



Radar Pulsed Power Transistor, 50 Watts, 2.25-2.55 GHz, 100 μ S Pulse, 10% Duty

8/21/02

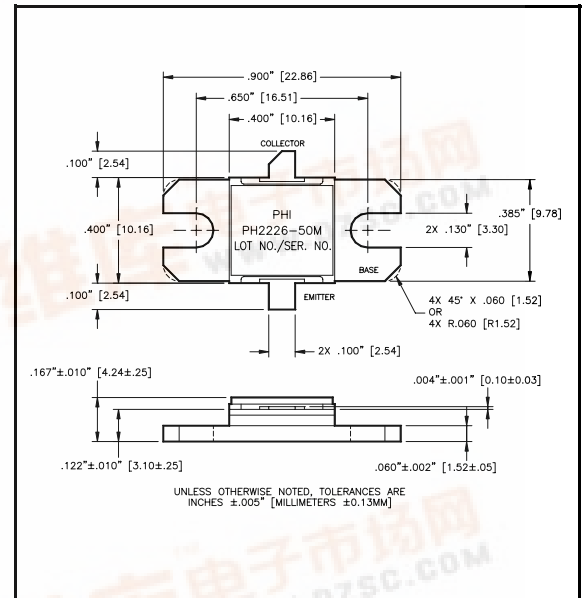
Rev. 3

PH2226-50M

Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

Outline Drawing



Absolute Maximum Ratings at 25 °C

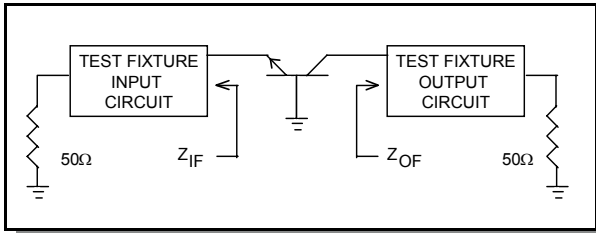
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	63	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	6	A
Total Power Dissipation @ +45 °C	P_{TOT}	159	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

Electrical Characteristics at 25 °C

Parameter	Symbol	Min.	Max.	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	63	-	V	$I_C=15$ mA
Collector-Emitter Leakage Current	I_{CES}	-	3.0	mA	$V_{CE}=36$ V
Thermal Resistance	$R_{TH(JC)}$	-	1.1	°C/W	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Output Power	P_O	50	-	W	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Power Gain	G_P	8.0	-	dB	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Collector Efficiency	η	40	-	%	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Input Return Loss	RL	9	-	dB	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC}=36$ V, $P_{IN}=8$ W, Freq= 2.25 and 2.55 GHz



Broadband Test Fixture Impedances



F (GHz)	Z _{IF} (Ω)	Z _{OF} (Ω)
2.25	15.0 -j7.0	12.8 -j3.0
2.40	14.0 -j5.5	12.0 -j1.6
2.55	13.7 -j4.0	11.8 -j0.4