

FBR5000 - FBR5010

PRV : 50 - 1000 Volts
Io : 50 Amperes

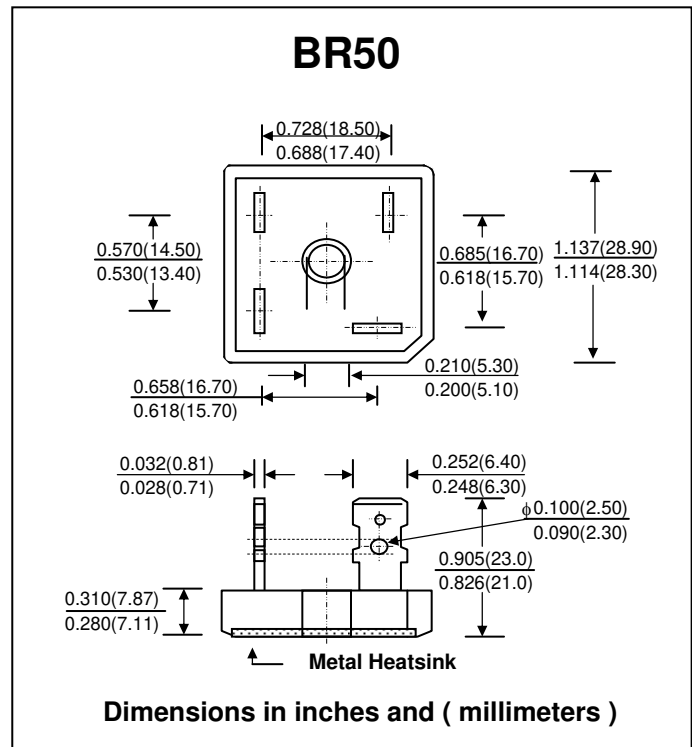
FEATURES :

- * High case dielectric strength
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Fast switching for high efficiency
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : Molded plastic with heatsink integrally mounted in the bridge encapsulation
- * Epoxy : UL94V-O rate flame retardant
- * Terminals : plated .25" (6.35 mm). Faston
- * Polarity : Polarity symbols marked on case
- * Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
- * Weight : 17.1 grams

FAST RECOVERY BRIDGE RECTIFIERS



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load
 For capacitive load, derate current by 20%

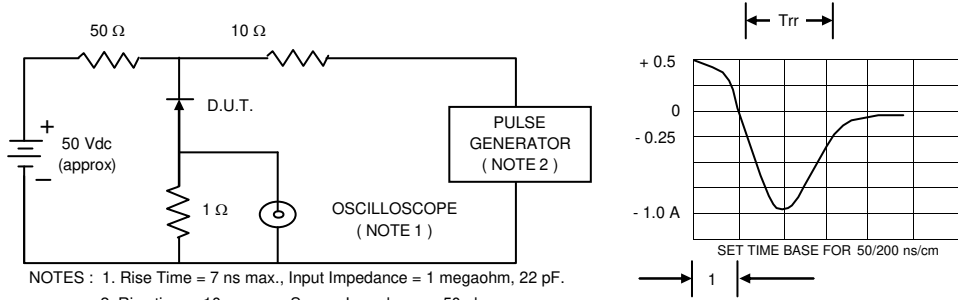
| RATING | SYMBOL | FBR 5000 | FBR 5001 | FBR 5002 | FBR 5004 | FBR 5006 | FBR 5008 | FBR 5010 | UNIT |
|--|--------------------|---------------|----------|----------|----------|----------|----------|----------|------------------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Current T _C = 55 °C | I _{F(AV)} | 50 | | | | | | | A |
| Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method) | I _{FSM} | 400 | | | | | | | A |
| Current Squared Time at t < 8.3 ms. | i ² t | 664 | | | | | | | A ² S |
| Maximum Forward Voltage drop per Diode at I _F = 25 A | V _F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current T _a = 25 °C at Rated DC Blocking Voltage T _a = 100 °C | I _R | 10 | | | | | | | µA |
| | I _{R(H)} | 1.0 | | | | | | | mA |
| Maximum Reverse Recovery Time (Note 1) | T _{rr} | 200 | | | 300 | | 500 | | ns |
| Typical Thermal Resistance per diode (Note 2) | R _{θJC} | 1 | | | | | | | °C/W |
| Operating Junction Temperature Range | T _J | - 50 to + 150 | | | | | | | °C |
| Storage Temperature Range | T _{STG} | - 50 to + 150 | | | | | | | °C |

Notes :

- 1) Measured with F = 0.5 Amp., I_R = 1 Amp., I_{rr} = 0.25 Amp.
- 2) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink

RATING AND CHARACTERISTIC CURVES (FBR5000 - FBR5010)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.
 3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

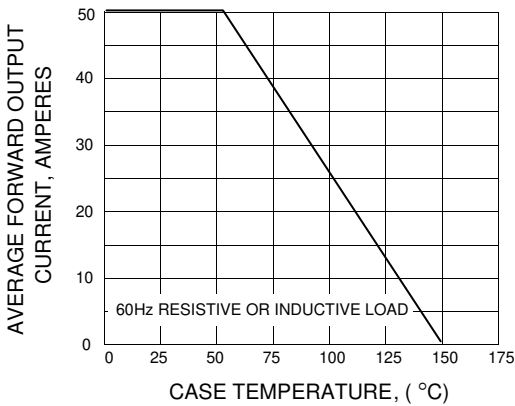


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

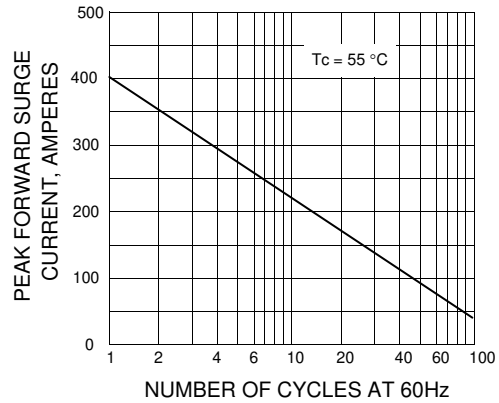


FIG.4 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

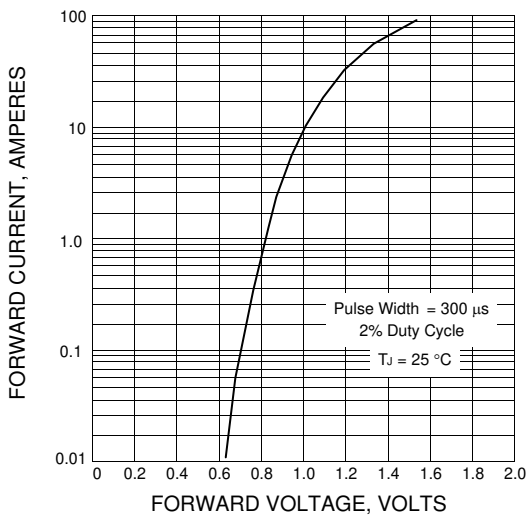


FIG.5 - TYPICAL REVERSE CHARACTERISTICS PER DIODE

