



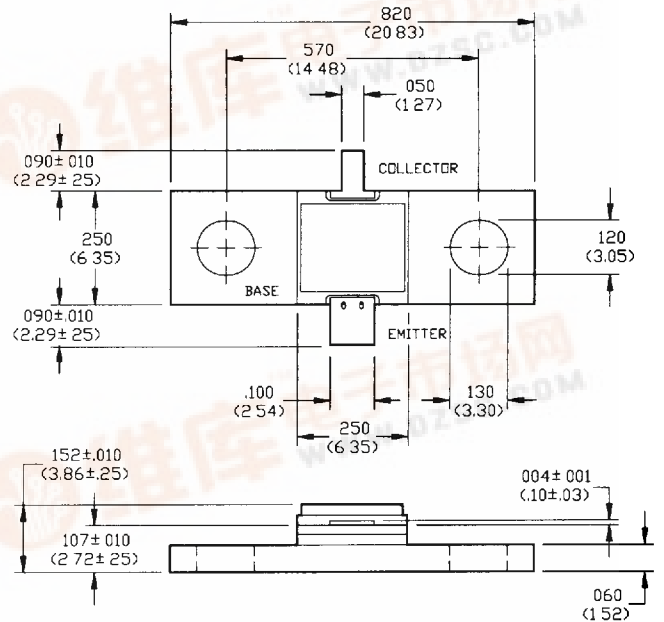
# Linear Accelerator Pulsed Power Transistor PH2856-3

3 Watts, 2.856 GHz, 12 μs Pulse, 10% Duty

## Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Class C Operation
- Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Internal Input Impedance Matching
- Hermetic Metal/Ceramic Package

## Outline Drawing



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

## Absolute Maximum Ratings at 25°C

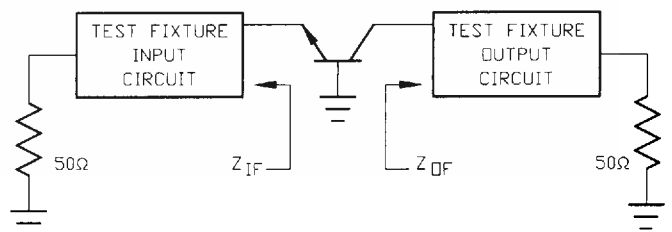
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	$V_{CES}$	60	V
Emitter-Base Voltage	$V_{EBO}$	3.0	V
Collector Current (Peak)	$I_C$	0.35	A
Power Dissipation	$P_D$	25	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-65 to +200	°C

## Electrical Characteristics at 25°C

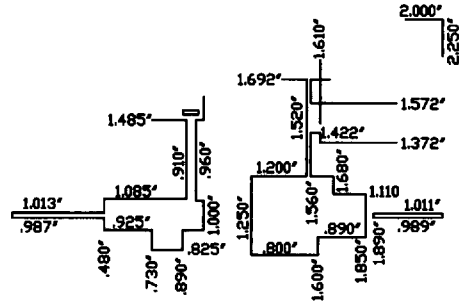
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	$BV_{CES}$	60	-	V	$I_C=5\text{ mA}$
Collector-Emitter Leakage Current	$I_{CES}$	-	0.5	mA	$V_{CE}=40\text{ V}$
Thermal Resistance	$R_{TH(JC)}$	-	7.0	°C/W	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$
Output Power	$P_{OUT}$	3.0	-	W	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$
Power Gain	$G_p$	10.0	-	dB	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$
Collector Efficiency	$\eta_C$	35	-	%	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$
Input Return Loss	RL	6	-	dB	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=36\text{ V}, P_{IN}=0.3\text{ W}, F=2.856\text{ GHz}$

## Test Fixture Impedance

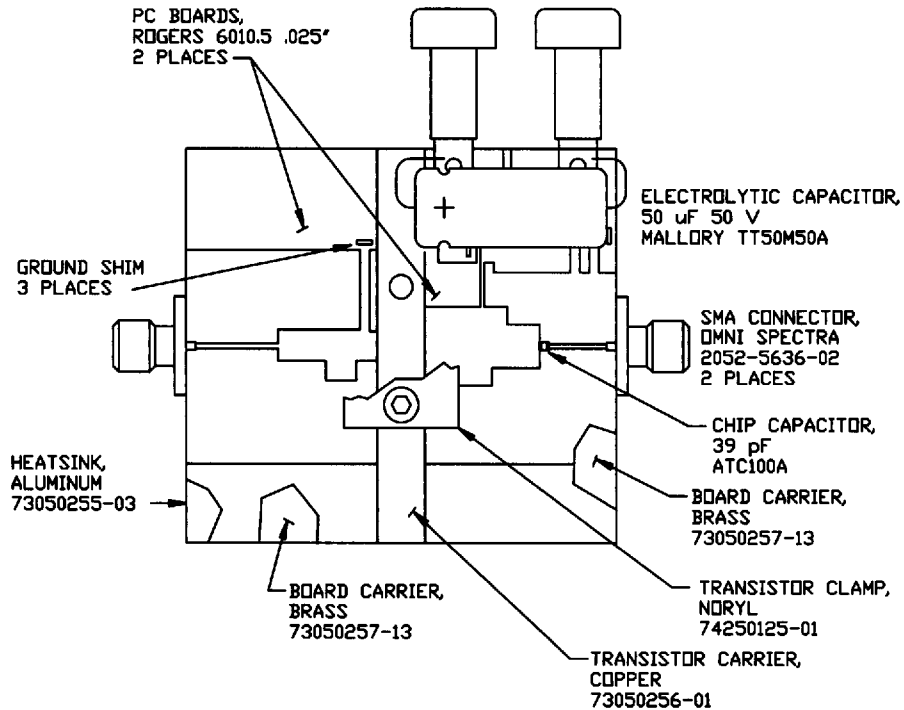
F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
2.856	$6.8 + j9.3$	$14.6 + j18.0$



## Test Fixture Electrical Schematic



C I R C U I T   D I M E N S I O N S



T O P   V I E W