

Radar Pulsed Power Transistor, 65 Watts, 3.10-3.50 GHz, 100 μ s Pulse, 10% Duty

8/9/02

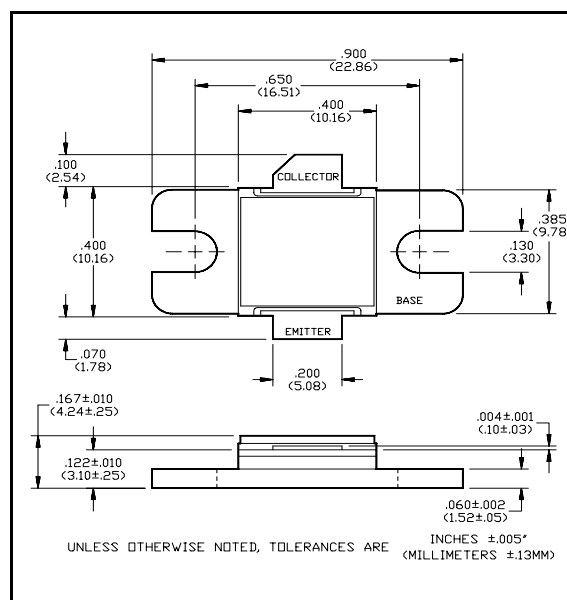
Rev. 1

PH3135-65M

Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

Outline Drawing



Absolute Maximum Ratings @ 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	7.7	A
Total Power Dissipation @ +45 °C	P_{TOT}	369	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

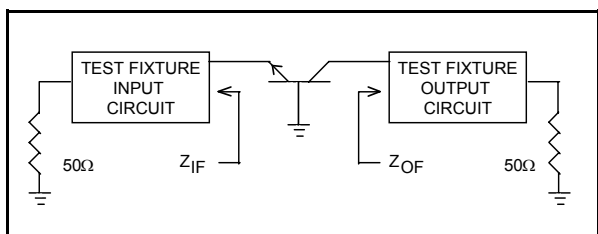
Electrical Characteristics @ 25 °C

Parameter	Symbol	Min.	Max.	Units	Test Conditions
Collector-Emitter Breakdown	BV_{CES}	65	-	V	$I_C=40$ mA
Collector-Emitter Leakage	I_{CES}	-	7.5	mA	$V_{CE}=40$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.42	°C/W	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz
Input Power	P_{IN}	-	11.6	W	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz
Power Gain	G_P	7.5	-	dB	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz
Collector Efficiency	η	35	-	%	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz
Input Return Loss	RL	6	-	dB	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=36$ V, $P_o = 65$ W, Freq= 3.1, 3.3 and 3.5 GHz

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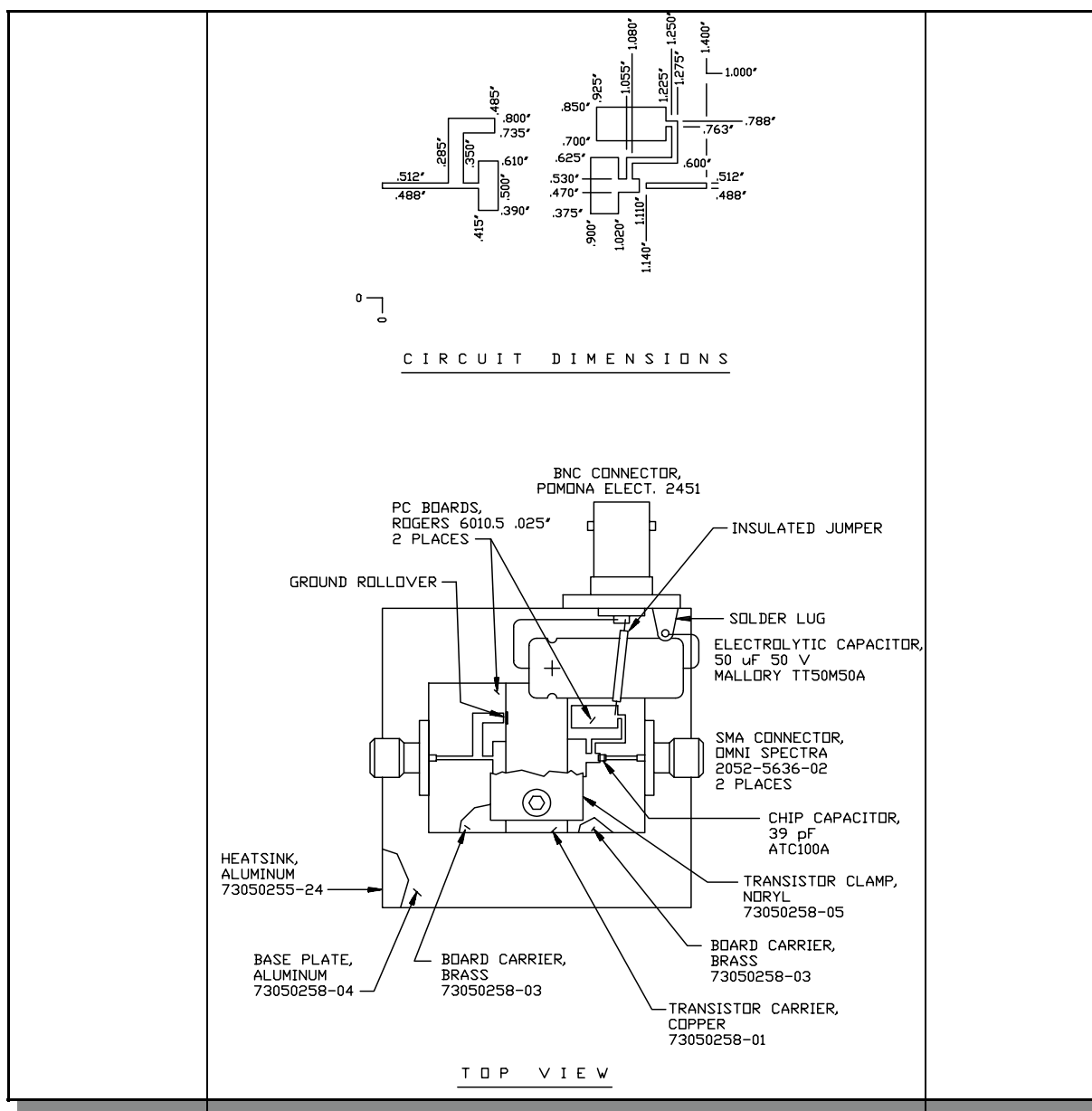
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Broadband Test Fixture Impedances



F (GHz)	Z _{IF} (Ω)	Z _{OF} (Ω)
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

Test Fixture Assembly



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