

Wireless Power Transistor, 33W

1805 - 1880 MHz

PH1819-33

V2.01

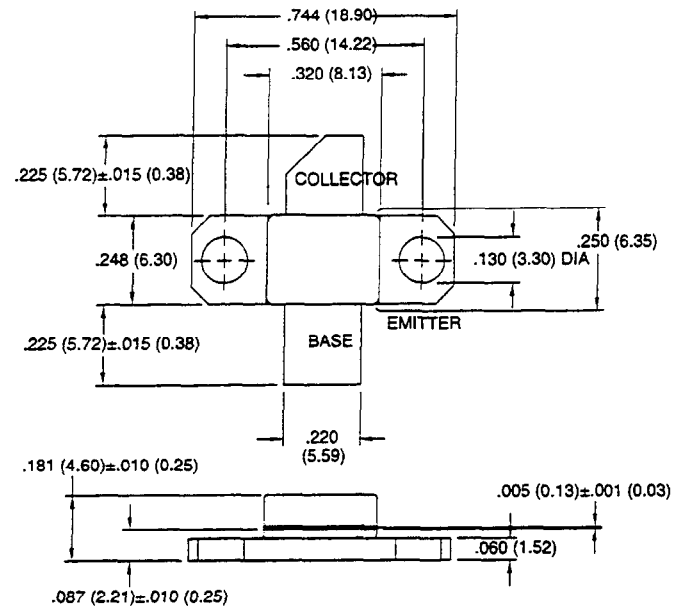
Features

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

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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	4.7	A
Power Dissipation	P_D	91	W
Storage Temperature	T_{STG}	-55 to +150	°C
Junction Temperature	T_J	200	°C
Thermal Resistance	θ_{JC}	3.0	°C/W



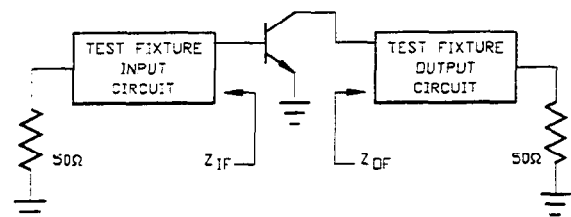
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" (MILLIMETERS ±0.13MM)

Electrical Characteristics at 25°C

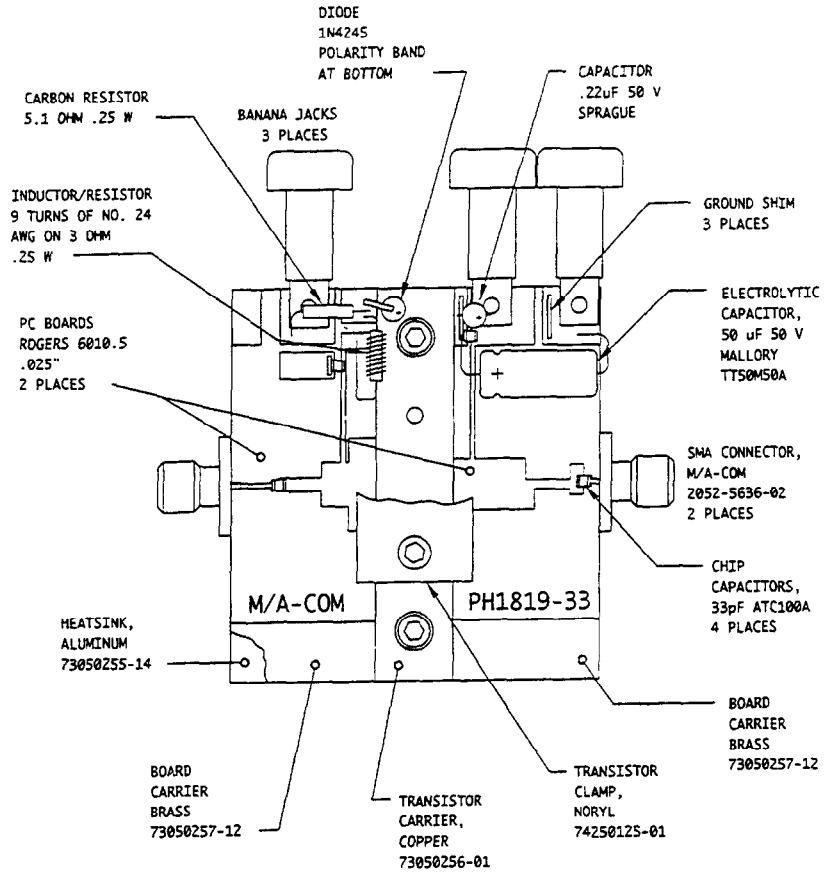
Parameter	Symbol	Min	Max	Units	Test Conditions
Power Gain	G_p	7.0	-	dB	$V_{CC}=25\text{ V}$, $I_{CC}=200\text{ mA}$, $P_{OUT}=33\text{ W}$, $F=1805, 1880\text{ MHz}$
Collector Efficiency	η_c	40	-	%	$V_{CC}=25\text{ V}$, $I_{CC}=200\text{ mA}$, $P_{OUT}=33\text{ W}$, $F=1805, 1880\text{ MHz}$
Input Return Loss	RL	10	-	dB	$V_{CC}=25\text{ V}$, $I_{CC}=200\text{ mA}$, $P_{OUT}=33\text{ W}$, $F=1805, 1880\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=25\text{ V}$, $I_{CC}=200\text{ mA}$, $P_{OUT}=33\text{ W}$, $F=1805, 1880\text{ MHz}$

Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
1805	1.8 - j5.5	4.0 - j1.4
1850	1.6 - j5.1	3.9 - j1.4
1880	1.7 - j4.8	4.0 - j0.9



RF Test Fixture



Test Fixture PC Board Dimensions

