

# Wireless Power Transistor

## 60 Watts, 1615 - 1685 MHz



### Features

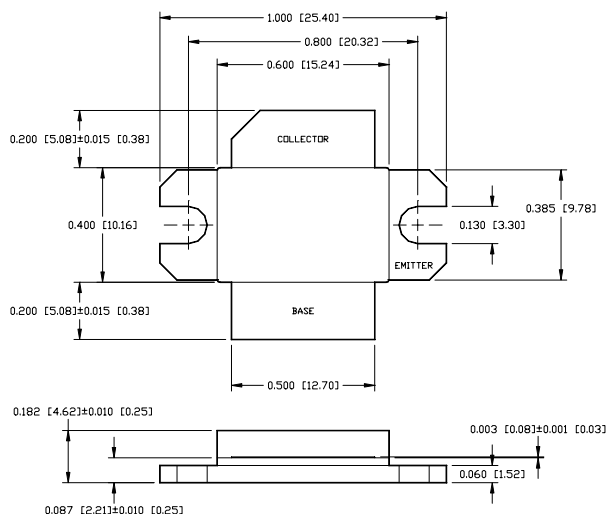
- NPN Silicon Microwave Power Transistor
- Common Emitter Configuration
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- -28 dBc Typical IMD at 60 Watts PEP

### Description

M/A-COM's PH1617-60 is a silicon bipolar NPN transistor intended for use as a common emitter class AB stage in power amplifiers that operate in the 1615 to 1685 MHz range. This transistor features internal input and output impedance matching, diffused emitter ballasting and gold metalization.

The PH1617-60 is packaged in a low cost, non-hermetic ceramic package which has very low thermal impedance.

### Outline Drawing<sup>1</sup>



Notes: (unless otherwise specified)

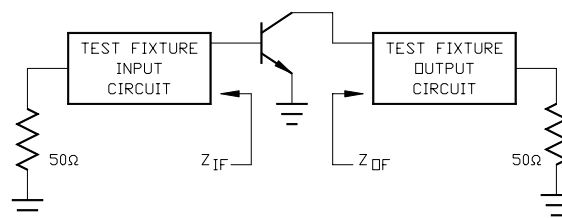
1. Tolerances are: inches ± 0.005" (millimeters ± 0.13mm)

### Absolute Maximum Rating at 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	$V_{CE0}$	20	V
Collector-Emitter Voltage	$V_{CES}$	65	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current	$I_C$	5.8	A
Power Dissipation	$P_D$	150	W
Storage Temperature	$T_{stg}$	-50 to +150	°C
Junction Temperature	$T_J$	200	°C
Thermal Resistance	$\theta_{jc}$	1.0	°C/W

### Broadband Test Fixture Impedance

F (MHz)	$Z_{IF}$ ( $\Omega$ )	$Z_{OF}$ ( $\Omega$ )
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

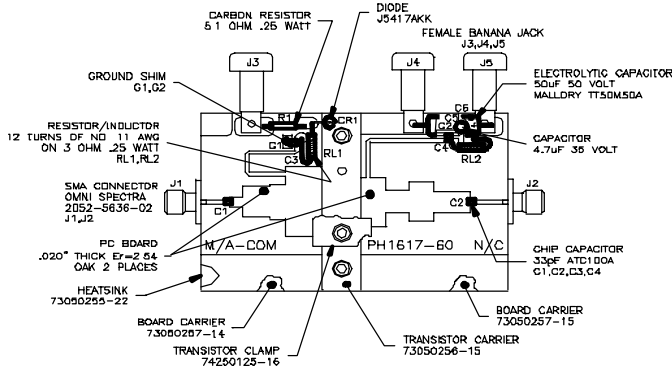


### Electrical Specifications at 25°C

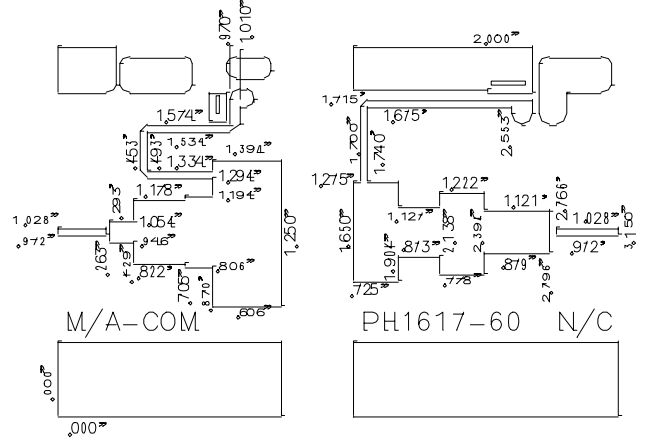
Symbol	Parameter	Test Conditions	Min	Max	Units
$h_{FE}$	DC Forward Current Gain	$V_{CE} = 5.0$ V, $I_C = 2$ A	15	120	-
$G_p$	Power Gain	$V_{CC} = 26$ V, $I_{CQ} = 260$ mA, $P_{OUT} = 60$ W, $f = 1615, 1685$ MHz	9.0	-	dB
$\eta_c$	Collector Efficiency	$V_{CC} = 26$ V, $I_{CQ} = 260$ mA, $P_{OUT} = 60$ W, $f = 1615, 1685$ MHz	40	-	%
$R_L$	Input Return Loss	$V_{CC} = 26$ V, $I_{CQ} = 260$ mA, $P_{OUT} = 60$ W, $f = 1615, 1685$ MHz	10	-	dB
VSWR-T	Load Mismatch Tolerance	$V_{CC} = 26$ V, $I_{CQ} = 260$ mA, $P_{OUT} = 60$ W, $f = 1615, 1685$ MHz	-	2:1	-

V2.00

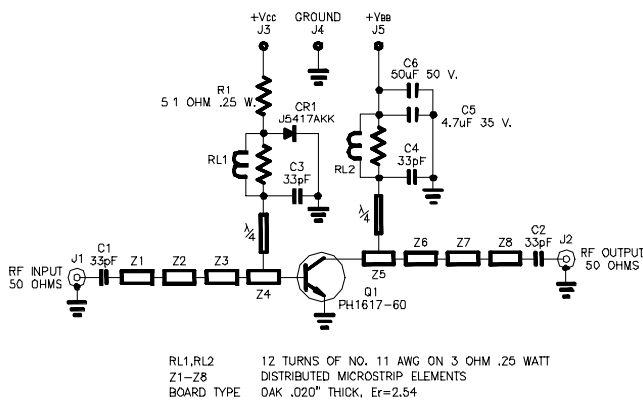
Assembly View



Circuit Dimensions



Schematic



Typical Performance Curve

