

Radar Pulsed Power Transistor, 135W, 20 μ s Pulse, 1% Duty 2.9 - 3.1 GHz PH2931-135S

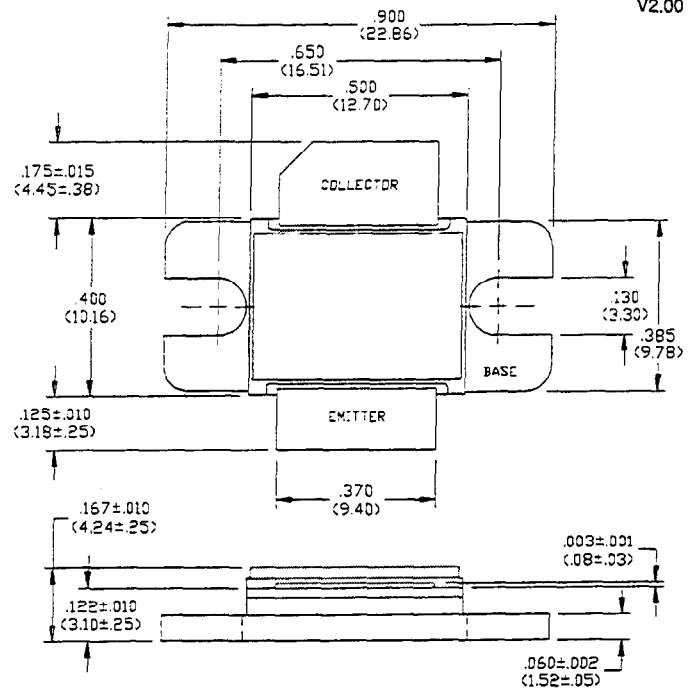
V2.00

Features

- NPN Silicon 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}	80	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	12	A
Total Power Dissipation	P_{TOT}	580	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C



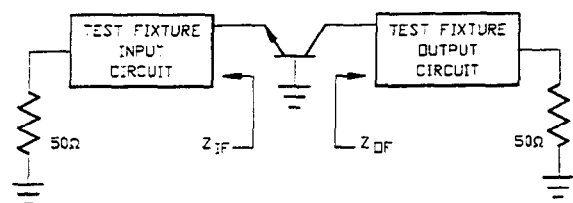
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" (MILLIMETERS ±.13MM)

Electrical Characteristics at 25°C

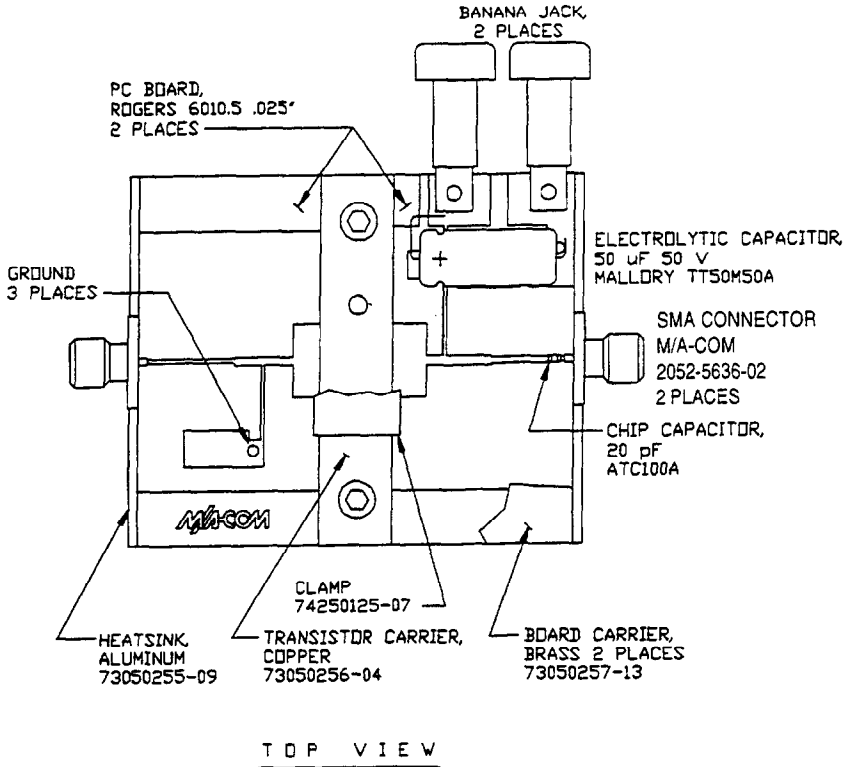
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	80	-	V	$I_C = 100$ mA
Collector-Emitter Leakage Current	I_{CES}	-	7.5	mA	$V_{CE} = 40$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.3	°C/W	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz
Output Power	P_{OUT}	135	-	W	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz
Power Gain	G_p	7.5	-	dB	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz
Collector Efficiency	η_C	40	-	%	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz
Input Return Loss	RL	9	-	dB	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC} = 42$ V, $P_{IN} = 24$ W, $F = 2.9, 3.0, 3.1$ GHz

Broadband Test Fixture Impedances

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
2.90	4.0 - j6.0	2.3 - j4.3
3.00	4.2 - j5.9	2.5 - j3.9
3.10	4.1 - j5.9	2.4 - j3.8



RF Test Fixture



Test Fixture PC Board Dimensions

