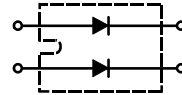


Rectifier Diode

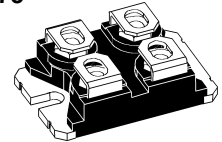
$I_{F(AV)M} = 2 \times 56 \text{ A}$
 $V_{RRM} = 1200-1600 \text{ V}$

| V_{RSM} | V_{RRM} | Type |
|-----------|-----------|--------------|
| V | V | |
| 1300 | 1200 | DSI 2x55-12A |
| 1700 | 1600 | DSI 2x55-16A |



miniBLOC, SOT-227 B

E72873



| Symbol | Conditions | Maximum Ratings (per diode) | |
|--------------|---|-----------------------------|------------------|
| I_{FRMS} | $T_C = 80^\circ\text{C}; 180^\circ \text{ sine}$ | 120 | A |
| $I_{F(AV)M}$ | | 56 | A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$ | 650 | A |
| | | 700 | A |
| | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$ | 570 | A |
| | | 610 | A |
| I^2t | $T_{VJ} = 45^\circ\text{C} t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$ | 2210 | A ² s |
| | | 2060 | A ² s |
| | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$ $t = 8.3 \text{ ms (60 Hz), sine}$ | 1620 | A ² s |
| | | 1560 | A ² s |
| T_{VJ} | | -40...+150 | °C |
| T_{VJM} | | 150 | °C |
| T_{stg} | | -40...+150 | °C |
| P_{tot} | $T_C = 25^\circ\text{C}$ | 190 | W |
| V_{ISOL} | 50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$ | 2500 | V~ |
| M_d | Mounting torque | 1.5/13 | Nm/lb.in. |
| | Terminal connection torque (M4) | 1.5/13 | Nm/lb.in. |
| Weight | | 30 | g |

Features

- International standard package miniBLOC (ISOTOP compatible)
- Isolation voltage 2500 V~
- 2 independent rectifier diodes in one package
- Planar passivated chips

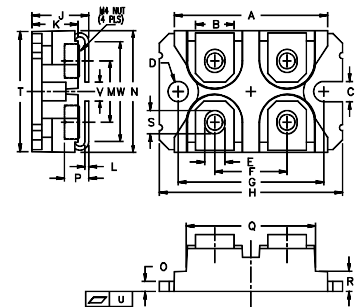
Applications

- Input rectifier diode
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

| Symbol | Conditions | Characteristic Values (per diode) | |
|------------|---|-----------------------------------|----------|
| | | typ. | max. |
| I_R | $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$ | $V_R = V_{RRM}$ | 0.3 mA |
| | | | 5 mA |
| V_F | $I_F = 60 \text{ A}; T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$ | | 1.25 V |
| | | | 1.20 V |
| V_{T0} | For power-loss calculations only | | 0.8 V |
| r_T | $T_{VJ} = T_{VJM}$ | | 8 mΩ |
| R_{thJC} | 0.1 | | 0.65 K/W |
| R_{thCH} | | K/W | |

Data according to IEC 60747

miniBLOC, SOT-227 B



M4 screws (4x) supplied

| Dim. | Millimeter | | Inches | |
|------|------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 31.50 | 31.88 | 1.240 | 1.255 |
| B | 7.80 | 8.20 | 0.307 | 0.323 |
| C | 4.09 | 4.29 | 0.161 | 0.169 |
| D | 4.09 | 4.29 | 0.161 | 0.169 |
| E | 4.09 | 4.29 | 0.161 | 0.169 |
| F | 14.91 | 15.11 | 0.587 | 0.595 |
| G | 30.12 | 30.30 | 1.186 | 1.193 |
| H | 37.80 | 38.20 | 1.489 | 1.505 |
| J | 11.68 | 12.22 | 0.460 | 0.481 |
| K | 8.92 | 9.60 | 0.351 | 0.378 |
| L | 0.76 | 0.84 | 0.030 | 0.033 |
| M | 12.60 | 12.85 | 0.496 | 0.506 |
| N | 25.15 | 25.42 | 0.990 | 1.001 |
| O | 1.98 | 2.13 | 0.078 | 0.084 |
| P | 4.95 | 5.97 | 0.195 | 0.235 |
| Q | 26.54 | 26.90 | 1.045 | 1.059 |
| R | 3.94 | 4.42 | 0.155 | 0.174 |
| S | 4.72 | 4.85 | 0.186 | 0.191 |
| T | 24.59 | 25.07 | 0.968 | 0.987 |
| U | -0.05 | 0.1 | -0.002 | 0.004 |
| V | 3.30 | 4.57 | 0.130 | 0.180 |
| W | 0.780 | 0.830 | 0.031 | 0.033 |

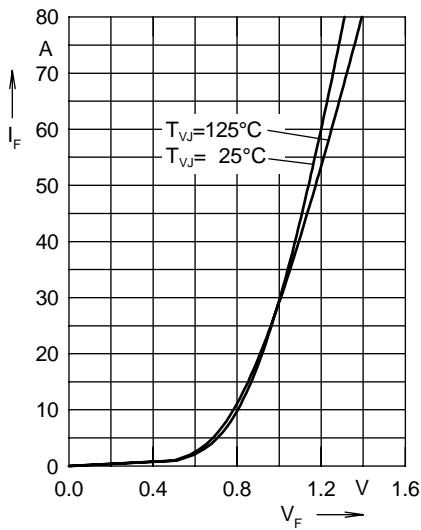


Fig. 1 Forward current versus voltage drop per diode

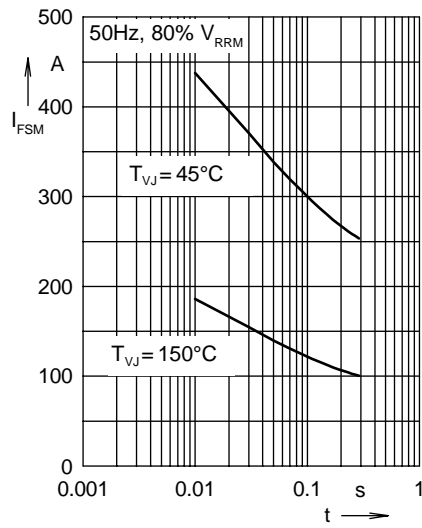


Fig. 2 Surge overload current

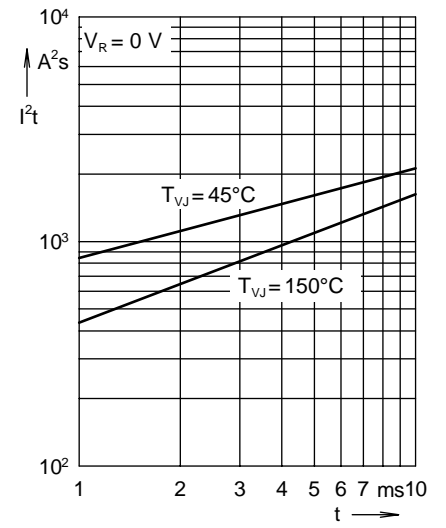


Fig. 3 I^2t versus time per diode

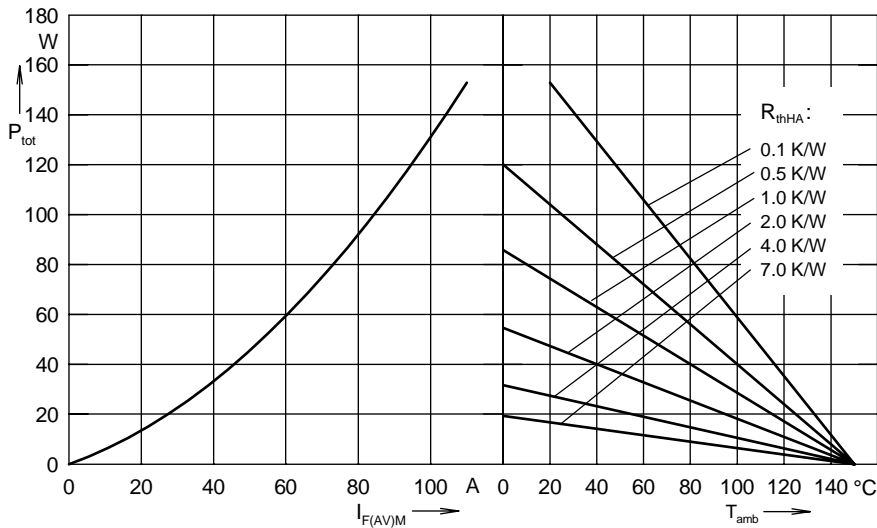


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

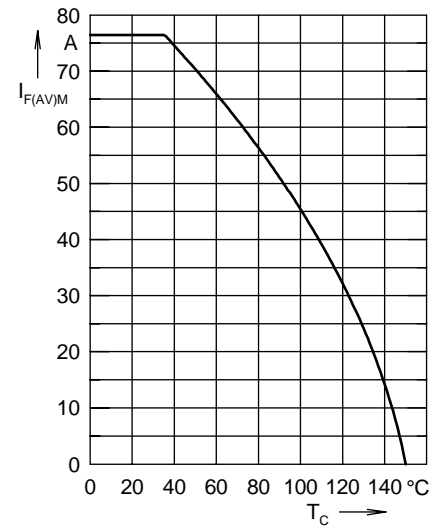


Fig. 5 Max. forward current versus case temperature, sine 180°

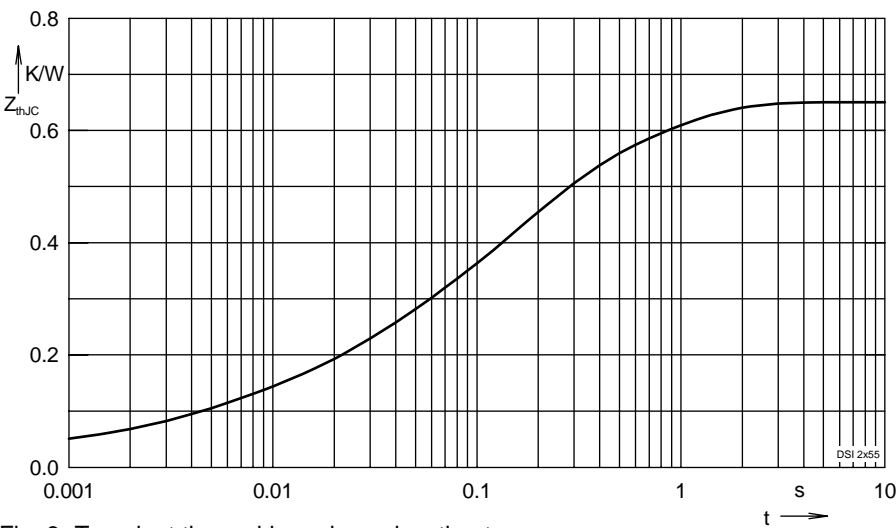


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

| i | R_{thi} (K/W) | t_i (s) |
|---|-----------------|-----------|
| 1 | 0.031 | 0.00024 |
| 2 | 0.0554 | 0.0036 |
| 3 | 0.114 | 0.0235 |
| 4 | 0.281 | 0.142 |
| 5 | 0.1686 | 0.7 |