

# Radar Pulsed Power Transistor, 25W, 2 $\mu$ s Pulse, 10% Duty

## 3.1 - 3.5 GHz

### PH3135-25S

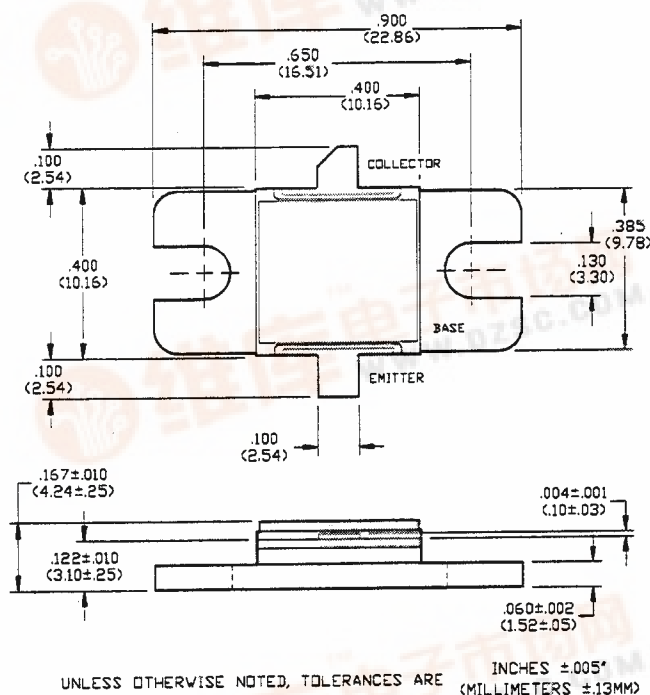
V2.00

#### 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)	$I_C$	3.0	A
Total Power Dissipation	$P_{TOT}$	195	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-65 to +200	°C

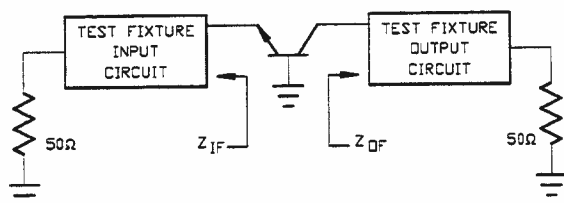


#### Electrical Characteristics at 25°C

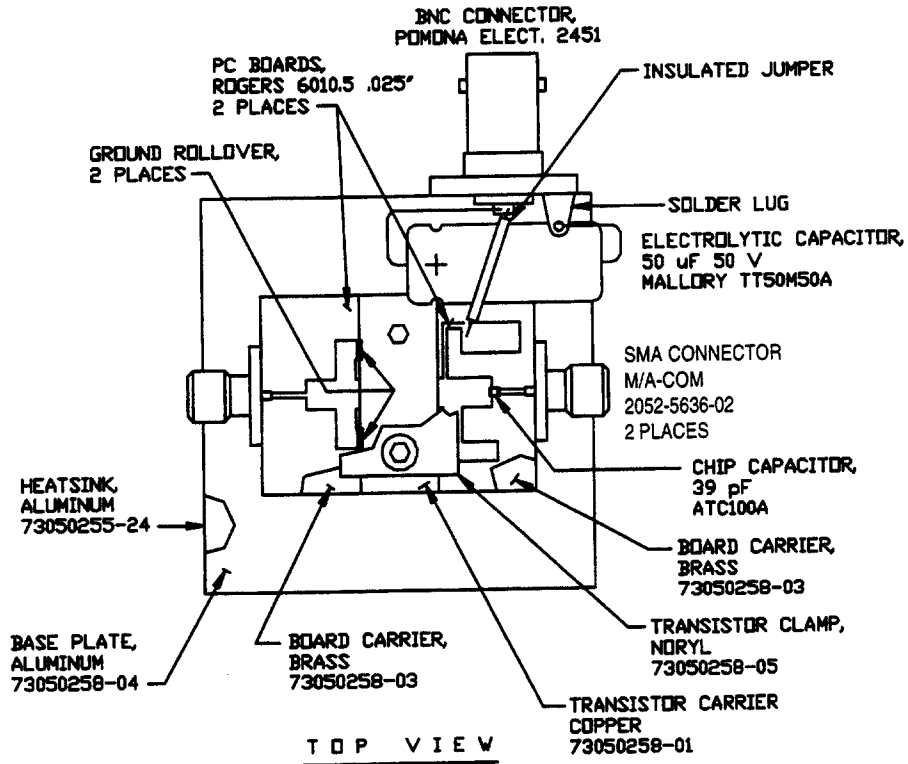
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	$BV_{CES}$	65	-	V	$I_C=10$ mA
Collector-Emitter Leakage Current	$I_{CES}$	-	1.5	mA	$V_{CE}=40$ V
Thermal Resistance	$R_{TH(JC)}$	-	0.9	°C/W	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz
Input Power	$P_{IN}$	-	4.5	W	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz
Power Gain	$G_p$	7.5	-	dB	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz
Collector Efficiency	$\eta_c$	35	-	%	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz
Input Return Loss	RL	6	-	dB	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=36$ V, $P_{OUT}=25$ W, $F=3.1, 3.3, 3.5$ GHz

#### Broadband Test Fixture Impedances

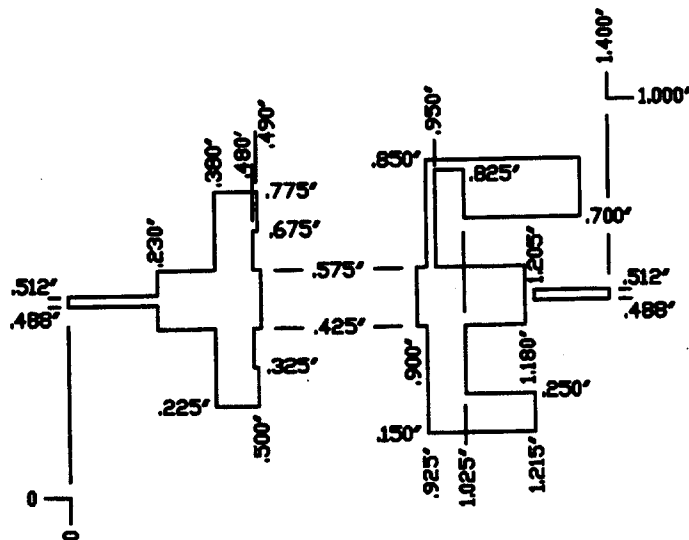
F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
3.10	16.0 + j5.5	19.0 + j3.4
3.30	14.5 + j1.6	14.2 - j2.8
3.50	11.3 + j0.0	10.7 - j3.3



RF Test Fixture



Test Fixture PC Board Dimensions



Specifications Subject to Change Without Notice.