



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**TBR2500
THRU
TBR2516**

TECHNICAL SPECIFICATIONS OF THREE-PHASE SILICON BRIDGE RECTIFIER

VOLTAGE RANGE - 50 to 1600 Volts

CURRENT - 25 Amperes

FEATURES

- * Diffused Junction
- * Low Forward Voltage Drop
- * High Current Capability
- * High Reliability
- * High Surge Current Capability
- * Ideal for Printed Circuit Boards

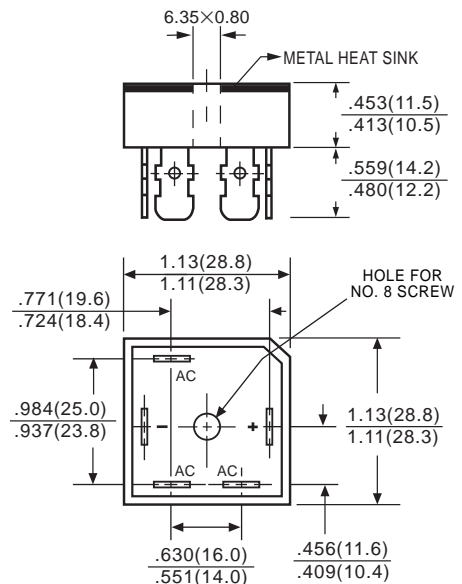
MECHANICAL DATA

- * Case: Molded plastic with heatsink
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Plated .25"(6.35mm) Faston lugs, Solderable per MIL-STD-202E, Method 208 guaranteed
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 20 grams(approx.)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

TBR



Dimensions in millimeters

| | | SYMBOL | TBR 2500 | TBR 2501 | TBR 2502 | TBR 2504 | TBR 2506 | TBR 2508 | TBR 2510 | TBR 2512 | TBR 2514 | TBR 2516 | UNITS |
|---|--------------------------|-----------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------------|
| Maximum Recurrent Peak Reverse Voltage & DC Blocking Voltage | | V_{RRM}, V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | Volts |
| Maximum RMS Bridge Input Voltage | | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 840 | 980 | 1120 | Volts |
| Peak Non-Repitative Reverse Voltage | | V_{RSM} | 75 | 150 | 275 | 500 | 725 | 900 | 1100 | 1300 | 1500 | 1700 | Volts |
| Maximum Average Forward Rectified Output Current at $T_c = 50^\circ C$ | | I_o | 25 | | | | | | | | | | Amps |
| Non-Repitative Peak Forward Surge Current | No Voltage Reapplied | $t=8.3ms$ at 60Hz | 375 | | | | | | | | | | Amps |
| | | $t=10ms$ at 50Hz | 360 | | | | | | | | | | |
| | 100% V_{RRM} Reapplied | $t=8.3ms$ at 60Hz | 314 | | | | | | | | | | |
| | | $t=10ms$ at 50Hz | 300 | | | | | | | | | | |
| Forward Voltage(per element) @ $T_J=25^\circ C$, @ $I_{FM}=40A_{pk}$ per single junction | | V_F | 1.26 | | | | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per element | | @ $T_J = 25^\circ C$ | 10 | | | | | | | | | | μ Amps |
| | | @ $T_J = 125^\circ C$ | 5.0 | | | | | | | | | | mAmps |
| I^2t Rating for Fusing | No Voltage Reapplied | $t=8.3ms$ at 60Hz | 580 | | | | | | | | | | A ² Sec |
| | | $t=10ms$ at 50Hz | 635 | | | | | | | | | | |
| | 100% V_{RRM} Reapplied | $t=8.3ms$ at 60Hz | 410 | | | | | | | | | | |
| | | $t=10ms$ at 50Hz | 450 | | | | | | | | | | |
| RMS Isolation Voltage from Case to Lead | | V_{ISO} | 2500 | | | | | | | | | | Volts |
| Thermal Resistance Case to Heatsink Mounting Surface, Smooth, Flat and Greased | | $R_{\theta CS}$ | 0.2 | | | | | | | | | | K/W |
| Thermal Resistance Junction to Case at DC Operation per Bridge | | $R_{\theta JC}$ | 1.42 | | | | | | | | | | K/W |
| Operating and Storage Temperature Range | | T_J, T_{STG} | -40 to +150 | | | | | | | | | | $^\circ C$ |

RATING AND CHARACTERISTIC CURVES (TBR2500 THRU TBR2516)

FIG. 1 - MAXIMUM NON-REPETITIVE SURGE CURRENT

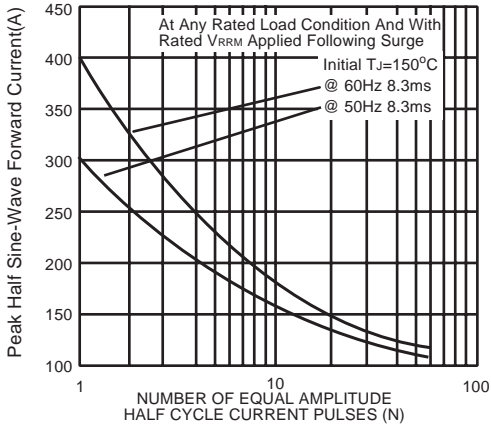


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

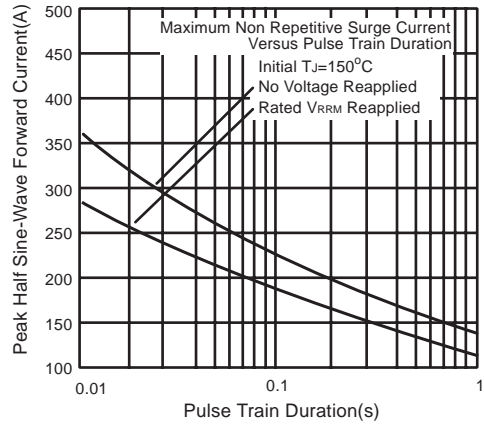


FIG. 3 - TOTAL POWER LOSS CHARACTERISTICS

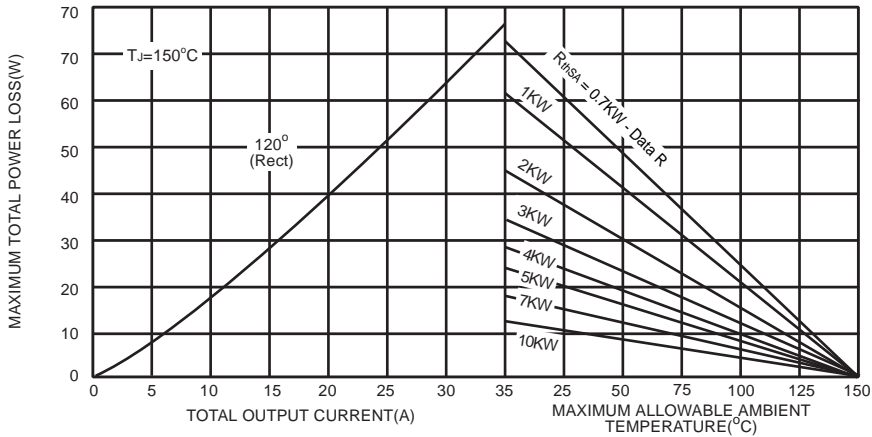


FIG. 4 - FORWARD VOLTAGE DROP CHARACTERISTICS

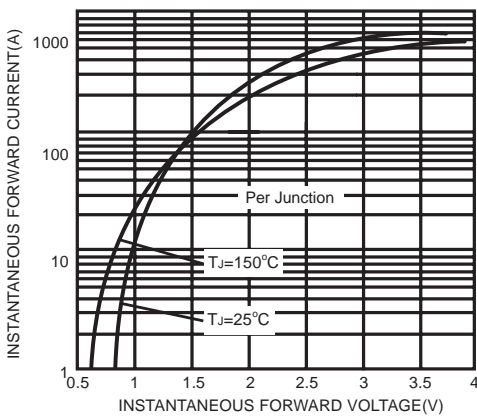
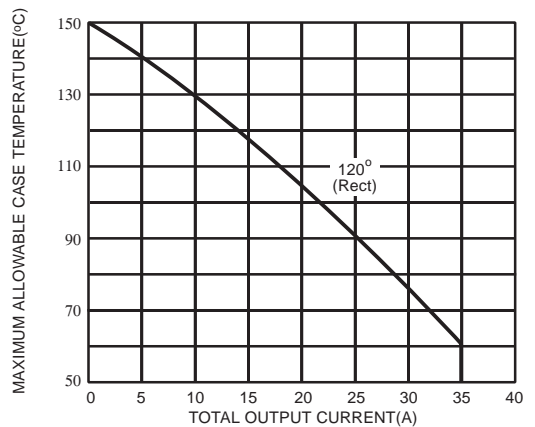


FIG. 5 - CURRET RATINGS CHARACTERISTICS



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