



Avionics Pulsed Power Transistor

PH0912-10

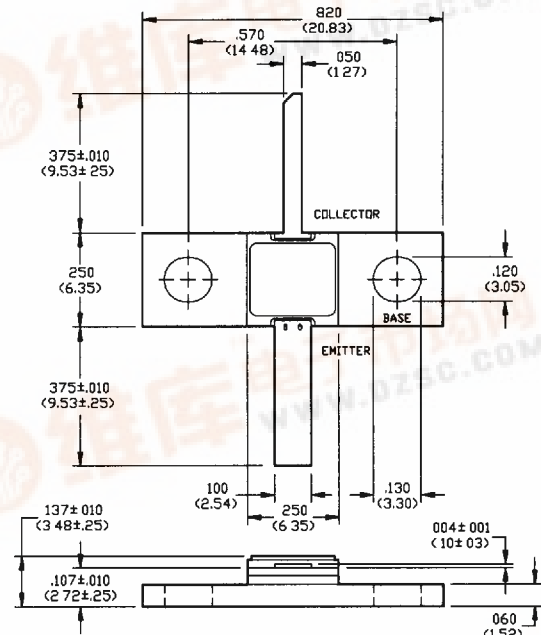
Preliminary

10 Watts, 960-1215 MHz, 7 μ s Pulse, 50% Duty

Features

- Designed for JTIDS 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

Outline Drawing



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

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	70	V
Emitter-Base Voltage	V_{EB0}	3.0	V
Collector Current (Peak)	I_C	1.3	A
Power Dissipation	P_D	27.5	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	$R_{TH(JC)}$	-	5.4	°C/W	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Output Power	P_{OUT}	10	-	W	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Power Gain	G_p	8.5	-	dB	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Collector Efficiency	η_C	50	-	%	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Input Return Loss	RL	9	-	dB	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC}=28$ V, $P_{IN}=1.4$ W, $F=960, 1090, 1215$ MHz

Broadband Test Fixture Impedances

F(MHz)	$Z_{IF}(\Omega)$	$Z_{OF}(\Omega)$
960	TBD	TBD
1090	TBD	TBD
1215	TBD	TBD

