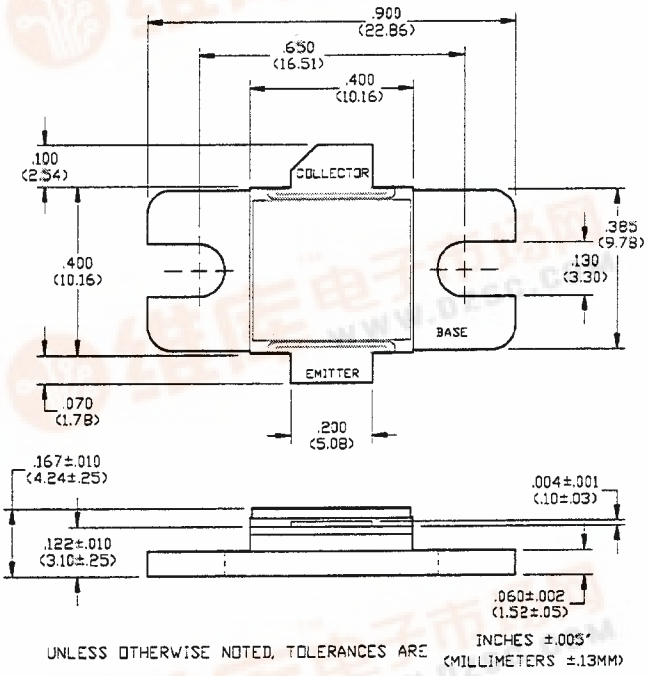
MACOM an AMP company

Radar Pulsed Power Transistor, 90W, 2µs Pulse, 10% Duty
3.1 - 3.5 GHz PH3135-90S

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

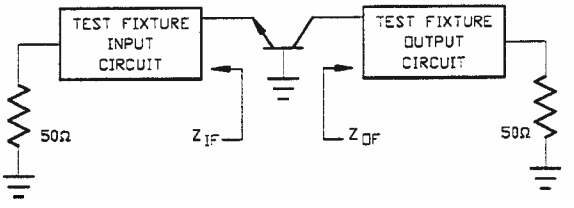
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	10.7	A
Total Power Dissipation	P_{TOT}	580	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

Electrical Characteristics at 25°C

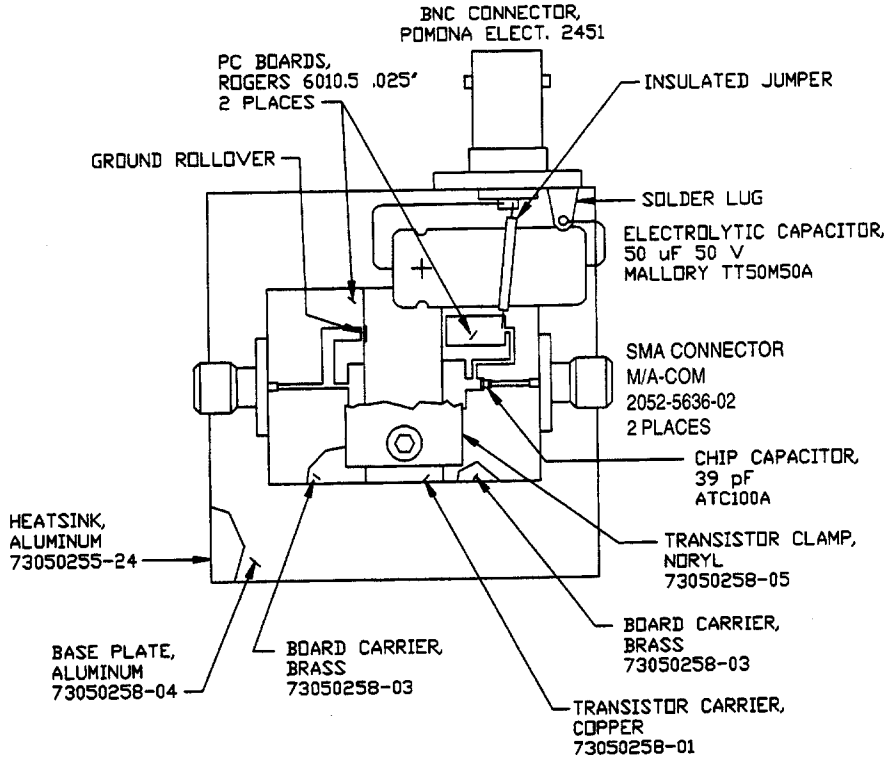
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	I_C=40 mA
Collector-Emitter Leakage Current	I_{CES}	-	7.5	mA	V_{CE}=40 V
Thermal Resistance	$R_{TH(JC)}$	-	0.30	°C/W	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz
Input Power	P_{IN}	-	16.0	W	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz
Power Gain	G_P	7.5	-	dB	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz
Collector Efficiency	η_C	35	-	%	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz
Input Return Loss	RL	6	-	dB	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	V_{CC}=36 V, P_{OUT}=90 W, F=3.1, 3.3, 3.5 GHz

Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	8.9 - j11.2	5.2 - j11.0
3.30	8.7 - j8.6	4.2 - j8.8
3.50	8.6 - j6.0	4.7 - j7.0



RF Test Fixture



TOP VIEW

Test Fixture PC Board Dimensions