

# Radar Pulsed Power Transistor, 135W, 20 $\mu$ s Pulse, 1% Duty 2.9 - 3.1 GHz

## PH2931-135S

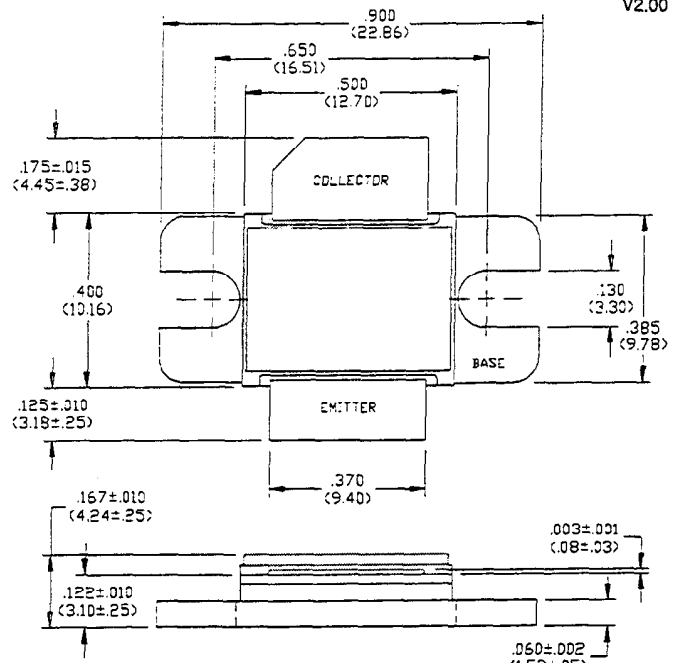
V2.00

### 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



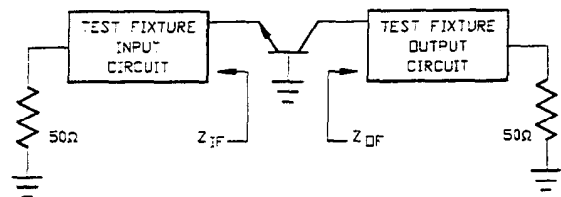
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES  $\pm .005$   
(MILLIMETERS  $\pm .13$ MM)

### 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	$\eta_C$	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



Specifications Subject to Change Without Notice.

9-228

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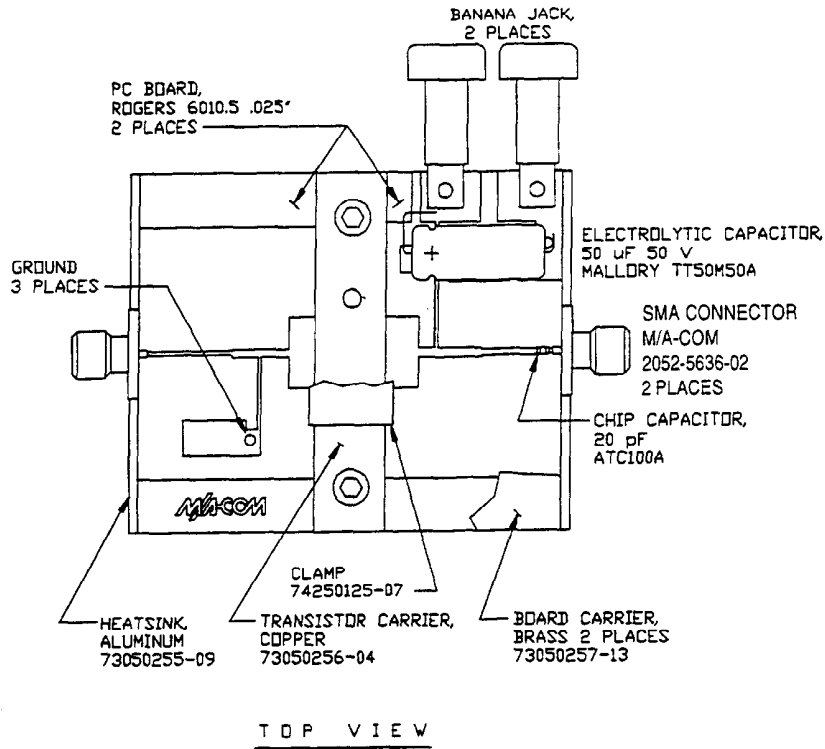
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Fax (800) 618-8883

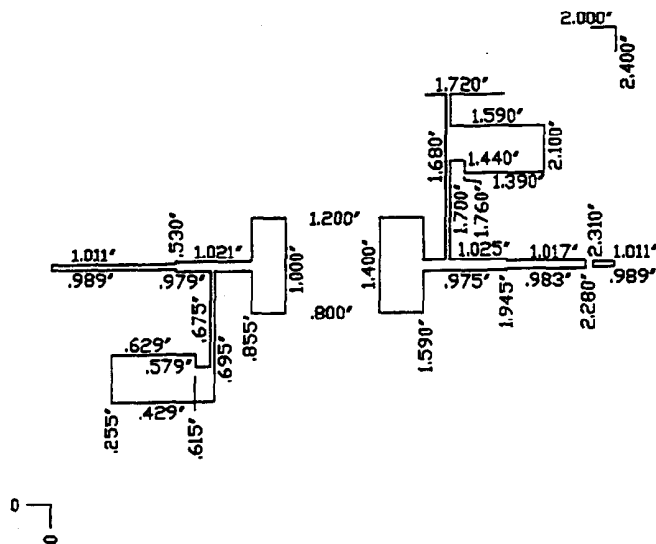
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RF Test Fixture



Test Fixture PC Board Dimensions



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