## CW Power Transistor 3.5W, 2.3 GHz



#### M/A-COM Products Released - Rev. 07.07

#### Released -

**Outline Drawing** 

#### 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

#### .820" [20.83] .570" [14.48] .050" [1.27] 100"±.010" [2.54±0.25] 2X .120" [3.05] .252' . [6.40] +.100"±.010" [2.54±0.25] Ŧ .120" [3.05] -- 2X .130" [3.30] - ø.230" [5.84] .157"±.010" [3.99±0.25] 2X .004"±.001" [0.10±0.03] .060 . [ 1.52] .127"±.010" [3.23±0.25]

UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES  $\pm.005"$  [MILLIMETERS  $\pm0.13 \text{MM}$ ]

#### ABSOLUTE MAXIMUM RATING AT 25°C

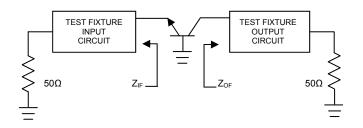
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V <sub>CES</sub>	60	V
Emitter-Base Voltage	V <sub>EBO</sub>	3.0	V
Collector Current	Ιc	0.4	А
Power Dissipation	PD	11	W
Junction Temperature	TJ	200	°C
Storage Temperature	T <sub>STG</sub>	-65 to + 200	°C
Thermal Resistance	θ <sub>JC</sub>	15	°C/W

### **ELECTRICAL SPECIFICATIONS AT 25°C**

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV <sub>CES</sub>	60	-	V	I <sub>C</sub> = 10mA
Collector-Emitter Leakage Current	I <sub>CES</sub>	-	1.0	mA	V <sub>CE</sub> = 28V
Input Power	P <sub>IN</sub>	-	0.48	w	V <sub>CE</sub> = 28V, P <sub>out</sub> = 3.0 W, F = 2.3 GHz
Power Gain	G <sub>P</sub>	8	-	dB	V <sub>CE</sub> = 28V, P <sub>out</sub> = 3.0 W, F = 2.3 GHz
Collector Efficiency	ŋC	30	-	%	V <sub>CE</sub> = 28V, P <sub>out</sub> = 3.0 W, F =2.3 GHz
Input Return Loss	RL	6	-	dB	V <sub>CE</sub> = 28V, P <sub>out</sub> = 3.0 W, F = 2.3 GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V <sub>CE</sub> = 28V, P <sub>out</sub> = 3.0 W, F = 2.3 GHz

#### **TEST FIXTURE IMPEDANCES**

F (GHz)	Z <sub>IN</sub> (Ω)	Z <sub>LOAD</sub> (Ω)
2.30	6.5-j23.0	6.3+j5.4



- 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.
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## **CW Power Transistor** 3.5W, 2.3 GHz

**TEST FIXTURE DIMENSIONS** 



2.000″

2.024 "

1.475″

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# 1.475 1.425 1.056 1.024 .976″ 765″ 766 **TEST FIXTURE ASSEMBLY** GROUND SHIM CAPACITOR, 50 uF 50 \ MALLORY 0 Ø л SMA CONNECTOR DMNI SPECTRA 2052-5636-02 ₹ Æ CHIP CAPACITERS 39pF ATC100A 2 PLACES $\langle \rangle$ HEATSINK, ALUMINUM 73050255-03

#### 2

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