

Radar Pulsed Power Transistor, 5W, 100 μ s Pulse, 10% Duty 3.1 - 3.5 GHz PH3135-5M

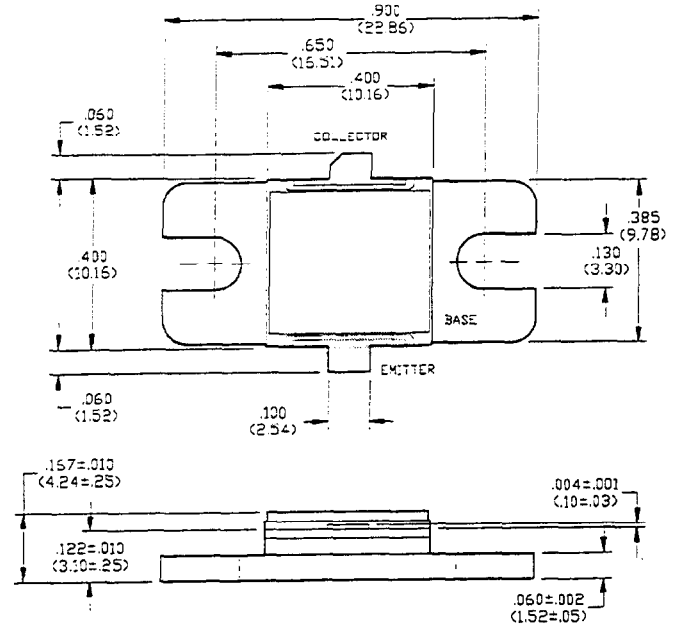
V2.00

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_{EB0}	3.0	V
Collector Current (Peak)	I_C	0.75	A
Total Power Dissipation	P_{TOT}	50	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C



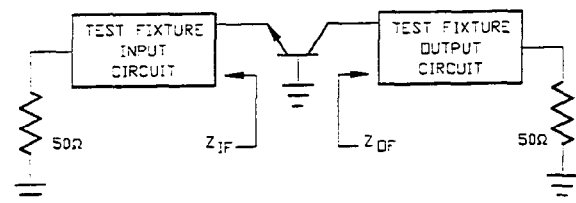
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES = .005" (MILLIMETERS = .13MM)

Electrical Characteristics at 25°C

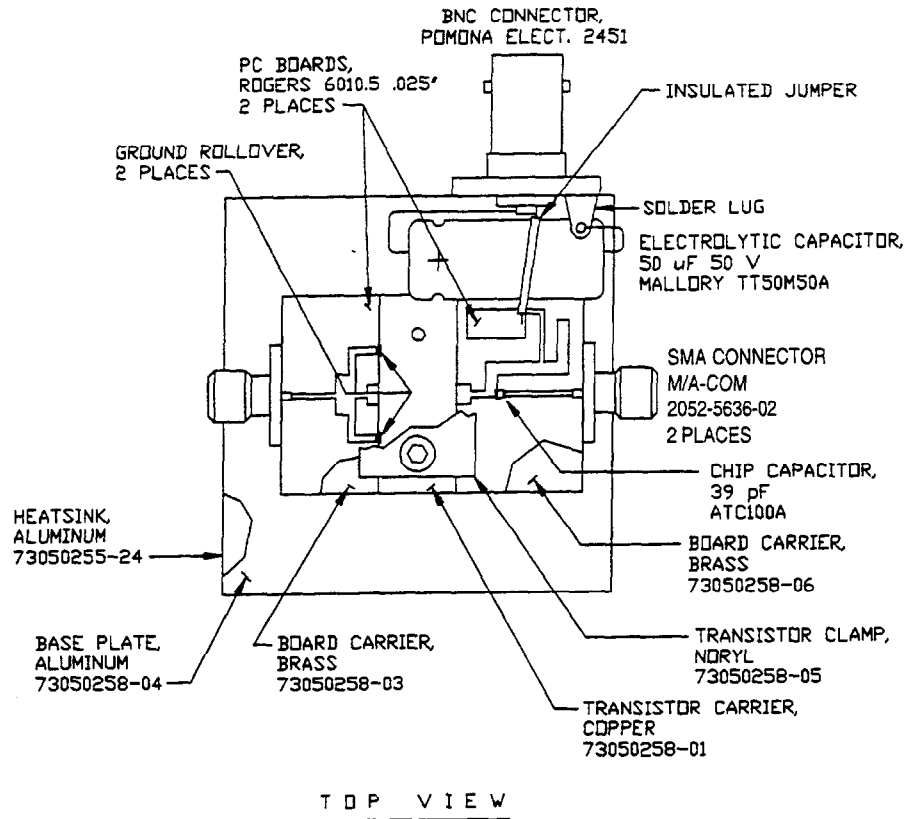
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	60	-	V	$I_C = 10 \text{ mA}$
Collector-Emitter Leakage Current	I_{CES}	-	1.0	mA	$V_{CE} = 40 \text{ V}$
Thermal Resistance	$R_{TH(JC)}$	-	3.5	°C/W	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$
Input Power	P_{OUT}	5.0	-	W	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$
Power Gain	G_P	8.5	-	dB	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$
Collector Efficiency	η_C	30	-	%	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$
Input Return Loss	RL	6	-	dB	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC} = 33 \text{ V}$, $P_{IN} = 0.7 \text{ W}$, $F = 3.1, 3.3, 3.5 \text{ GHz}$

Broadband Test Fixture Impedances

F (GHz)	$Z_{IF} (\Omega)$	$Z_{OF} (\Omega)$
3.10	24 - j4.4	24 - j20
3.30	20 - j0.7	18 - j11
3.50	17 + j3.9	15 - j3.0



RF Test Fixture



Test Fixture PC Board Dimensions

