



# Wireless Power Transistor 90 Watts, 1805-1880 MHz



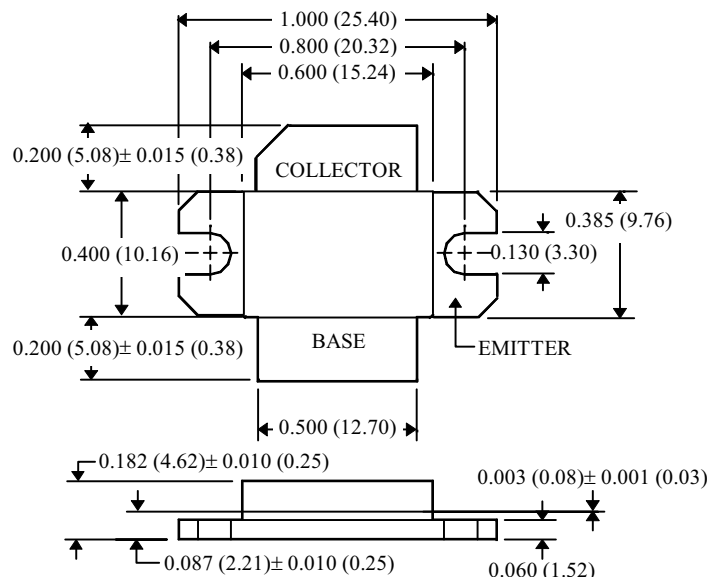
## Features

- 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 PH1819-90 is a high power transistor designed for use in wireless communications systems. The PH1819-90 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.

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

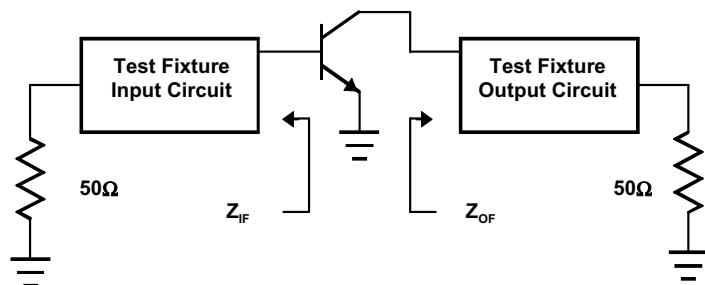


Notes: (unless otherwise specified)

1. Tolerance are inches ±0.005; Millimeters ±0.13MM

## Broadband Test Fixture Impedances

F (MHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
1805	TBD	1.6 - j1.5
1840	TBD	1.6 - j0.8
1880	TBD	1.7 - j1.2



## Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V <sub>CEO</sub>	25	V
Collector-Emitter Voltage	V <sub>CES</sub>	65	V
Emitter-Base Voltage	V <sub>EBO</sub>	3.0	V
Collector Current	I <sub>C</sub>	TBD	A
Power Dissipation	P <sub>D</sub>	TBD	W
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Junction Temperature	T <sub>J</sub>	200	°C
Thermal Resistance	θ <sub>JC</sub>	TBD	°C/W

## Electrical Specifications at +25°C

Symbol	Parameters	Test Conditions	Units	Min.	Max.
h <sub>FE</sub>	DC Forward Current Gain	V <sub>CE</sub> = 5V, I <sub>C</sub> = 4A	—	15	120
G <sub>P</sub>	Power Gain	V <sub>CC</sub> = 25 V, I <sub>CQ</sub> = 260 mA, P <sub>OUT</sub> = 90 W, F = 1805, 1880 MHz	dB	8.0	—
η <sub>C</sub>	Collector Efficiency	V <sub>CC</sub> = 25 V, I <sub>CQ</sub> = 260 mA, P <sub>OUT</sub> = 90 W, F = 1805, 1880 MHz	%	40	—
RL	Input Return Loss	V <sub>CC</sub> = 25 V, I <sub>CQ</sub> = 260 mA, P <sub>OUT</sub> = 90 W, F = 1805, 1880 MHz	dB	10	—
VSWR-T	Load Mismatch Tolerance	V <sub>CC</sub> = 25 V, I <sub>CQ</sub> = 260 mA, P <sub>OUT</sub> = 90 W, F = 1805, 1880 MHz	—	—	TBD

V1.00

