

JTDB 25

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

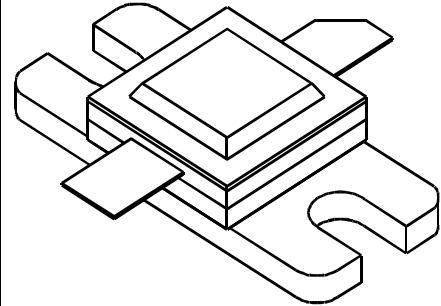
GENERAL DESCRIPTION

The JTDB 25 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.

ABSOLUTE MAXIMUM RATINGS

| | |
|-----------------------------------------------|-----------------|
| Maximum Power Dissipation @ 25°C ² | 97 Watts |
| Maximum Voltage and Current | |
| BVces Collector to Base Voltage | 55 Volts |
| BVebo Emitter to Base Voltage | 3.5 Volts |
| Ic Collector Current | 5.0 Amps |
| Maximum Temperatures | |
| Storage Temperature | - 65 to + 200°C |
| Operating Junction Temperature | + 200°C |

CASE OUTLINE 55AW, STYLE 1



ELECTRICAL CHARACTERISTICS @ 25 °C

| SYMBOL | CHARACTERISTICS | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|--------|-------------------------|------------------|-----|-----|-----|-------|
| Pout | Power Out | F = 960-1215 MHz | 25 | | | Watts |
| Pin | Power Input | Vcc = 36 Volts | | | 5.0 | Watts |
| Pg | Power Gain | PW = 10 μsec | 7.0 | 7.5 | | dB |
| ηc | Collector Efficiency | DF = 40% | | 40 | | % |
| VSWR | Load Mismatch Tolerance | F = 1090 MHz | | | 5:1 | |

| | | | | | | |
|------------------|--------------------------------|------------------------|-----|--|-----|-------|
| BVebo | Emitter to Base Breakdown | Ie = 5 mA | 3.5 | | | Volts |
| BVces | Collector to Emitter Breakdown | Ic = 10 mA | 55 | | | Volts |
| hFE | DC - Current Gain | Ic = 500 mA, Vce = 5 V | 10 | | | |
| θjc ² | Thermal Resistance | | | | 1.8 | °C/W |

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

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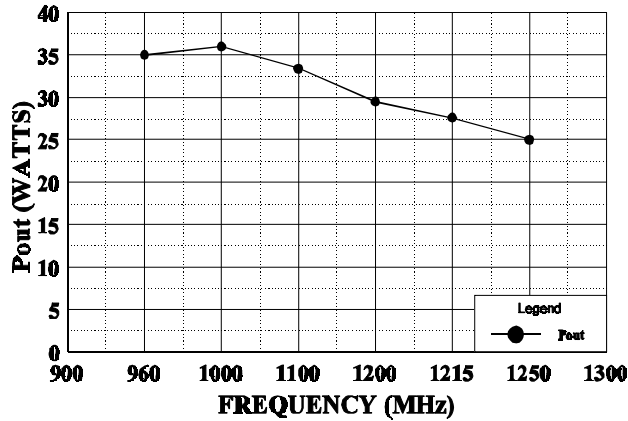
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All Data shown is for operation under the rated pulse conditions.

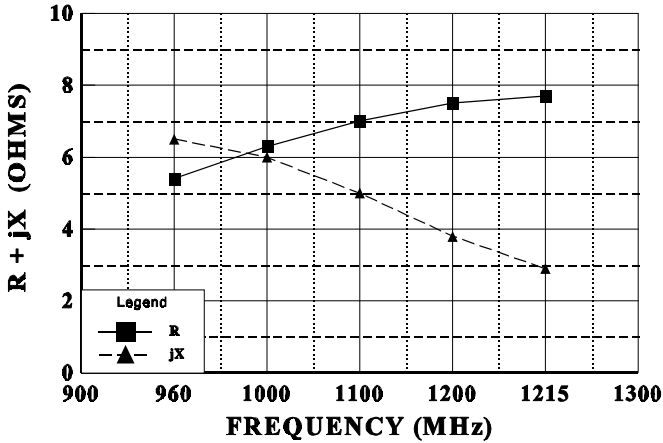
POWER OUTPUT vs FREQUENCY

Vcc = 36 V, Pin = 5 W



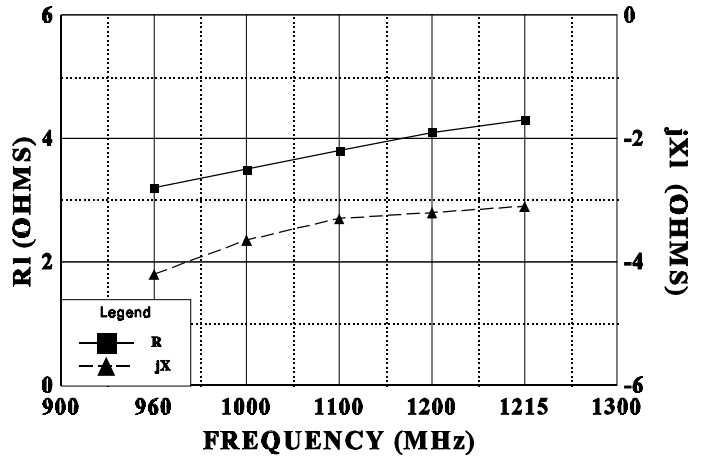
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 36 V, Pin = 5 W



SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 36 V, Pin = 5 W



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