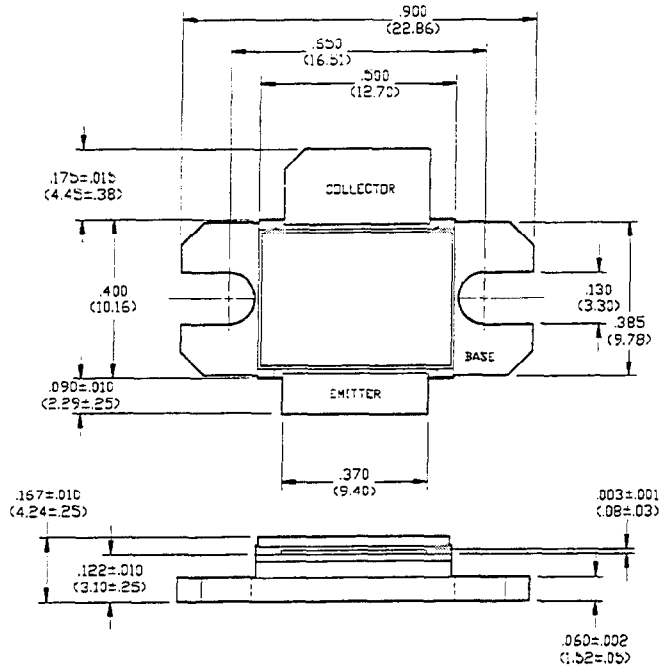
Linear Accelerator Pulsed Power Transistor, 160W, 12µs Pulse, 10% Duty

2.856 GHz PH2856-160

V2.00

Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- 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

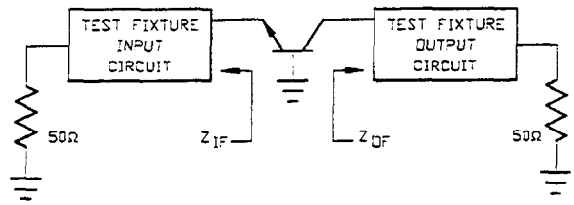
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	15.0	A
Total Power Dissipation	P_{TOT}	700	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

Electrical Characteristics at 25°C

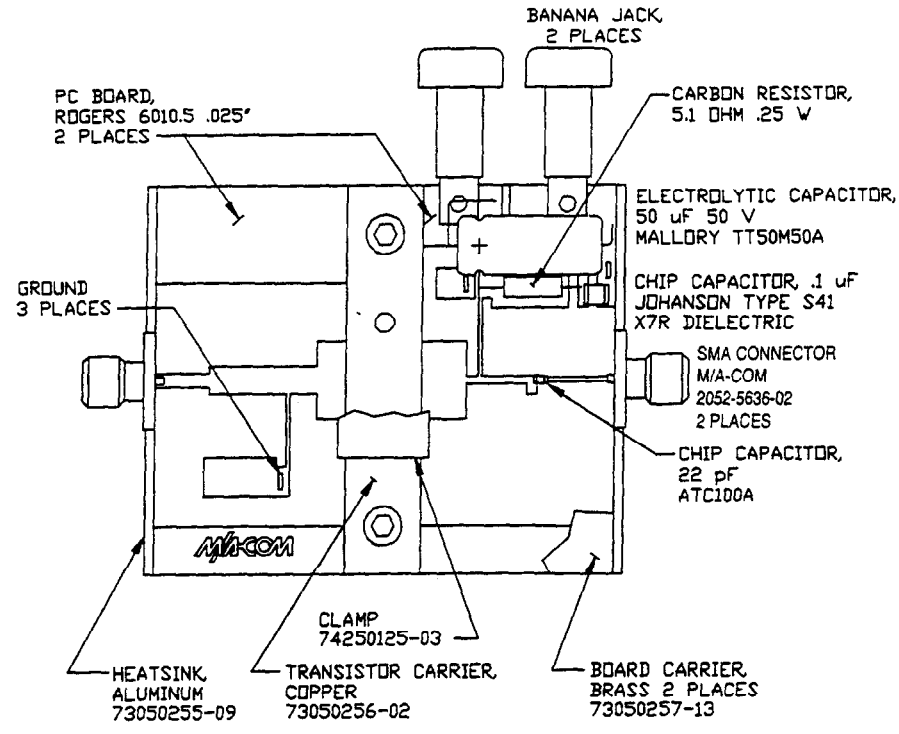
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	I_C=40 mA
Collector-Emitter Leakage Current	I_{CES}	-	7.5	mA	V_{CE}=36 V
Thermal Resistance	$R_{TH(JC)}$	-	0.25	°C/W	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz
Input Power	P_{IN}	-	28.5	W	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz
Power Gain	G_P	7.5	-	dB	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz
Collector Efficiency	η_C	40	-	%	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz
Input Return Loss	RL	6	-	dB	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V_{CC}=40 V, P_{OUT}=160 W, F=2.856 GHz

Test Fixture Impedance

F(GHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
2.856	4.4 - j4.9	4.6 - j1.6



RF Test Fixture



Test Fixture PC Board Dimensions