### PH1617-60

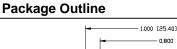
## Wireless Power Transistor 60W, 1615-1685 MHz

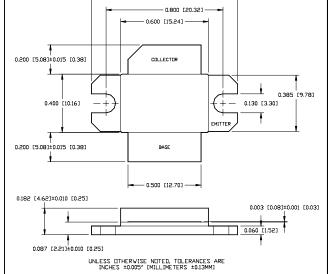


- NPN Silicon microwave power transistor
- Common emitter configuration
- Diffused emitter ballasting resistors
- Gold metallization system
- Internal input and output impedance matching
- RoHS Compliant
- -28dBc typical IMD at 60 W PEP

#### ABSOLUTE MAXIMUM RATINGS AT 25° C Symbol Units Parameter Rating Collector-Emitter Voltage V<sub>CEO</sub> 20 V V Collector-Emitter Voltage $V_{\text{CES}}$ 60 Emitter-Base Voltage $V_{\text{ebo}}$ 3.0 V Collector Current lc 5.8 Δ

	10	0.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Power Dissipation	PD	150	W
Storage Temperature	TSTG	-50 to +150	°C
Junction Temperature	TJ	200	°C
Thermal Resistance	$\theta_{JC}$	1.0	°C/W



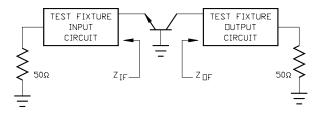


#### ELECTRICAL CHARACTERISTICS AT 25°C

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 <sub>CES</sub>	60	-	V	I <sub>C</sub> = 60mA
Collector-Emitter Leakage Current	I <sub>CES</sub>	-	4.0	mA	V <sub>CE</sub> =25V, I <sub>E</sub> = 0A
Power Gain	G <sub>P</sub>	10.0	-	dB	V <sub>CC</sub> =25 V, I <sub>CQ</sub> =200 mA, P <sub>OUT</sub> =60 W, F=1615, 1685MHz
Collector Efficiency	ηc	40	-	%	V <sub>CC</sub> =25 V, I <sub>CQ</sub> =200 mA, P <sub>OUT</sub> =60 W, F=1615, 1685MHz
Input Return Loss	RL	-	-10	dB	V <sub>CC</sub> =25 V, I <sub>CQ</sub> =200 mA, P <sub>OUT</sub> =60 W, F=1615, 1685MHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}$ =25 V, I <sub>CQ</sub> =200 mA, P <sub>OUT</sub> =60 W, F=1615, 1685MHz

#### **BROADBAND TEST FIXTURE IMPEDANCE**

F (MHz)	Z IF (Ω)	Ζ ΟF (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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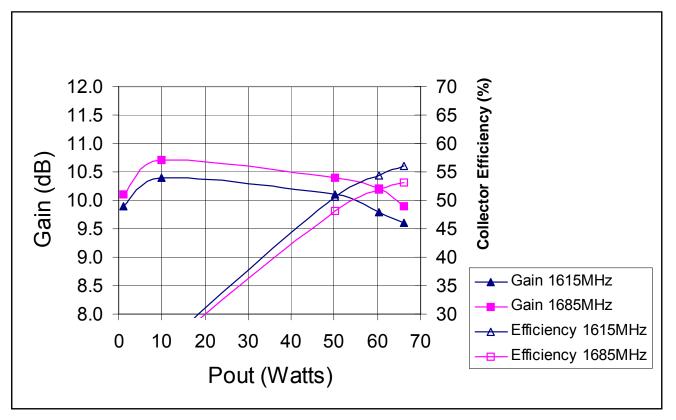
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### TYPICAL BROADBAND PERFORMANCE



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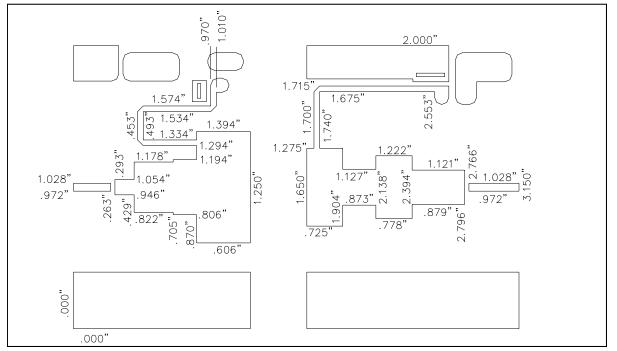
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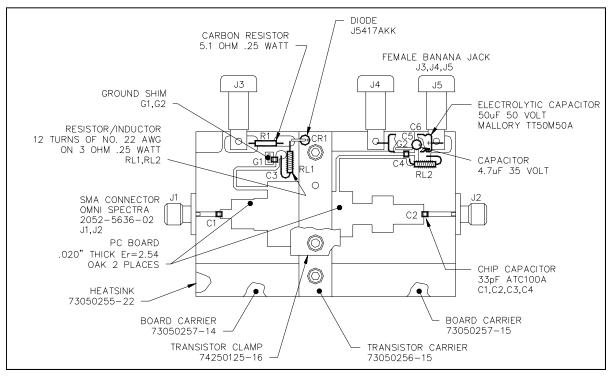
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### Wireless Power Transistor 60W, 1615-1685 MHz

**TEST FIXTURE CIRCUIT DIMENSIONS** 



### TEST FIXTURE ASSEMBLY



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