

Radar Pulsed Power Transistor, 20W, 100μs Pulse, 10% Duty 3.1 - 3.5 GHz PH3135-20M

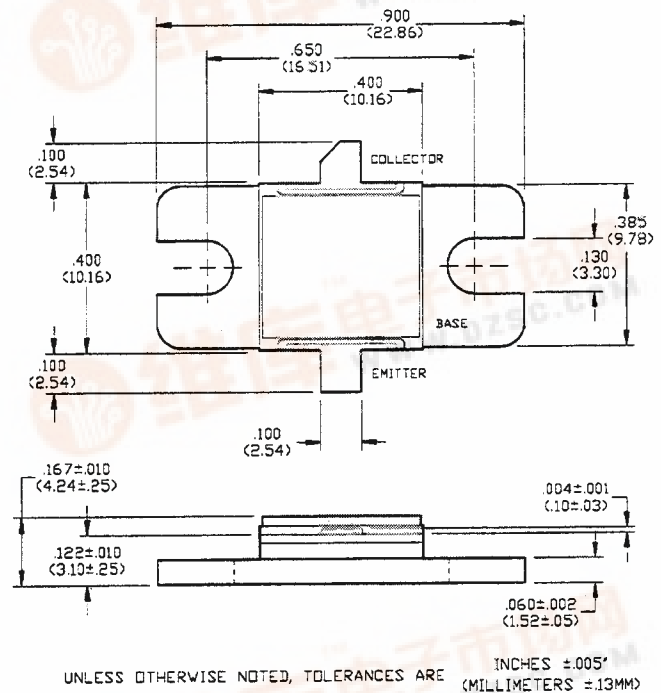
V2.00

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	2.4	A
Total Power Dissipation	P_{TOT}	160	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

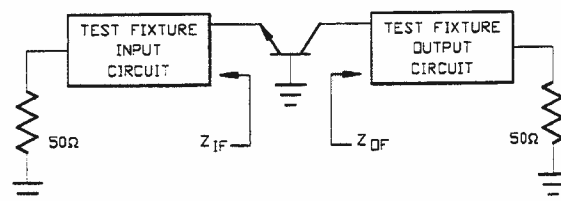


Electrical Characteristics at 25°C

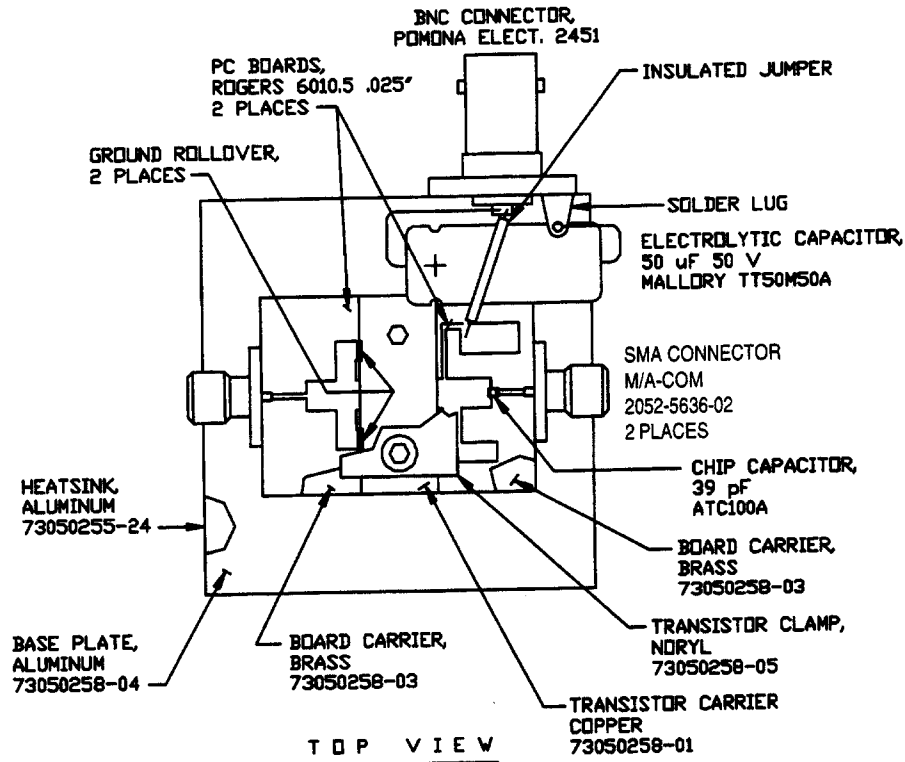
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C=10$ mA
Collector-Emitter Leakage Current	I_{CES}	-	1.5	mA	$V_{CE}=40$ V
Thermal Resistance	$R_{TH(JC)}$	-	1.10	°C/W	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz
Input Power	P_{IN}	-	3.6	W	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz
Power Gain	G_P	7.5	-	dB	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz
Collector Efficiency	η_C	35	-	%	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz
Input Return Loss	RL	6	-	dB	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=36$ V, $P_{OUT}=20$ W, $F=3.1, 3.3, 3.5$ GHz

Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	16.0 + j5.5	19.0 + j3.4
3.30	14.5 + j1.6	14.2 - j2.8
3.50	11.3 + j0.0	10.7 - j3.3



RF Test Fixture



Test Fixture PC Board Dimensions

