

JTDB75

75 Watts, 36 Volts, Pulsed Avionics 960 - 1215 MHz

GENERAL DESCRIPTION

The JTDB75 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 960-1215 MHz. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. The transistor includes input and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE 55AW, Style 1

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C² 220 W

Maximum Voltage and Current

 $\begin{array}{lll} \mbox{Collector to Base Voltage } (\mbox{BV}_{ces}) & 55 \ \mbox{V} \\ \mbox{Emitter to Base Voltage } (\mbox{BV}_{ebo}) & 3.5 \ \mbox{V} \\ \mbox{Collector Current } (\mbox{I}_c) & 8.0 \ \mbox{A} \\ \end{array}$

Maximum Temperatures

Storage Temperature $-65 \text{ to } +200 \text{ }^{\circ}\text{C}$ Operating Junction Temperature $+200 \text{ }^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Out	F = 960-1215 MHz	75			W
P _{in}	Power Input	Vcc = 36 Volts			15	W
P_g	Power Gain	PW = 10 μsec, Note 1	7.0	8.2		dB
$\eta_{\rm c}$	Collector Efficiency	DF = 40%, Note 1		40		%
VSWR ¹	Load Mismatch Tolerance	F = 1090 MHz			3:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

$\mathrm{BV}_{\mathrm{ebo}}$	Emitter to Base Breakdown	Ie = 30 mA	3.5		V
BV_{ces}	Collector to Emitter Breakdown	Ic = 30 mA	55		V
h_{FE}	DC – Current Gain	Vce = 5V, Ic = 1A	20	100	
θjc^2	Thermal Resistance			0.8	°C/W

NOTE 1: At rated output power and pulse conditions

2. At rated pulse conditions

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