

# Wireless Power Transistor 90 Watts, 1930-1990 MHz



## Features

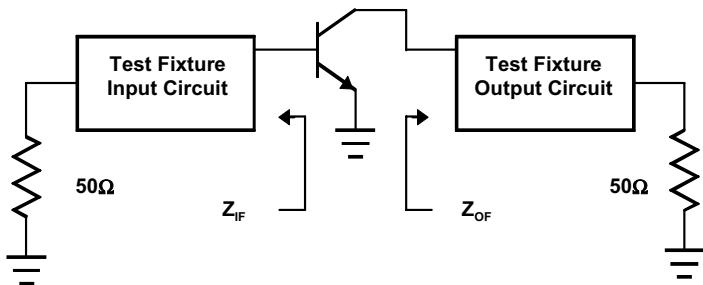
- NPN Silicon Microwave Power Transistor
- Common Emitter Class AB Operation
- Internal Input and Output Impedance Matching
- Diffused Emitter Ballasting
- Gold Metalization System

## Description

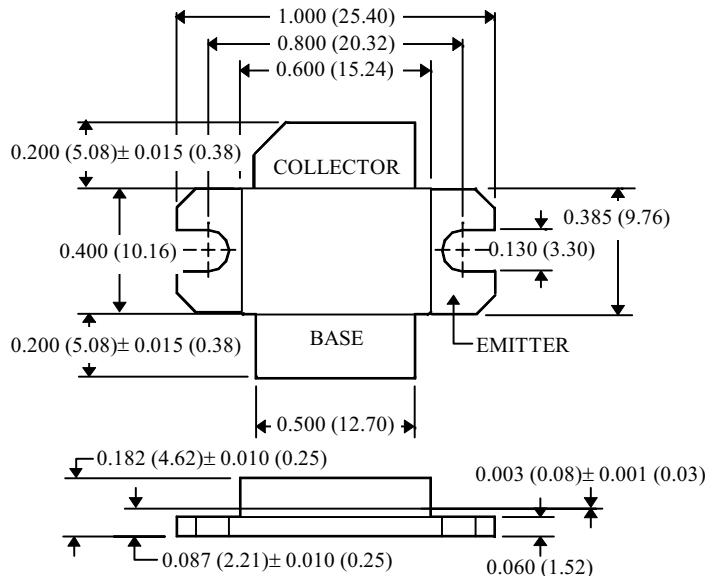
M/A-COM's PH1920-90 is a high power transistor designed for use in wireless communications systems. The PH1920-90 is capable of operating at an output power of 90W CW, and is currently being used in both TDMA and CDMA applications in the 1.8 GHz to 2.0 GHz frequency range.

## Broadband Test Fixture Impedances

F (MHz)	$Z_{IF}$ ( $\Omega$ )	$Z_{OF}$ ( $\Omega$ )
1930	2.2 - j3.8	1.7 - j1.2
1960	1.8 - j3.1	1.5 - j1.4
1990	1.1 - j2.9	1.6 - j1.4



## Package Outline<sup>1</sup>



Notes: (unless otherwise specified)

1. Tolerance are inches  $\pm 0.005$ ; (Millimeters  $\pm 0.13MM$ )

## Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CEO}$	25	V
Collector-Emitter Voltage	$V_{CES}$	65	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current	$I_C$	TBD	A
Power Dissipation	$P_D$	TBD	W
Storage Temperature	$T_{STG}$	-55 to +150	°C
Junction Temperature	$T_J$	200	°C
Thermal Resistance	$\theta_{JC}$	TBD	°C/W

## Electrical Specifications at +25°C

Symbol	Parameters	Test Conditions	Units	Min.	Max.
$h_{FE}$	DC Forward Current Gain	$V_{CE} = 5V$ , $I_C = 4A$	—	15	120
$G_P$	Power Gain	$V_{CC} = 25 V$ , $I_{CQ} = 260 mA$ , $P_{OUT} = 90 W$ , $F = 1930, 1990$ MHz	dB	8.0	—
$\eta_C$	Collector Efficiency	$V_{CC} = 25 V$ , $I_{CQ} = 260 mA$ , $P_{OUT} = 90 W$ , $F = 1930, 1990$ MHz	%	40	—
$RL$	Input Return Loss	$V_{CC} = 25 V$ , $I_{CQ} = 260 mA$ , $P_{OUT} = 90 W$ , $F = 1930, 1990$ MHz	dB	10	—
VSWR-T	Load Mismatch Tolerance	$V_{CC} = 25 V$ , $I_{CQ} = 260 mA$ , $P_{OUT} = 90 W$ , $F = 1930, 1990$ MHz	—	—	TBD