

# Radar Pulsed Power Transistor, 6W, 100 $\mu$ s Pulse, 10% Duty 1.2 - 1.4 GHz

## PH1214-6M

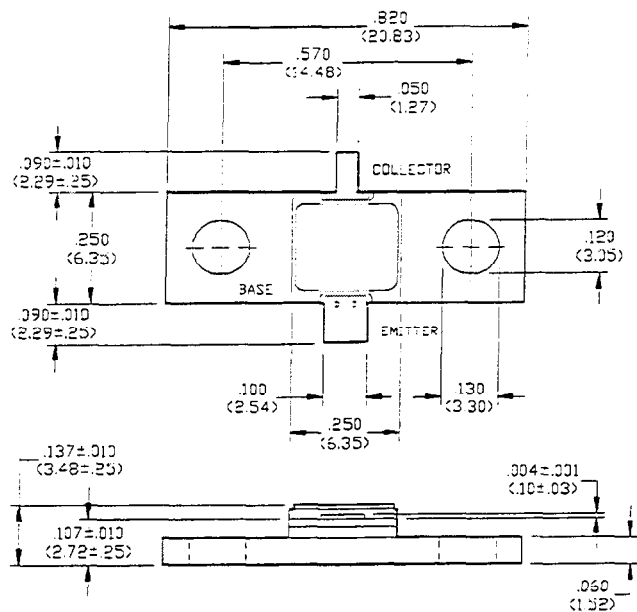
V2.00

### Features

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

### Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	65	V
Emitter-Base Voltage	$V_{EBC}$	3.0	V
Collector Current (Peak)	$I_C$	1.3	A
Total Power Dissipation	$P_{TOT}$	25	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-65 to +200	°C



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES = .005" (MILLIMETERS = ±.13MM)

### Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	$BV_{CES}$	65	-	V	$I_C = 12$ mA
Collector-Emitter Leakage Current	$I_{CES}$	-	1.5	mA	$V_{CE} = 40$ V
Thermal Resistance	$R_{TH(JC)}$	-	5.8	°C/W	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Output Power	$P_{OUT}$	6.0	-	W	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Power Gain	$G_p$	7.0	-	dB	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Collector Efficiency	$\eta_C$	45	-	%	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Input Return Loss	RL	6	-	dB	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC} = 28$ V, $P_{IN} = 1.2$ W, $F = 1.20, 1.30, 1.40$ GHz

### Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
1.20	TBD	TBD
1.30	TBD	TBD
1.40	TBD	TBD

