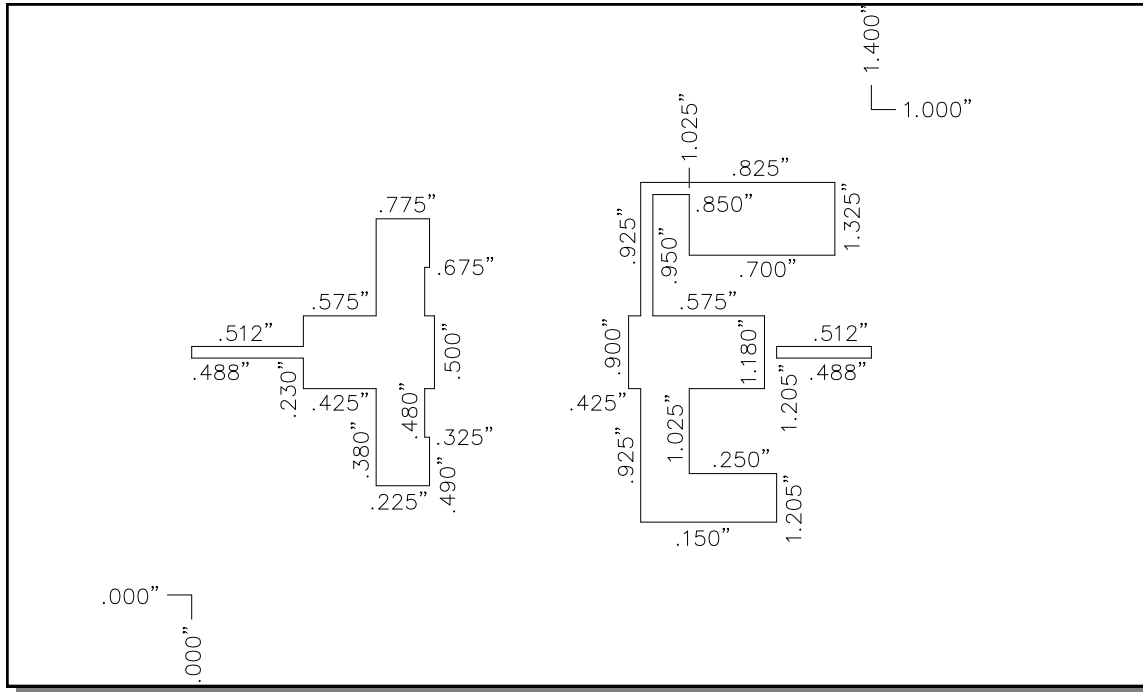


RF Test Fixture Impedance

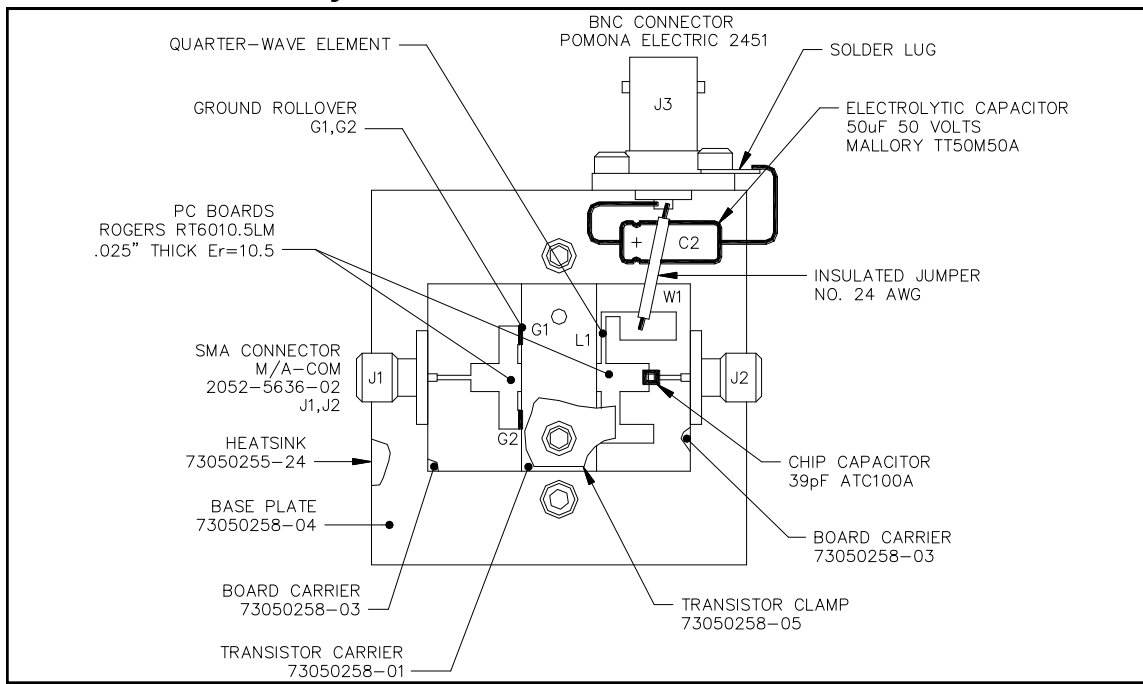
F (GHz)	Z _{IF} (Ω)	Z _{OF} (Ω)
3.1	16.0 + j5.5	19.0 + j3.4
3.3	14.5 + j1.6	14.2 - j2.8
3.5	11.3 + j0.0	10.7 - j3.3



Test Fixture Circuit Dimensions



Test Fixture Assembly



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