



Avionics Pulsed Power Transistor

PH1090-6S

Preliminary

6 Watts, 1030-1090 MHz, 10 μ s Pulse, 1% Duty

Features

- Designed for Short Pulse IFF Applications
- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Internal Input Impedance Matching
- Hermetic Metal/Ceramic Package

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	70	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	430	mA
Power Dissipation	P_D	15	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

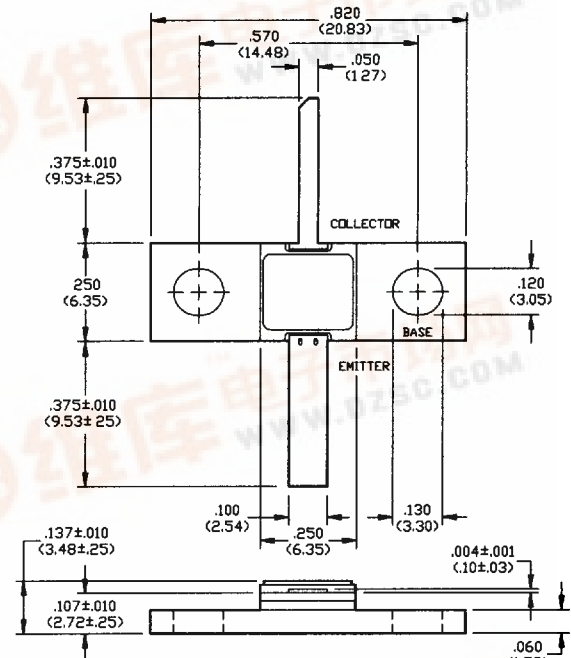
Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	70	-	V	$I_C = 12.5$ mA
Collector-Emitter Leakage Current	I_{CES}	-	1.5	mA	$V_{CE} = 40$ V
Thermal Resistance	$R_{TH(JC)}$	-	6.3	°C/W	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Input Power	P_{IN}	-	760	mW	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Power Gain	G_p	9.0	-	dB	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Collector Efficiency	η_C	55	-	%	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Input Return Loss	RL	9	-	dB	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Load Mismatch Tolerance	VSWR-T	-	10:1	-	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC} = 28$ V, $P_{OUT} = 6.0$ W, $F = 1090$ MHz

Broadband Test Fixture Impedances

F(MHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
1030	TBD	TBD
1090	TBD	TBD

Outline Drawing



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

