

Radar Pulsed Power Transistor, 30W, 100µs Pulse, 10% Duty 3.1 - 3.5 GHz

PH3135-30M

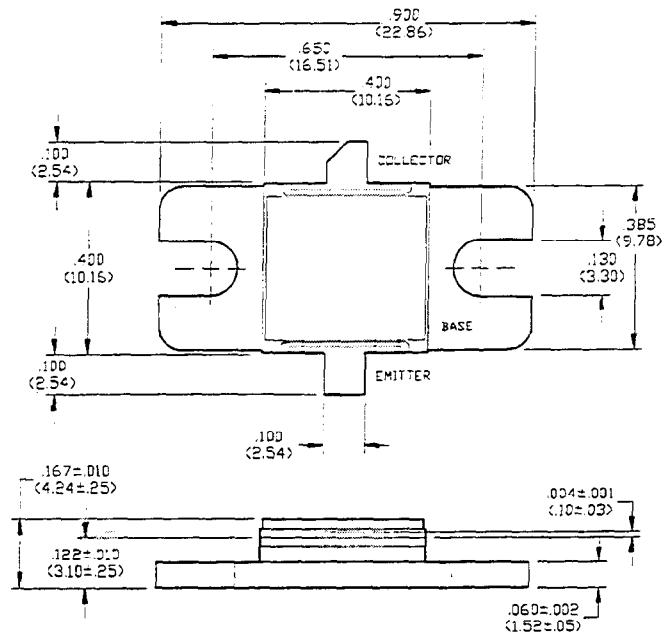
V2.00

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	3.6	A
Total Power Dissipation	P_{TOT}	250	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C



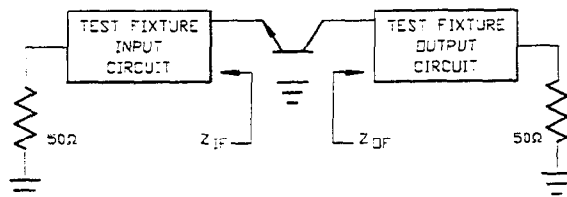
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±0.005 (MILLIMETERS ±0.13MM)

Electrical Characteristics at 25°C

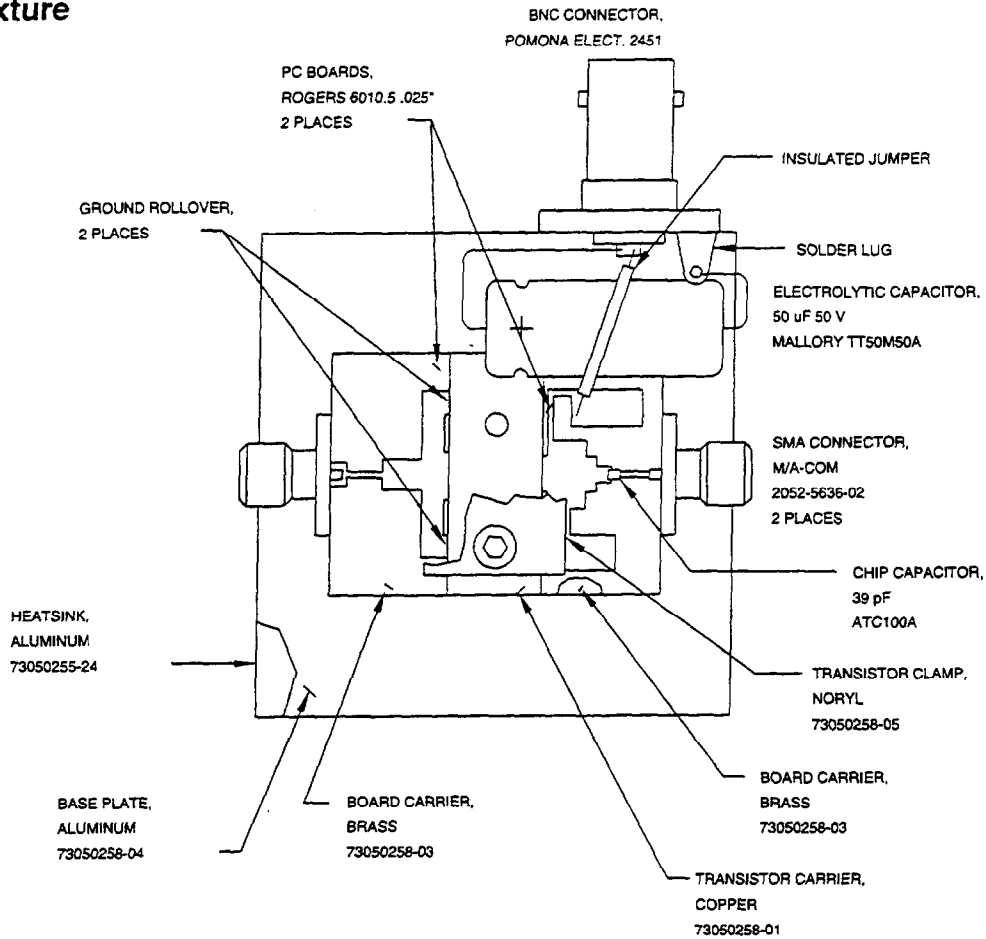
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C=20$ mA
Collector-Emitter Leakage Current	I_{CES}	-	3.0	mA	$V_{CE}=40$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.7	°C/W	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Output Power	P_{OUT}	30	-	W	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Power Gain	G_p	7.0	-	dB	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Collector Efficiency	η_c	35	-	%	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Input Return Loss	RL	6	-	dB	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz
Load Mismatch Stability	VSWR-S	-	2:1	-	$V_{CC}=36$ V, $P_{IN}=6.0$ W, $F=3.1, 3.3, 3.5$ GHz

Broadband Test Fixture Impedances

F(GHz)	$Z_{in}(\Omega)$	$Z_{out}(\Omega)$
3.10	$21 + j2.0$	$13.8 - j11.7$
3.30	$19 - j2.4$	$7.7 - j8.2$
3.50	$16 - j5.1$	$5.3 - j5.3$



RF Test Fixture



Test Fixture PC Board Dimensions

