

CW Power Transistor 3.5W, 2.3 GHz

M/A-COM Products
Released - Rev. 07.07

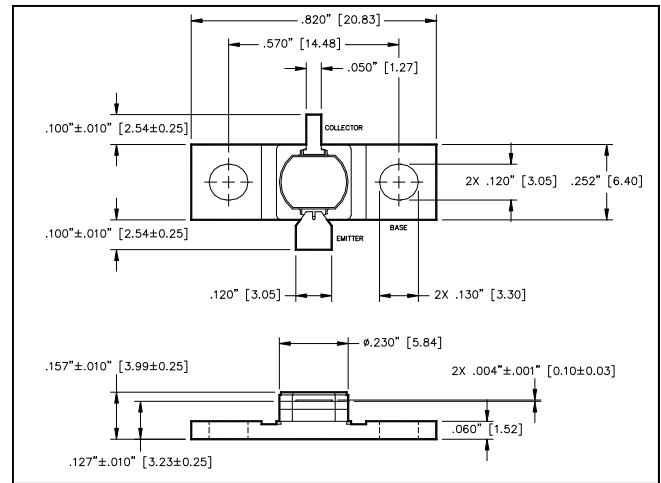
Features

- NPN Silicon microwave power transistor
- Common base configuration
- Class C operation
- Interdigitated geometry
- Diffused emitter ballasting resistors
- Gold metalization system
- Hermetic metal/ceramic package

ABSOLUTE MAXIMUM RATING AT 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	0.4	A
Power Dissipation	P_D	11	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to + 200	°C
Thermal Resistance	θ_{JC}	15	°C/W

Outline Drawing



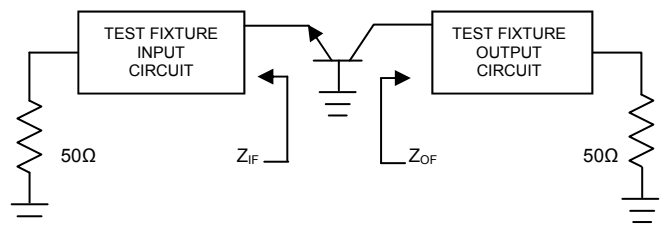
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" [MILLIMETERS ±0.13MM]

ELECTRICAL SPECIFICATIONS AT 25°C

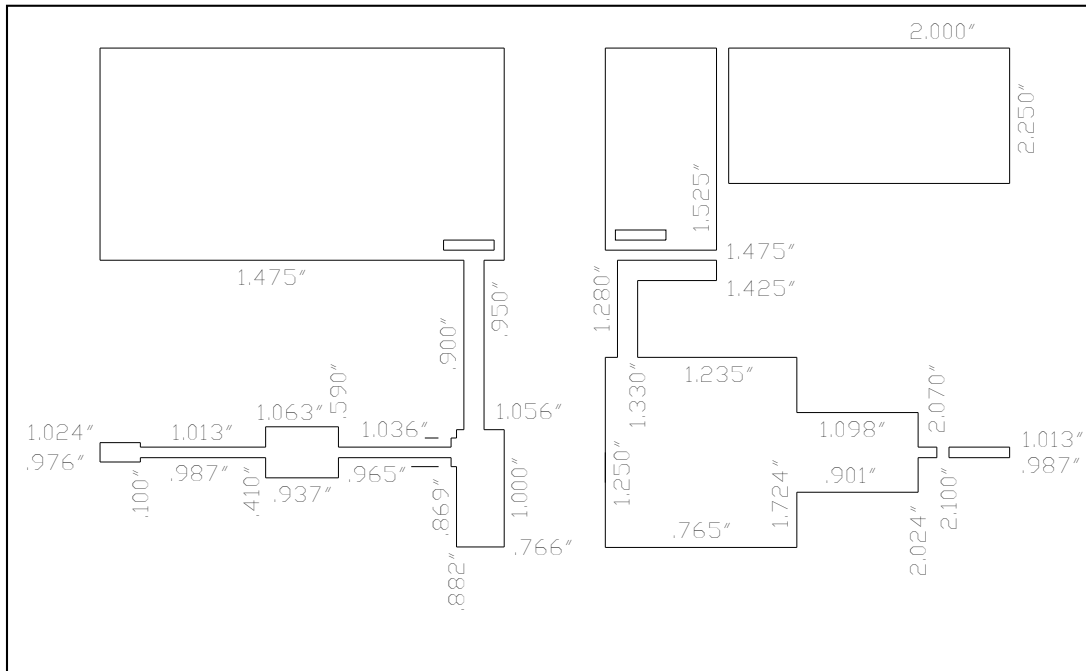
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	60	-	V	$I_C = 10\text{mA}$
Collector-Emitter Leakage Current	I_{CES}	-	1.0	mA	$V_{CE} = 28\text{V}$
Input Power	P_{IN}	-	0.48	w	$V_{CE} = 28\text{V}$, $P_{out} = 3.0\text{W}$, $F = 2.3\text{GHz}$
Power Gain	G_P	8	-	dB	$V_{CE} = 28\text{V}$, $P_{out} = 3.0\text{W}$, $F = 2.3\text{GHz}$
Collector Efficiency	η_C	30	-	%	$V_{CE} = 28\text{V}$, $P_{out} = 3.0\text{W}$, $F = 2.3\text{GHz}$
Input Return Loss	RL	6	-	dB	$V_{CE} = 28\text{V}$, $P_{out} = 3.0\text{W}$, $F = 2.3\text{GHz}$
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CE} = 28\text{V}$, $P_{out} = 3.0\text{W}$, $F = 2.3\text{GHz}$

TEST FIXTURE IMPEDANCES

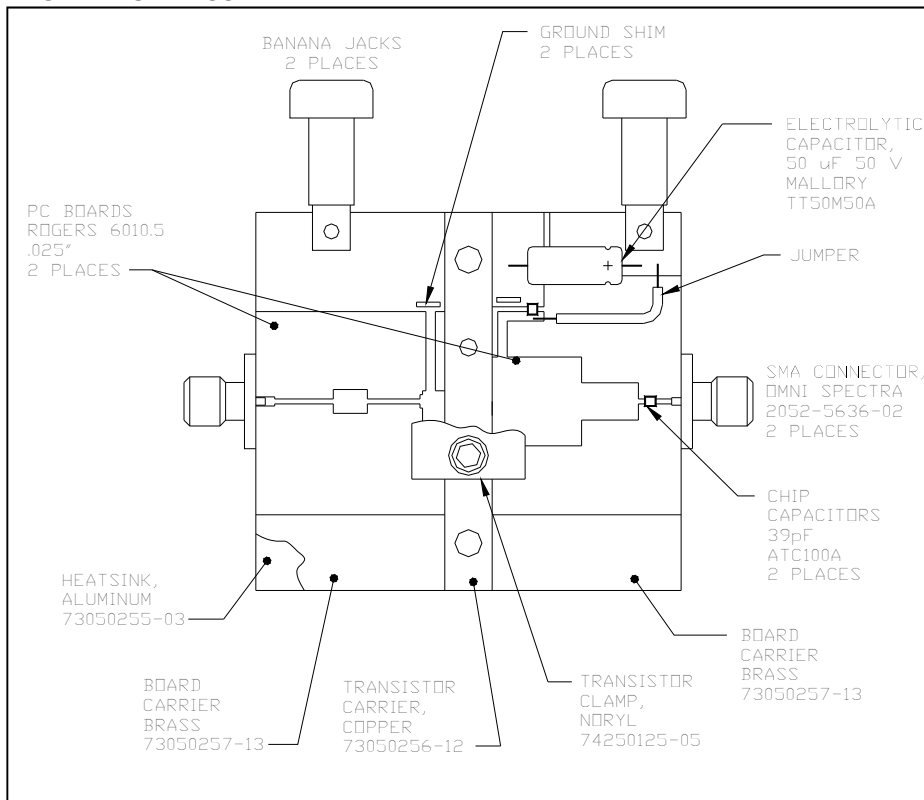
F (GHz)	$Z_{IN} (\Omega)$	$Z_{LOAD} (\Omega)$
2.30	$6.5 - j23.0$	$6.3 + j5.4$



TEST FIXTURE DIMENSIONS



TEST FIXTURE ASSEMBLY



ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

- **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.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the products or information contained herein without notice.