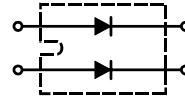


# Power Schottky Rectifier

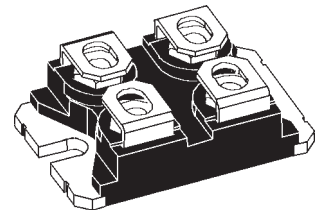
$I_{FAVM} = 2x110 \text{ A}$   
 $V_{RRM} = 80 \text{ V}$   
 $V_F = 0.72 \text{ V}$

## Preliminary data

| $V_{RSM}$ | $V_{RRM}$ | Type           |
|-----------|-----------|----------------|
| V         | V         |                |
| 80        | 80        | DSS 2x111-008A |



miniBLOC, SOT-227 B



| Symbol         | Conditions   | Maximum Ratings |                  |
|----------------|--|-----------------|------------------|
| $I_{FRMS}$     |  | 150             | A                |
| $I_{FAVM}$     | $T_C = 105^\circ\text{C}$ ; rectangular, $d = 0.5$                                   | 110             | A                |
| $I_{FAVM}$     | $T_C = 105^\circ\text{C}$ ; rectangular, $d = 0.5$ ; per device                      | 220             | A                |
| $I_{FSM}$      | $T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine                    | 1400            | A                |
| $E_{AS}$       | $I_{AS} = 14$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive | 19              | mJ               |
| $I_{AR}$       | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive                    | 1.4             | A                |
| $(dv/dt)_{cr}$ |  | tbd             | V/ $\mu\text{s}$ |
| $T_{VJ}$       |  | -40...+150      | $^\circ\text{C}$ |
| $T_{VJM}$      |  | 150             | $^\circ\text{C}$ |
| $T_{stg}$      |  | -40...+150      | $^\circ\text{C}$ |
| $P_{tot}$      | $T_C = 25^\circ\text{C}$   | 310             | W                |
| $V_{ISOL}$     | $I_{ISOL} \leq 1 \text{ mA}$ ; 50/60 Hz; $t = 1 \text{ min}$                         | 2500            | V~               |
| $M_d$          | mounting torque (M4)   | 1.1-1.5/9-13    | Nm/lb.in.        |
|                | terminal connection torque (M4)  | 1.1-1.5/9-13    | Nm/lb.in.        |
| Weight         | typical  | 30              | g                |

### Features

- International standard package miniBLOC
- Isolation voltage 2500 V~
- UL registered E 72873
- 2 independent Schottky diodes in 1 package
- Very low  $V_F$
- Extremely low switching losses
- Low  $I_{RM}$ -values

### Applications

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

### Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Dimensions see Outlines.pdf

| Symbol     | Conditions  | Characteristic Values |        |
|------------|---|-----------------------|--------|
|            |   | typ.                  | max.   |
| $I_R$ ①    | $T_{VJ} = 25^\circ\text{C}$ ; $V_R = V_{RRM}$<br>$T_{VJ} = 125^\circ\text{C}$ ; $V_R = V_{RRM}$   | 8                     | 20 mA  |
| $V_F$      | $I_F = 100 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$<br>$T_{VJ} = 25^\circ\text{C}$<br>$I_F = 200 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$ | 0.72                  | 0.84   |
|            |   |                       | 0.94 V |
| $R_{thJC}$ |   | 0.4                   | K/W    |
| $R_{thCH}$ | 0.15  |                       | K/W    |

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %  
Data according to IEC 60747 and per diode unless otherwise specified

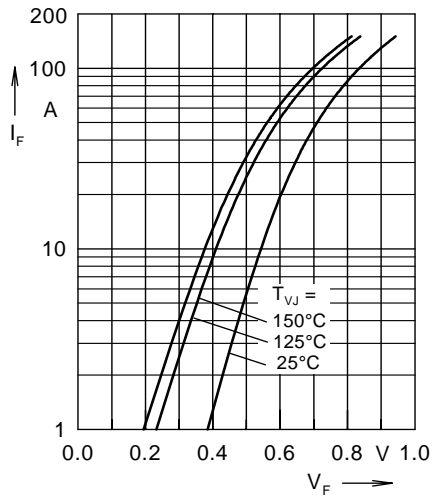


Fig. 1 Maximum forward voltage drop characteristics

Note: All curves are per diode.  
Curves 2 and 5 will follow.

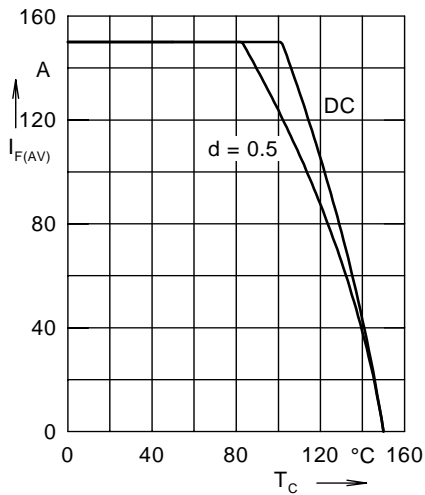


Fig. 3 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

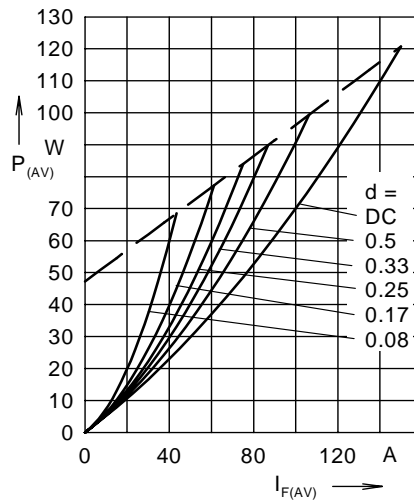


Fig. 4 Forward power loss characteristics

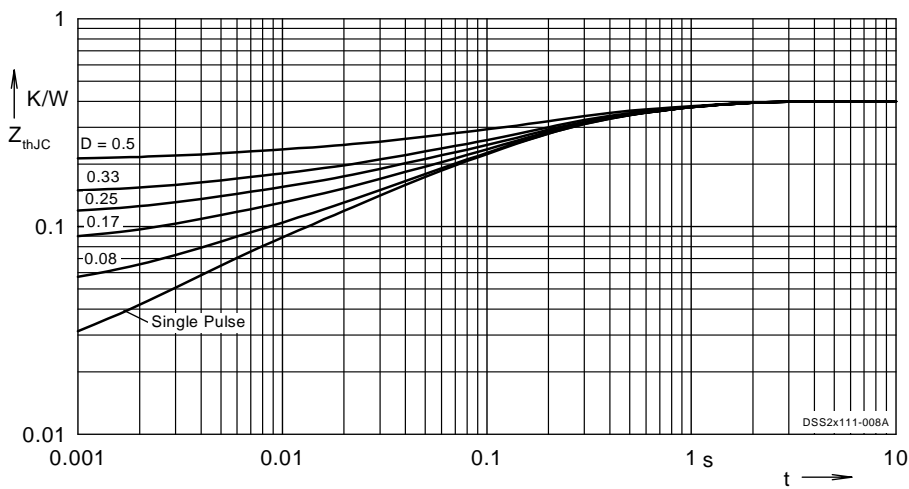


Fig. 6 Transient thermal impedance junction to case at various duty cycles