

Radar Pulsed Power Transistor, 11W, 1μs Pulse, 10% Duty

3.1 - 3.4 GHz

PH3134-11S

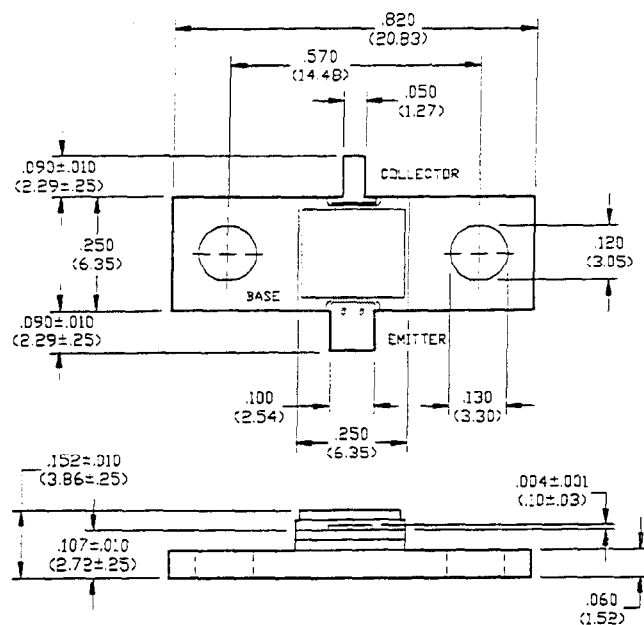
V2.00

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}	60	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	1.3	A
Total Power Dissipation	P_{TOT}	125	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C



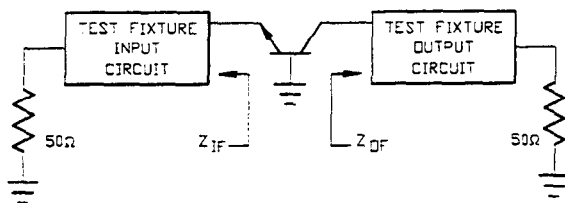
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES = .005" (MILLIMETERS = .13MM)

Electrical Characteristics at 25°C

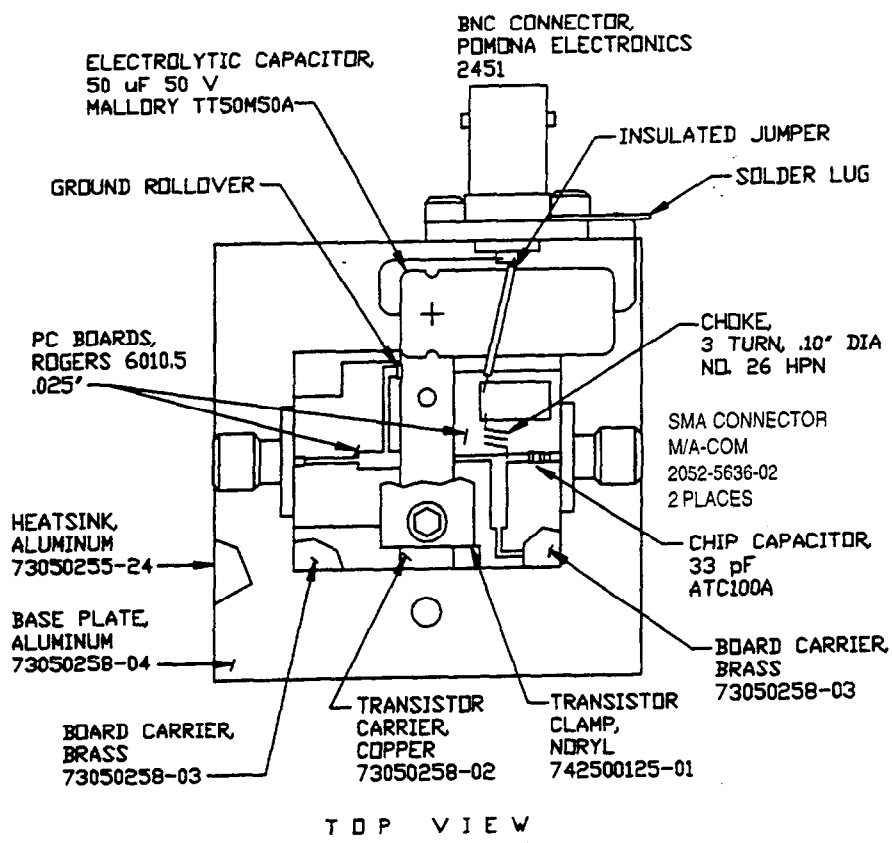
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	60	-	V	$I_C = 12.5 \text{ mA}$
Collector-Emitter Leakage Current	I_{CES}	-	1.25	mA	$V_{CE} = 36 \text{ V}$
Thermal Resistance	$R_{TH(JC)}$	-	1.4	°C/W	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.1, 3.25, 3.4 \text{ GHz}$
Input Power	P_{IN}	-	1.74	W	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.1, 3.25, 3.4 \text{ GHz}$
Power Gain	G_p	8.0	-	dB	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.1, 3.25, 3.4 \text{ GHz}$
Collector Efficiency	η_c	35	-	%	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.1, 3.25, 3.4 \text{ GHz}$
Input Return Loss	RL	6	-	dB	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.1, 3.25, 3.4 \text{ GHz}$
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC} = 36 \text{ V}$, $P_{OUT} = 11 \text{ W}$, $F = 3.25 \text{ GHz}$

Broadband Test Fixture Impedances

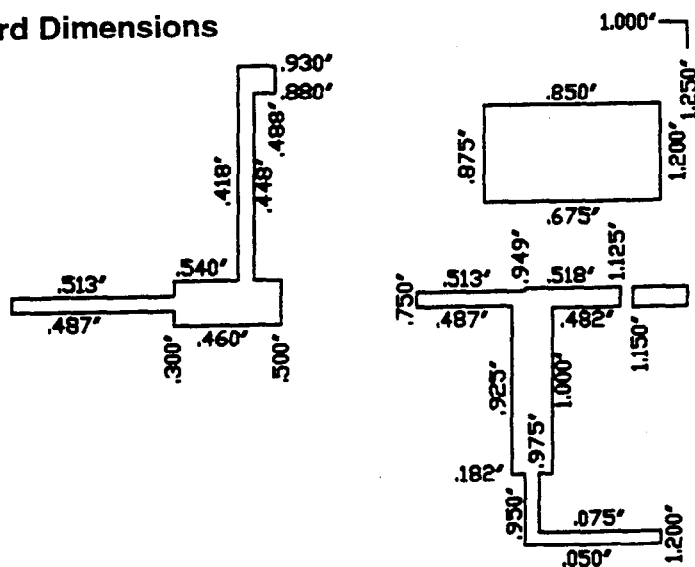
F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	$17.5 - j8.5$	$90.0 + j37.0$
3.25	$15.0 - j8.2$	$58.0 + j7.0$
3.40	$13.0 - j8.0$	$36.0 + j14.5$



RF Test Fixture



Test Fixture PC Board Dimensions



070