



Wireless Power Transistor 90 Watts, 1930-1990 MHz



Features

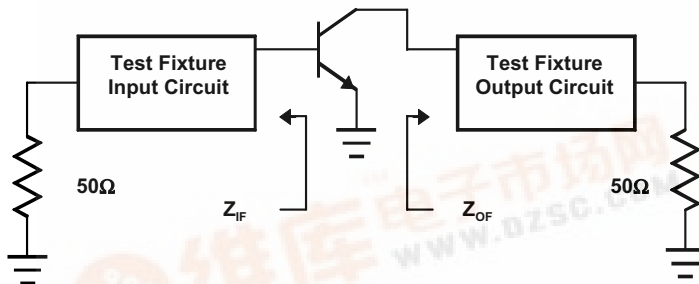
- NPN Silicon Microwave Power Transistor
- Common Emitter Class AB Operation
- Internal Input and Output Impedance Matching
- Diffused Emitter Ballasting
- Gold Metalization System

Description

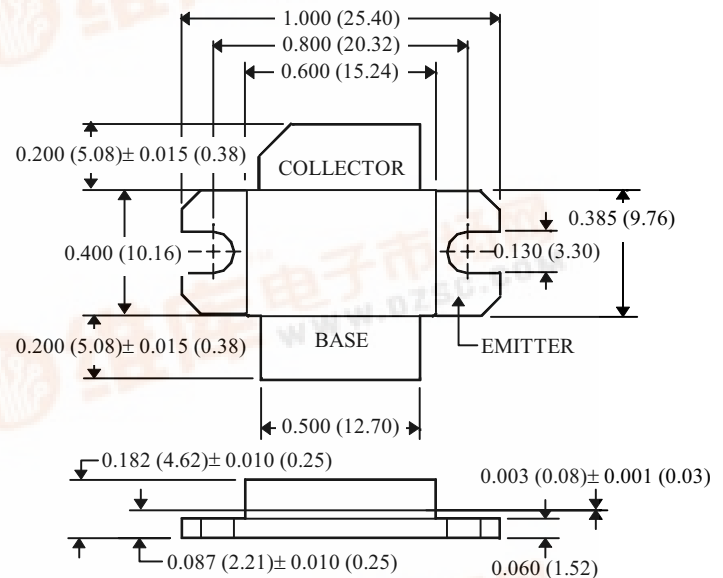
M/A-COM's PH1920-90 is a high power transistor designed for use in wireless communications systems. The PH1920-90 is capable of operating at an output power of 90W CW, and is currently being used in both TDMA and CDMA applications in the 1.8 GHz to 2.0 GHz frequency range.

Broadband Test Fixture Impedances

F (MHz)	Z_{IF} (Ω)	Z_{OF} (Ω)
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 Outline¹



Notes: (unless otherwise specified)

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

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CE0}	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	θ_{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	$V_{CC} = 25V, I_{CQ} = 260mA, P_{OUT} = 90W, F = 1930, 1990MHz$	dB	8.0	—
η_C	Collector Efficiency	$V_{CC} = 25V, I_{CQ} = 260mA, P_{OUT} = 90W, F = 1930, 1990MHz$	%	40	—
RL	Input Return Loss	$V_{CC} = 25V, I_{CQ} = 260mA, P_{OUT} = 90W, F = 1930, 1990MHz$	dB	10	—
VSWR-T	Load Mismatch Tolerance	$V_{CC} = 25V, I_{CQ} = 260mA, P_{OUT} = 90W, F = 1930, 1990MHz$	—	—	TBD