

# Radar Pulsed Power Transistor, 75W, 1 $\mu$ s Pulse, 10% Duty 3.1 - 3.4 GHz

## PH3134-75S

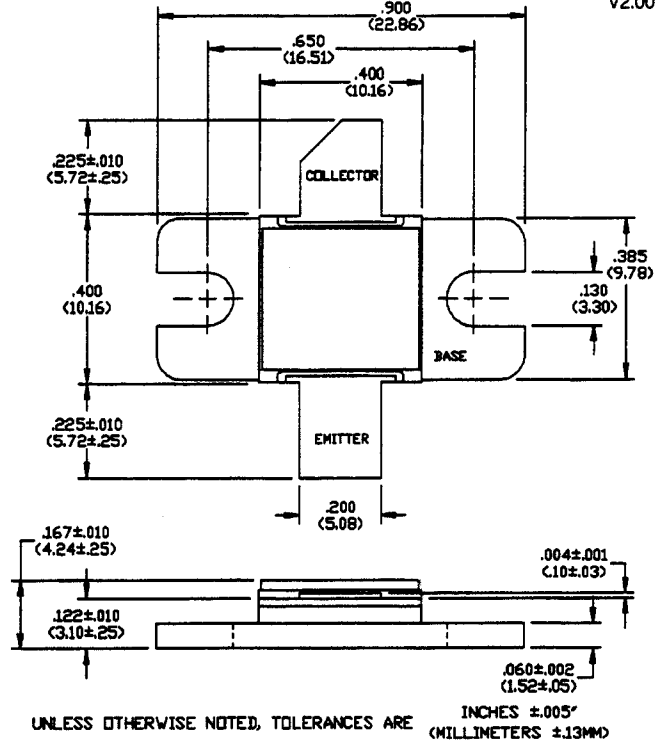
V2.00

### 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

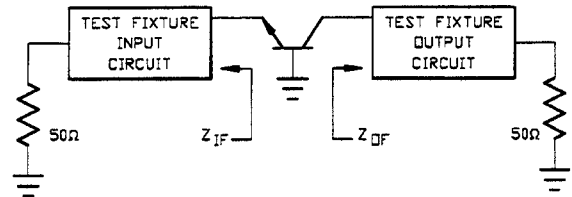


### Electrical Characteristics at 25°C

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	$\eta_C$	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



Specifications Subject to Change Without Notice.

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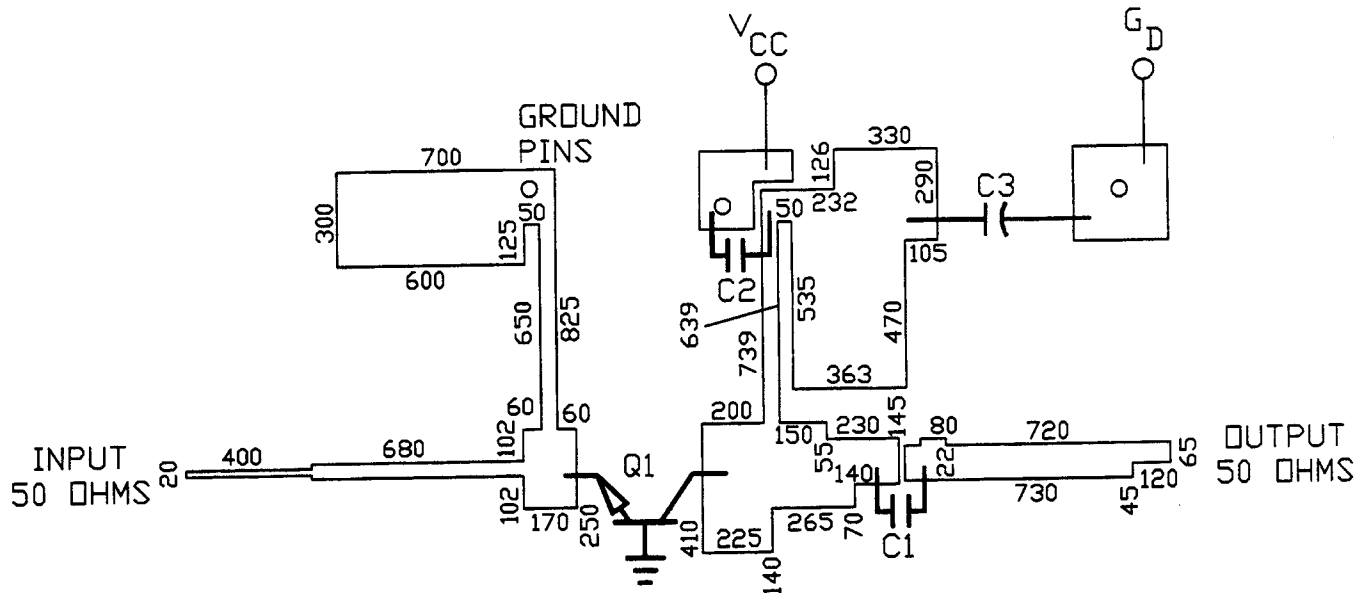
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RF Test Fixture



ARTWORK DIMENSIONS IN MILS

PARTS LIST

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

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