

Radar Pulsed Power Transistor, 4W, 100 μ s Pulse, 10% Duty 1.2 - 1.4 GHz PH1214-4M

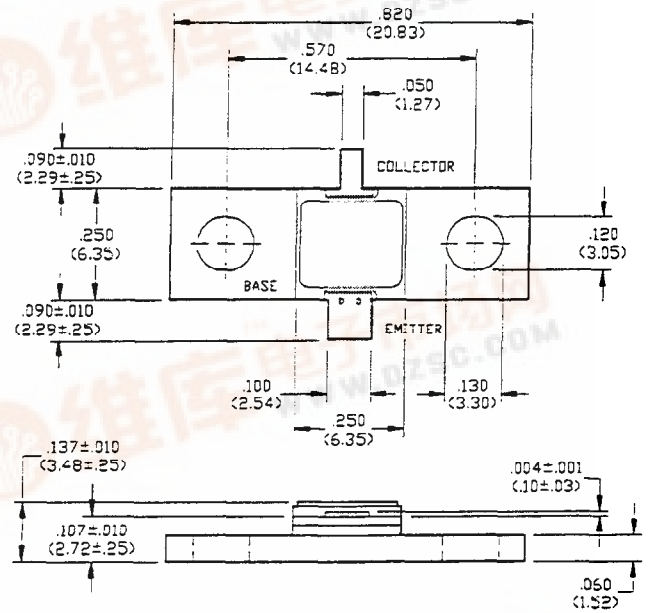
V2.00

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_{EB0}	3.0	V
Collector Current (Peak)	I_C	875	mA
Total Power Dissipation	P_{TOT}	17	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C



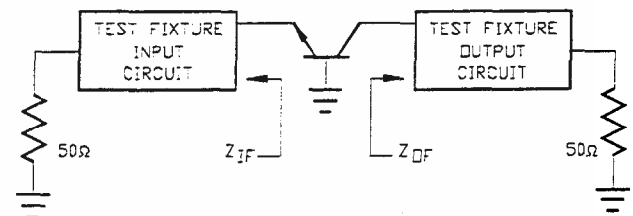
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ± 0.005
(MILLIMETERS ± 0.13 MM)

Electrical Characteristics at 25°C

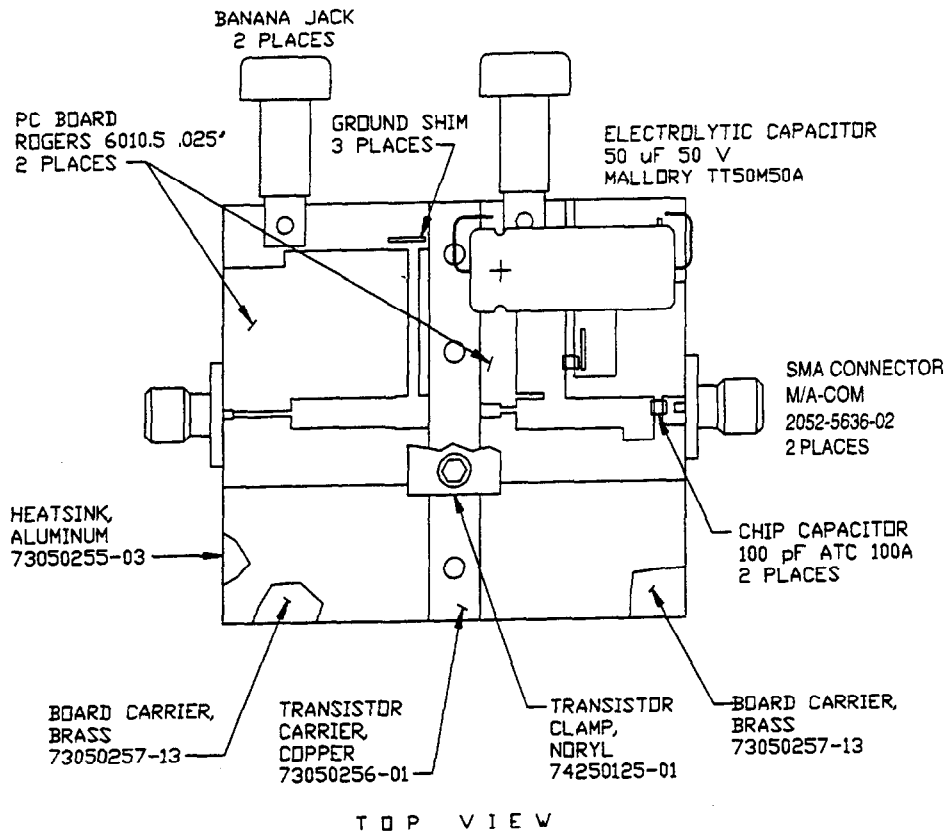
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C = 8$ mA
Collector-Emitter Leakage Current	I_{CES}	-	1.0	mA	$V_{CE} = 40$ V
Thermal Resistance	$R_{TH(JC)}$	-	8.6	°C/W	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Output Power	P_{OUT}	4.0	-	W	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Power Gain	G_p	7.0	-	dB	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Collector Efficiency	η_C	45	-	%	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Input Return Loss	RL	6	-	dB	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC} = 28$ V, $P_{IN} = 800$ mW, $F = 1.20, 1.30, 1.40$ GHz

Broadband Test Fixture Impedances

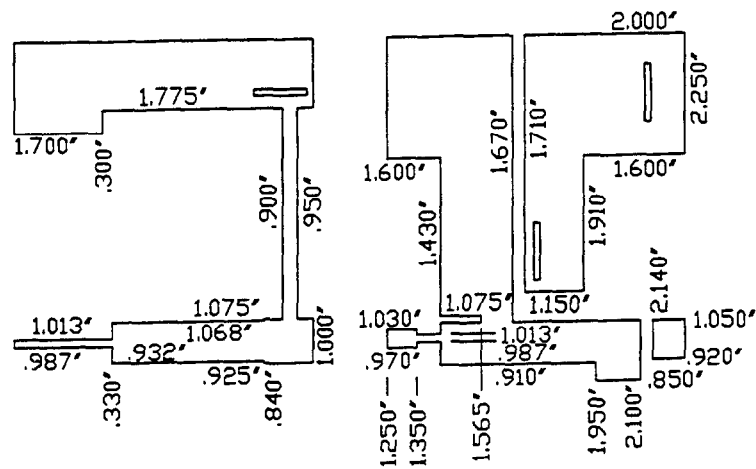
F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
1.20	$7.0 - j4.5$	$12.0 + j24$
1.30	$6.4 - j3.0$	$12.5 + j21$
1.40	$6.0 - j1.5$	$10.5 + j24$



RF Test Fixture



TOP VIEW



CIRCUIT DIMENSIONS