

Wireless Power Transistor 60W, 1615-1685 MHz

M/A-COM Products
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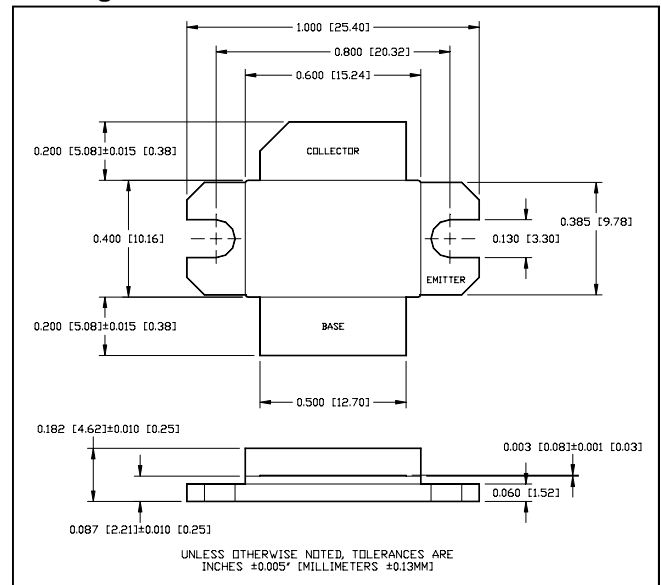
Features

- NPN Silicon microwave power transistor
- Common emitter configuration
- Diffused emitter ballasting resistors
- Gold metallization system
- Internal input and output impedance matching
- RoHS Compliant
- -28dBc typical IMD at 60 W PEP

ABSOLUTE MAXIMUM RATINGS AT 25° C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CEO}	20	V
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{ebo}	3.0	V
Collector Current	I_C	5.8	A
Power Dissipation	P_D	150	W
Storage Temperature	TSTG	-50 to +150	°C
Junction Temperature	T_J	200	°C
Thermal Resistance	θ_{JC}	1.0	°C/W

Package Outline

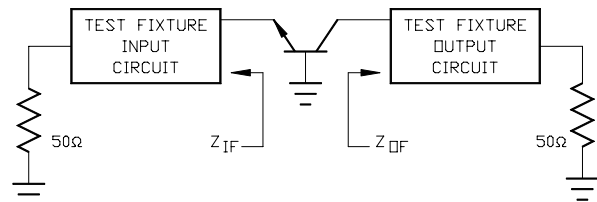


ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
DC Forward Current Gain	hfe	15	120	-	$V_{CE}=5V, I_C = 2A$
Collector-Emitter Breakdown Voltage	V_{CES}	60	-	V	$I_C = 60mA$
Collector-Emitter Leakage Current	I_{CES}	-	4.0	mA	$V_{CE}=25V, I_E = 0A$
Power Gain	G_P	10.0	-	dB	$V_{CC}=25V, I_{CQ}=200mA, P_{OUT}=60W, F=1615, 1685MHz$
Collector Efficiency	η_C	40	-	%	$V_{CC}=25V, I_{CQ}=200mA, P_{OUT}=60W, F=1615, 1685MHz$
Input Return Loss	RL	-	-10	dB	$V_{CC}=25V, I_{CQ}=200mA, P_{OUT}=60W, F=1615, 1685MHz$
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=25V, I_{CQ}=200mA, P_{OUT}=60W, F=1615, 1685MHz$

BROADBAND TEST FIXTURE IMPEDANCE

F (MHz)	Z IF (Ω)	Z OF (Ω)
1600	1.5 - j3.6	2.9 - j1.7
1650	1.4 - j3.1	2.9 - j1.1
1700	1.5 - j2.9	3.0 - j0.5



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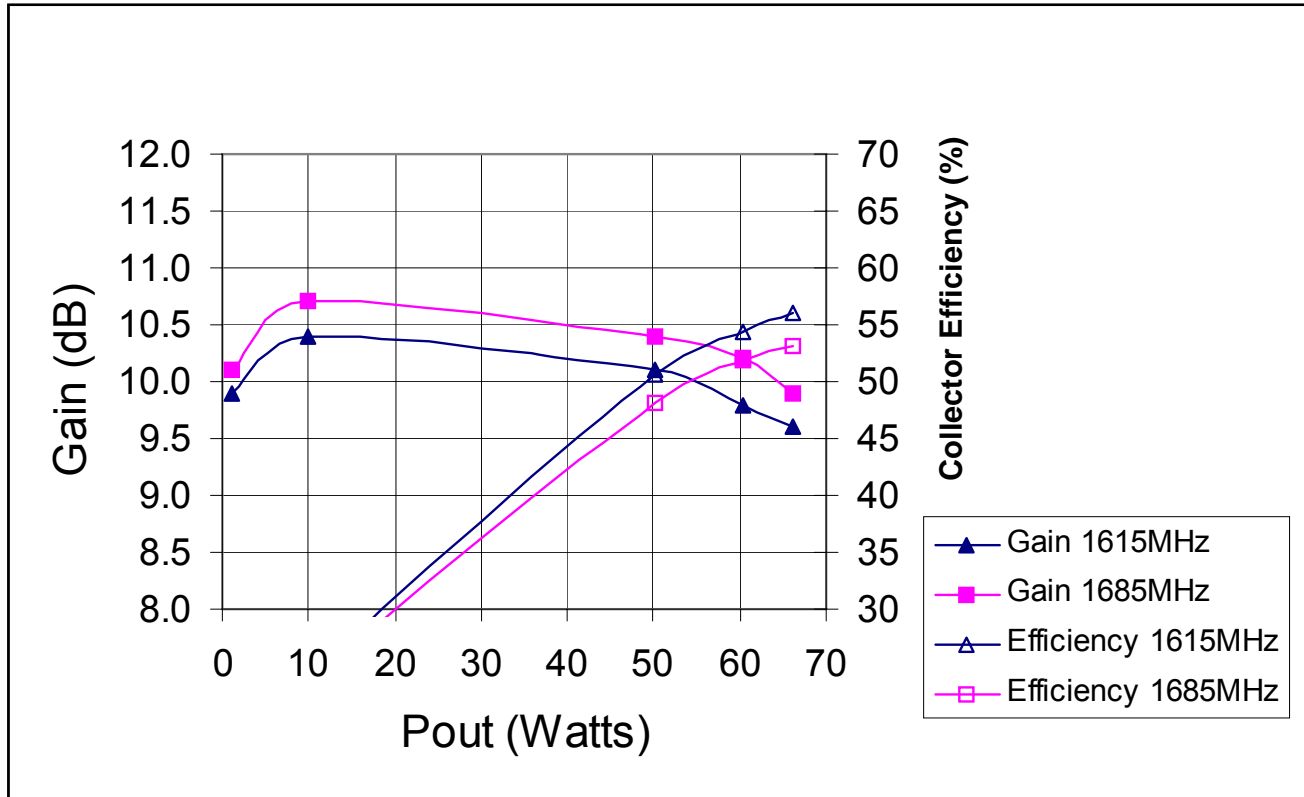
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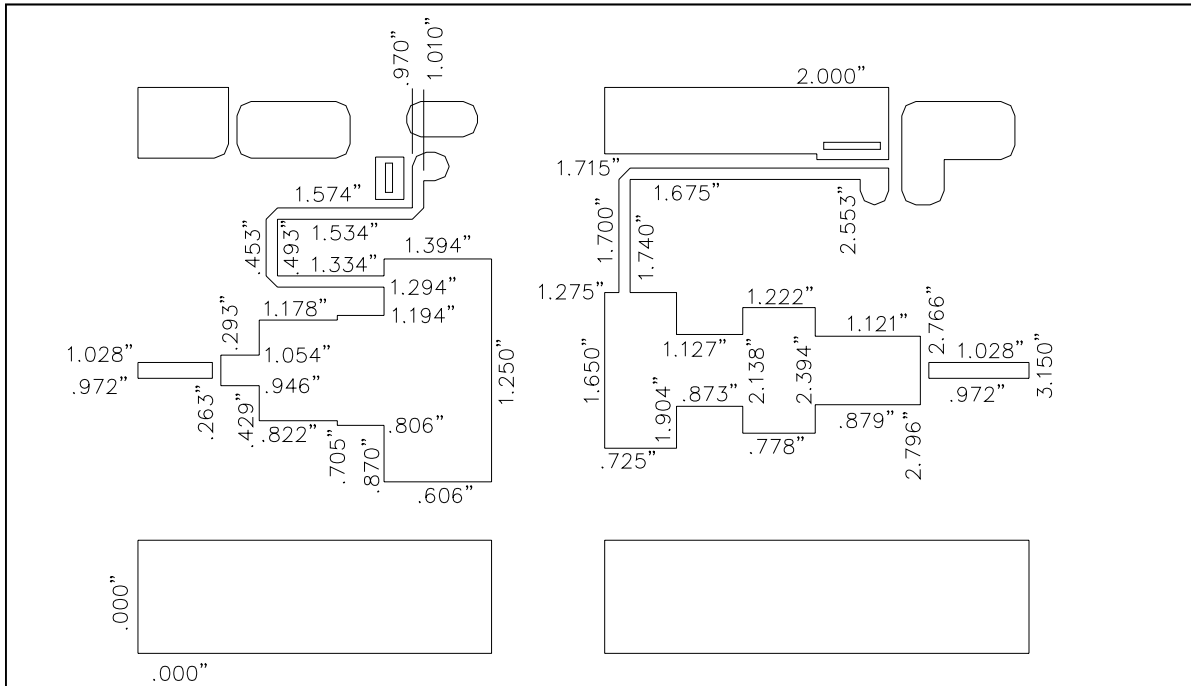
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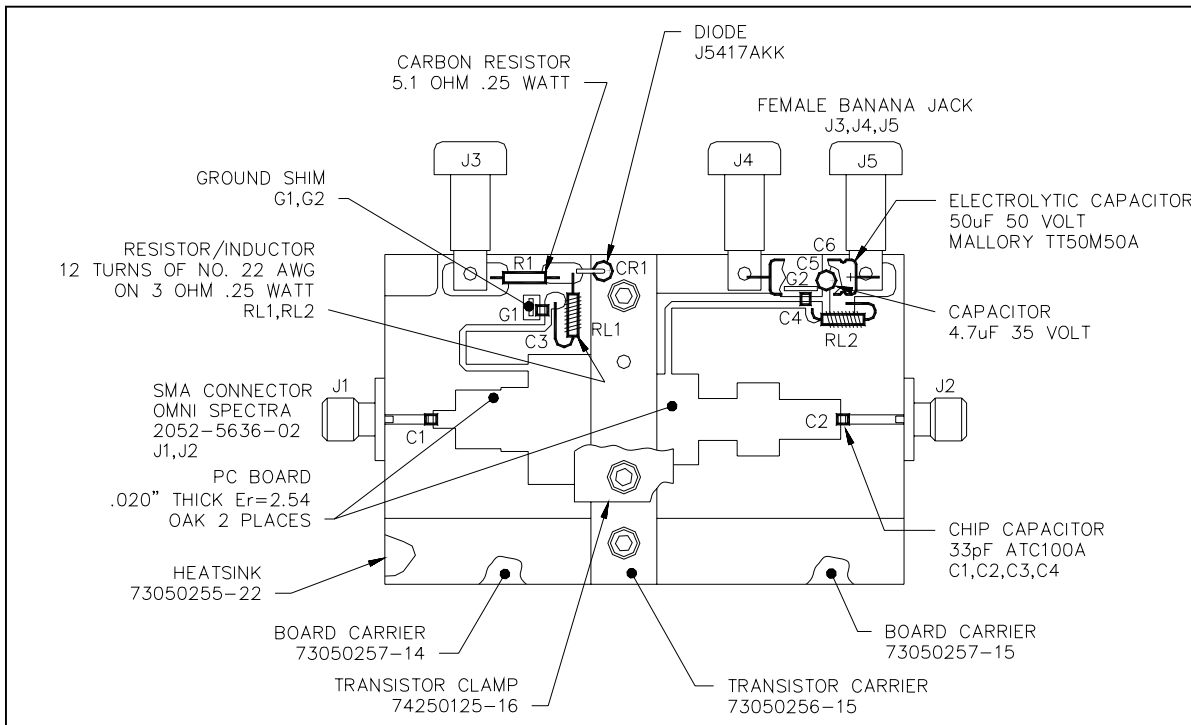
TYPICAL BROADBAND PERFORMANCE



TEST FIXTURE CIRCUIT DIMENSIONS



TEST FIXTURE ASSEMBLY



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