

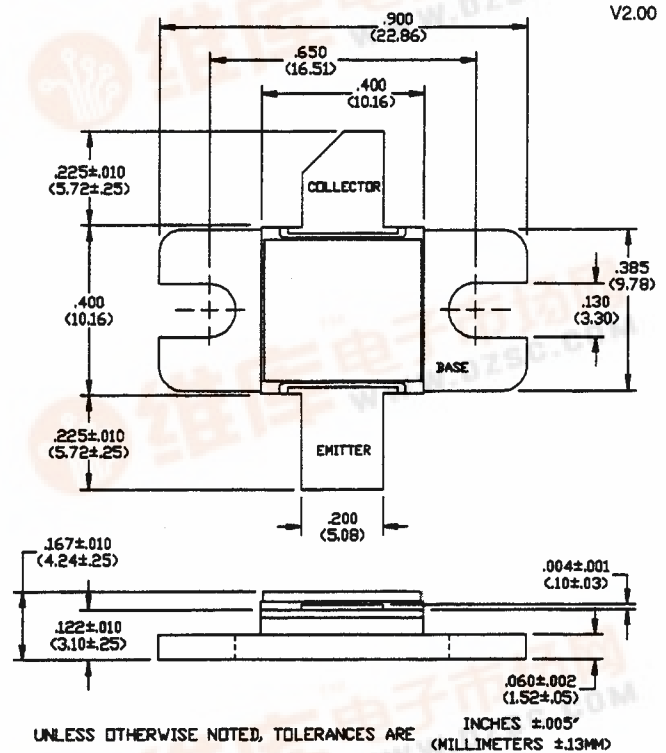
Radar Pulsed Power Transistor, 75W, 1 μ s Pulse, 10% Duty 3.1 - 3.4 GHz PH3134-75S

Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output 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_{EBO}	3.0	V
Collector Current (Peak)	I_C	8.9	A
Total Power Dissipation	P_{TOT}	700	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

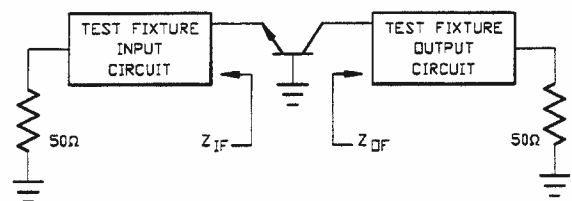


Electrical Characteristics at 25°C

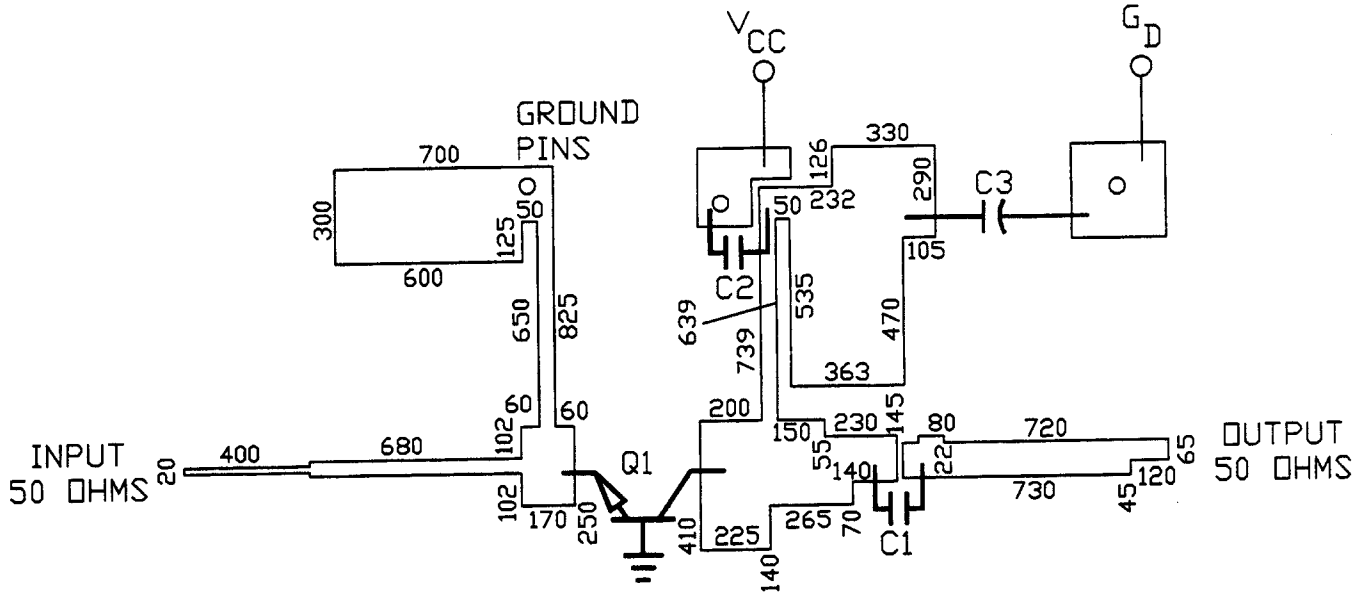
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C=25$ mA
Collector-Emitter Leakage Current	I_{CES}	-	5.0	mA	$V_{CE}=36$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.25	°C/W	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.10, 3.25, 3.40 GHz
Input Power	P_{IN}	-	13.3	W	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.10, 3.25, 3.40 GHz
Power Gain	G_P	7.5	-	dB	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.10, 3.25, 3.40 GHz
Collector Efficiency	η_C	35	-	%	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.10, 3.25, 3.40 GHz
Input Return Loss	RL	6	-	dB	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.10, 3.25, 3.40 GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=36$ V, $P_{OUT}=75$ W, F=3.25 GHz

Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	11.2 - j11.7	8.1 - j5.3
3.25	11.5 - j9.5	7.1 - j4.3
3.40	12.7 - j7.6	6.4 - j3.3



RF Test Fixture



ARTWORK DIMENSIONS IN MILS

PARTS LIST

- C1 C2 15 pF ATC SIZE A
- C3 50 μF 50 VOLTS
- Q1 PH3134-75S
- BOARD TYPE: ROGERS 6010.5 .025" THICK, E_R = 10.5