



SINGLE PHASE FAST RECOVERY BRIDGE RECTIFIER

FBR2505WN THRU FBR2510WN

VOLTAGE RANGE
CURRENT

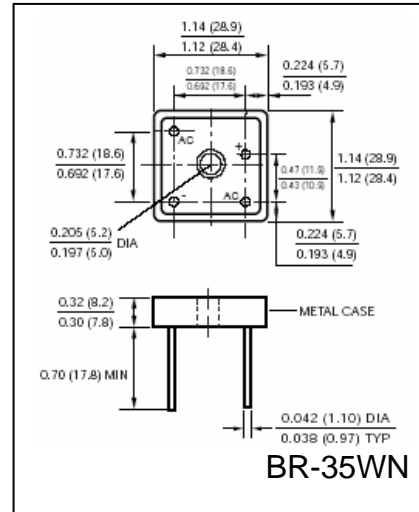
50 to 1000 Volts
25.0 Ampere

FEATURES

- High speed fast recovery bridge
- High forward surge current capability
- Integrally molded heatsink provides very low Thermal resistance
- High isolation voltage from case to lead
- High temperature soldering guaranteed: 260°C / 10 seconds

MECHANICAL DATA

- Case: Molded plastic body
- Terminal: Plated lead 0.040" (1.02mm) diameter
- Polarity: Polarity symbols marked on case
- Mounting: Thru hole for #10 screw, 20 in-lbs Torque max.
- Weight: 0.47 ounce, 13.4 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| | SYMBOLS | FBR 2505WN | FBR 251WN | FBR 252WN | FBR 254WN | FBR 256WN | FBR 258WN | FBR 2510WN | UNIT |
|---|-----------------|---------------|-----------|-----------|-----------|-----------|-----------|------------|--------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current, At $T_C = 50^\circ C$ (Note 1 and 2) | $I_{(AV)}$ | 25 | | | | | | | Amps |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 300 | | | | | | | Amps |
| Rating for Fusing ($t < 8.3mS$) | I^2t | 373 | | | | | | | A^2s |
| Maximum Instantaneous Forward Voltage drop per Bridge element 12.5A | V_F | 1.2 | | | | 1.3 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per element | I_R | 10 | | | | | | | μA |
| | | 1.0 | | | | | | | mA |
| Maximum Reverse Recovery Time Test conditions $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$ | t_{rr} | 150 | | | | 250 | 500 | | nS |
| Isolation Voltage from case to lug | V_{ISO} | 2500 | | | | | | | Volts |
| Typical Thermal Resistance (Note 1 and 2) | $R_{\theta Jc}$ | 2.0 | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature Range | T_J | (-55 to +150) | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | $^\circ C$ |

Notes:

1. Unit mounted on 5" x 6" x 4.9" (12.8cm x 15.2cm x 12.4cm) AL finned plate
2. Bolt down on heat-sink with silicon thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw



RATINGS AND CHARACTERISTIC CURVES FBR2505WN THRU FBR2510WN

FIG.1-DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

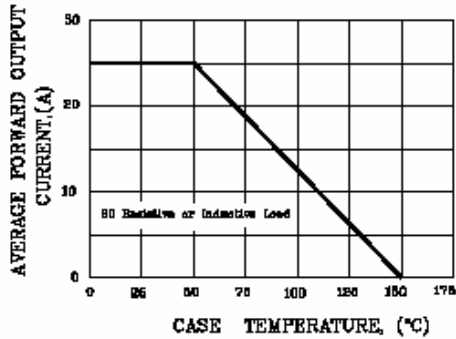


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

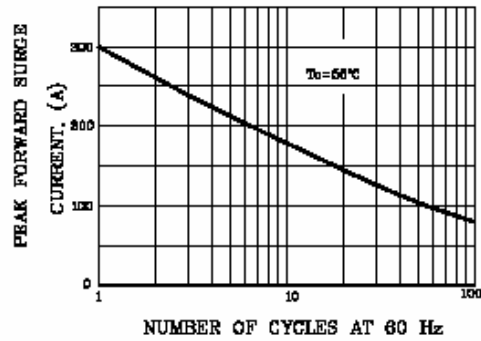


FIG.3-TYPICAL FORWARD CHARACTERISTICS PER DIODE

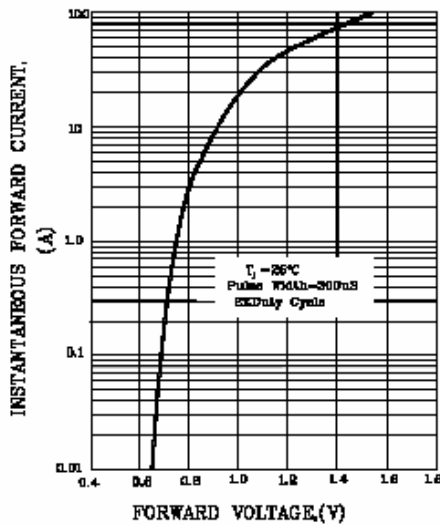


FIG.4-TYPICAL REVERSE CHARACTERISTICS PER DIODE

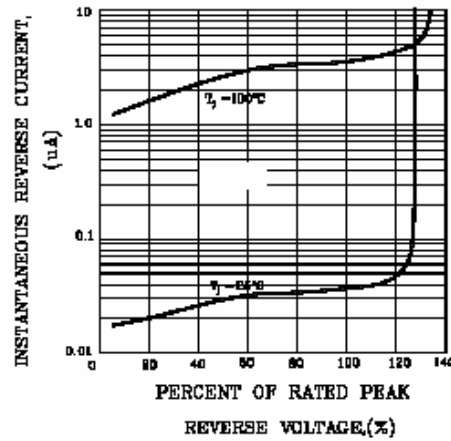
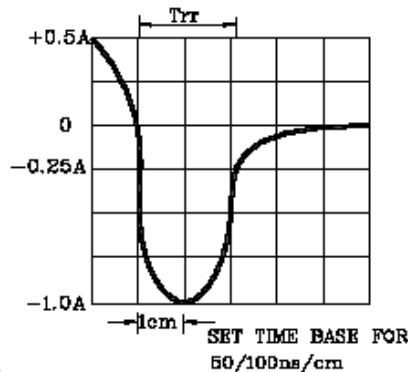
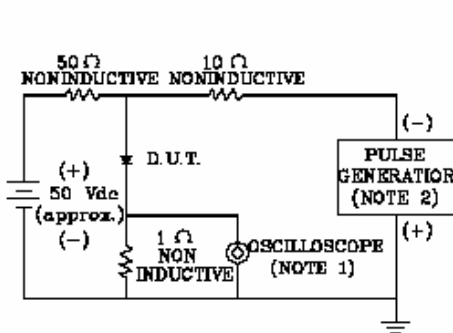


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm 22pF

2. Rise time = 10ns max. Source Impedance = 50 ohms