



# Radar Pulsed Power Transistor, 110 Watts, 2.25-2.55 GHz, 100 $\mu$ S Pulse, 10% Duty

8/21/02

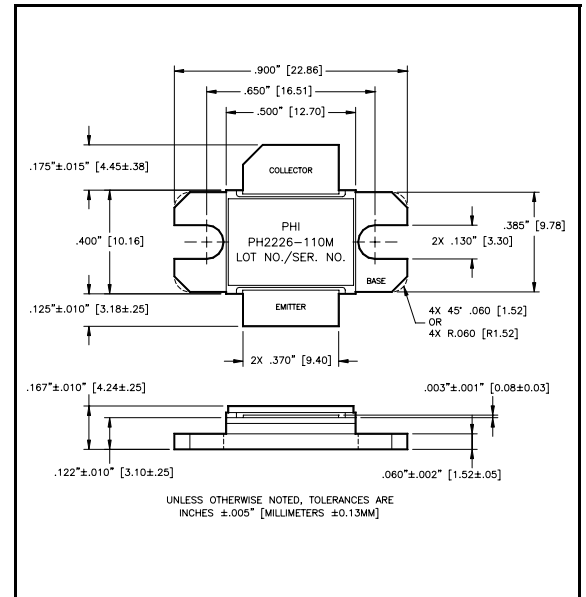
Rev. 3

PH2226-110M

## 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



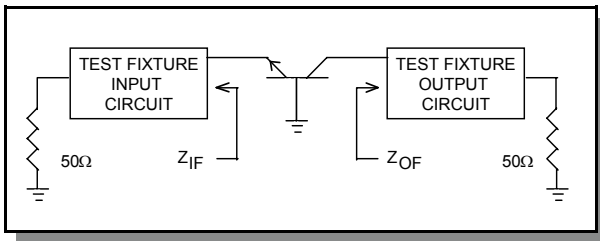
## Absolute Maximum Ratings at 25 °C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	63	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	$I_C$	15	A
Total Power Dissipation @ +45 °C	$P_{TOT}$	583	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	$I_C=40$ mA
Collector-Emitter Leakage Current	$I_{CES}$	-	7.5	mA	$V_{CE}=36$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.3	°C/W	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Output Power	$P_O$	110	-	W	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Power Gain	$G_P$	7.4	-	dB	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Collector Efficiency	$\eta$	40	-	%	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Input Return Loss	RL	9	-	dB	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC}=36$ V, $P_{IN} = 20$ W, Freq= 2.25 and 2.55 GHz

### Broadband Test Fixture Impedances



F (GHz)	Z <sub>IF</sub> (Ω)	Z <sub>OF</sub> (Ω)
2.25	2.8 -j3.4	4.1 -j2.9
2.40	2.9 -j3.0	3.8 -j2.9
2.55	3.1 -j2.6	3.3 -j2.7

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