

SILICON PASSIVATED THREE PHASE BRIDGE RECTIFIERS

REVERSE VOLTAGE - 50 to 1600 Volts
FORWARD CURRENT - 25/35 Amperes

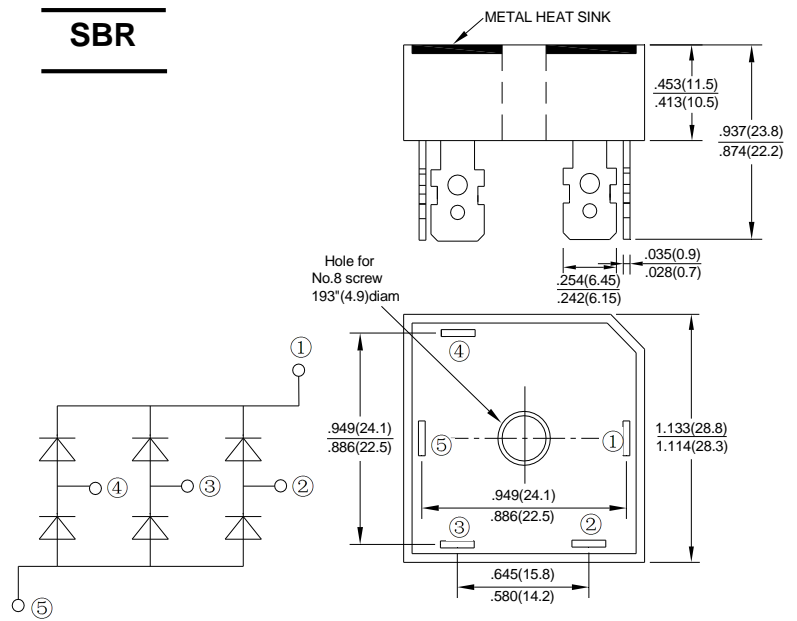
FEATURES

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

MECHANICAL DATA

- Case: Epoxy Case with Heat Sink Internally Mounted in the Bridge Encapsulation
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 20 grams (approx.)
- Mounting Position:
Bolt Down on Heatsink With Silicone Thermal Compound Between Bridge and Mounting Surface for Maximum Heat Transfer Efficiency
- Mounting Torque: 20 in lbs. Max.

SBR



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

VOLTAGE RATINGS

| CHARACTERISTICS | SYMBOL | -00 | -01 | -02 | -04 | -06 | -08 | -10 | -12 | -14 | -16 | UNIT |
|-------------------------------------|---------------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Peak Repetitive Voltage | V _{RRM} | | | | | | | | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | V |
| DC Blocking Voltage | V _R | | | | | | | | | | | |
| Peak Non-Repetitive Reverse Voltage | V _{RSM} | 75 | 150 | 275 | 500 | 725 | 900 | 1100 | 1300 | 1500 | 1700 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 840 | 980 | 1120 | V |

FORWARD CONDUCTION

| CHARACTERISTICS | SYMBOL | SBR25 | SBR35 | UNIT |
|---|------------------|--------------------------|----------------------------|------------------|
| Maximum Average Forward Rectified Current @ T _C =60°C | I _o | 25 | 35 | A |
| Non-Repetitive Peak Forward Surge Current (No Voltage Reapplied t=8.3ms at 60HZ) (No Voltage Reapplied t=10ms at 50HZ) (100% VRRM Reapplied t=8.3ms at 60HZ) (100% VRRM Reapplied t=10ms at 50HZ) | I _{FSM} | 375 360 314 300 | 500 475 420 400 | A |
| I ² t Rating for fusing (No Voltage Reapplied t=8.3ms at 60HZ) (No Voltage Reapplied t=10ms at 50HZ) (100% VRRM Reapplied t=8.3ms at 60HZ) (100% VRRM Reapplied t=10ms at 50HZ) | I ² t | 580 635 410 450 | 1030 1130 730 800 | A ² S |
| Maximum Forward Voltage drop per element at 12.5A/17.5A Peak | V _F | 1.1 | 1.2 | V |
| Peak Reverse Current (per leg) @ T _J =25°C | I _R | | 10 | μA |
| At Rated DC Blocking Voltage @ T _J =125°C | | | 5.0 | mA |
| RMS Isolation Voltage from Case to Lead | V _{iso} | | 2500 | V |

THERMAL CHARACTERISTICS

| | | | |
|--|------------------|-------------|-----|
| Operating Temperature Range | T _J | -55 to +150 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |
| Thermal Resistance Junction to Case at DC Operation per Bridge | R _{JC} | 1.42 | K/W |
| Thermal Resistance Case to Heatsink Mounting Surface, Smooth, Flat and Greased | R _{CS} | 0.2 | K/W |

FIG.1-CURRENT RATING CHARACTERISTICS

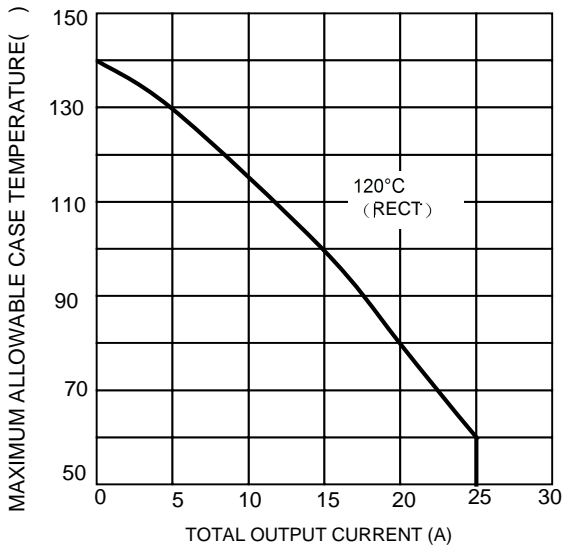


FIG.2-FORWARD VOLTAGE DROP CHARACTERISTICS

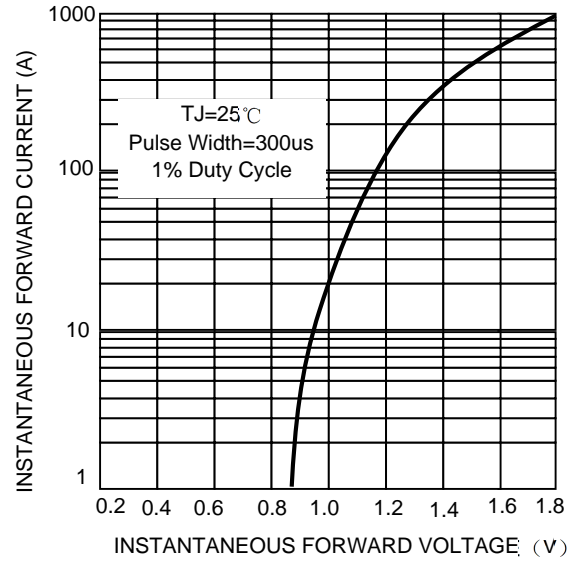


FIG.3-TOTAL POWER LOSS CHARACTERISTICS

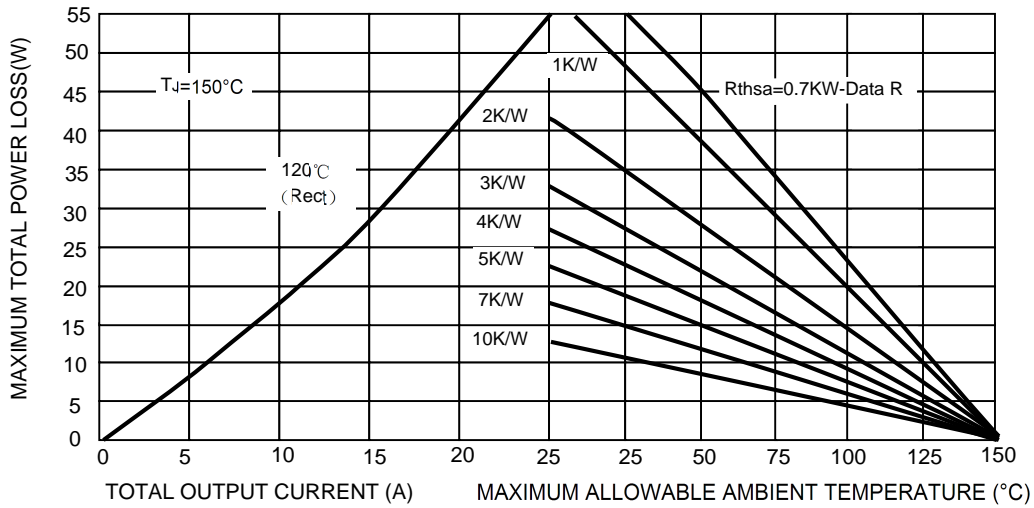


FIG.4-MAXIMUM NON-REPETITIVE SURGE CURRENT

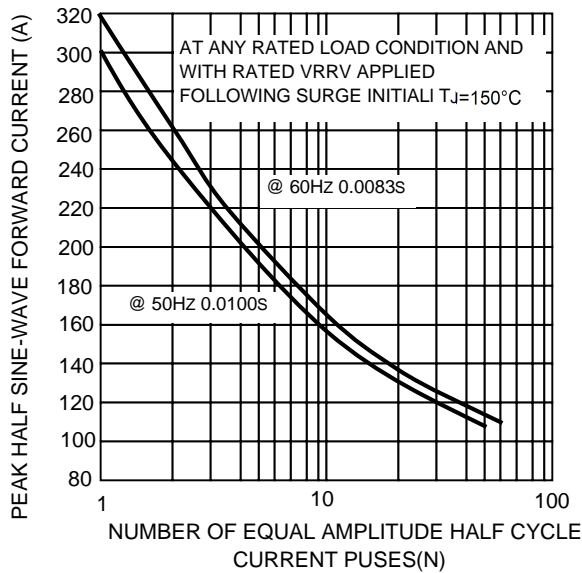


FIG.5-MAXIMUM NON-REPETITIVE SURGE CURRENT

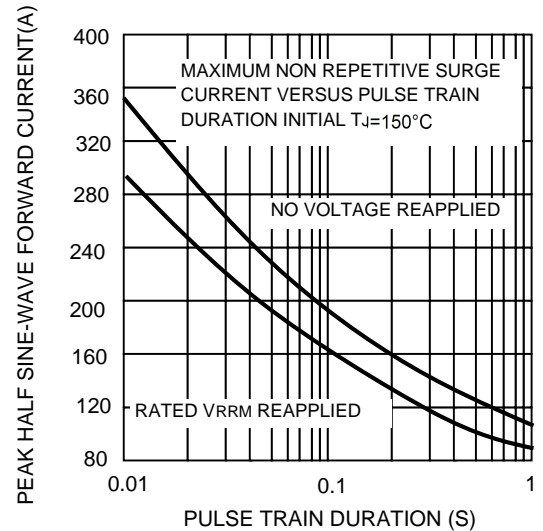


FIG.6-CURRENT RATING CHARACTERISTICS

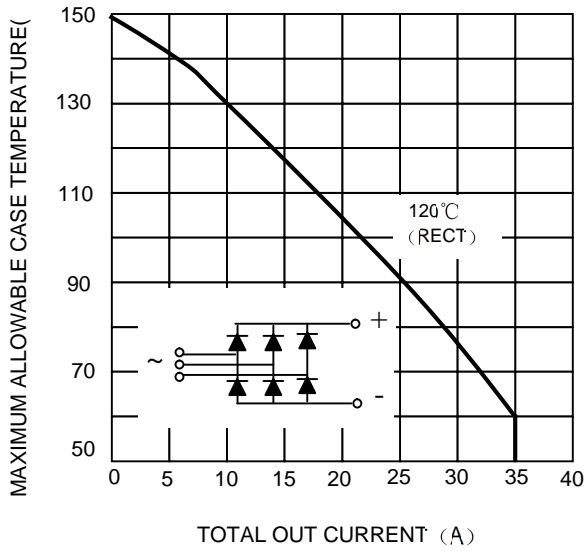


FIG.2-FORWARD VOLTAGE DROP CHARACTERISTICS

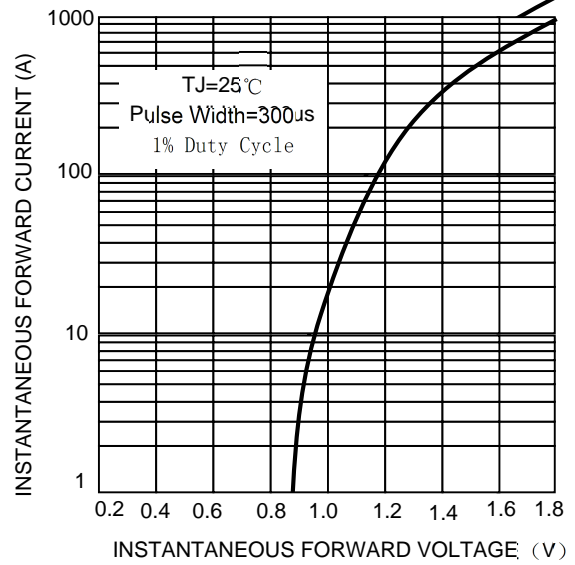


FIG.8-TOTAL POWER LOSS CHARACTERISTICS

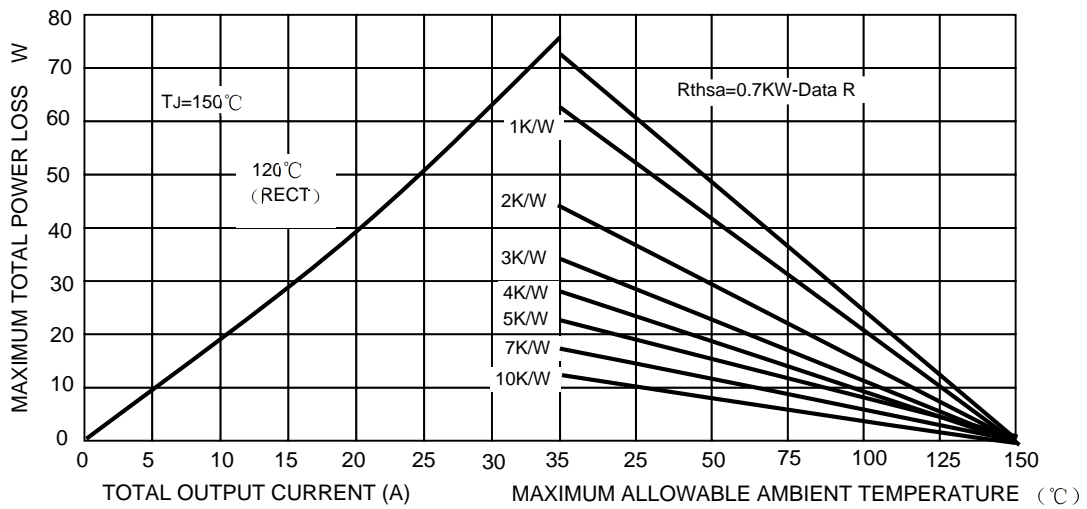


FIG.9-MAXIMUM NON-REPETITIVE SURGE CURRENT

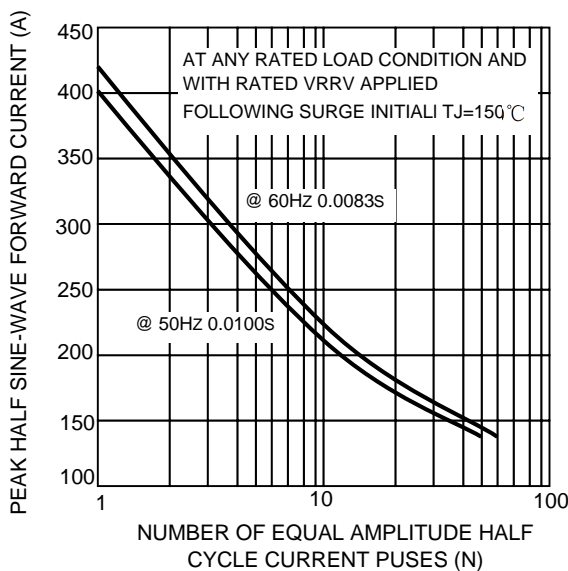


FIG.10-MAXIMUM NON-REPETITIVE SURGE CURRENT

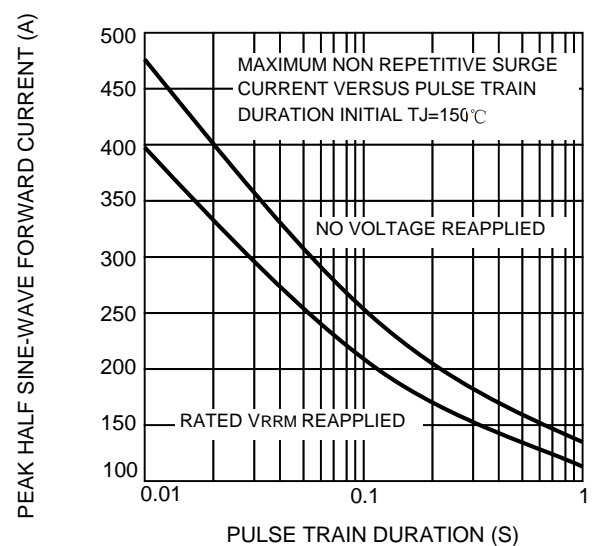


FIG.11-THERMAL IMPEDANCE Z_{ThJC} CHARACTERISTICS

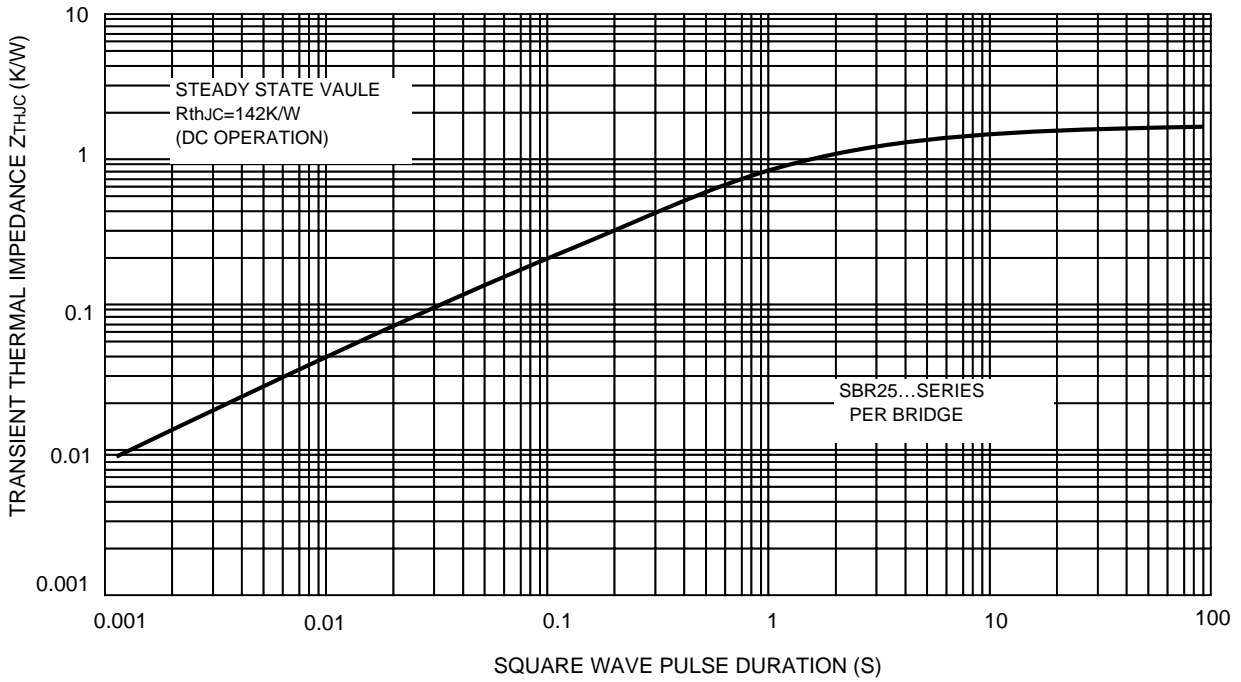


FIG.12-THERMAL IMPEDANCE Z_{ThJC} CHARACTERISTICS

