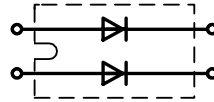


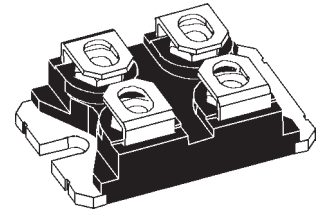
# Power Schottky Rectifier

$I_{FAV} = 2x120 \text{ A}$   
 $V_{RRM} = 45 \text{ V}$   
 $V_F = 0.59 \text{ V}$

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type            |
|----------------|----------------|-----------------|
| 45             | 45             | DSS 2x121-0045B |



miniBLOC, SOT-227 B



| Symbol         | Conditions   | Maximum Ratings   |                        |
|----------------|--|---|------------------------|
| $I_{FRMS}$     | $T_C = 100^\circ\text{C}$ ; rectangular, $d = 0.5$   | 150   | A                      |
| $I_{FAVM}$     |  | 120   | A                      |
| $I_{FAVM}$     |  | $T_C = 100^\circ\text{C}$ ; rectangular, $d = 0.5$ ; per device | 240                    |
| $I_{FSM}$      | $T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine                              | 1600  | A                      |
| $E_{AS}$       | $I_{AS} = 28 \text{ A}$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive | 112   | mJ                     |
| $I_{AR}$       | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive                              | 2.8   | A                      |
| $(dv/dt)_{cr}$ |  | 1000  | 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                      |
| $V_{ISOL}$     | 50/60 Hz, RMS<br>$I_{ISOL} \leq 1 \text{ mA}$  | 2500  | V~                     |
| $M_d$          | mounting torque (M4)<br>terminal connection torque (M4)  | 1.1-1.5/9-13<br>1.1-1.5/9-13                                    | Nm/lb.in.<br>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>$T_{VJ} = 100^\circ\text{C}$ $V_R = V_{RRM}$ | 120                   | mA         |
|                          |   | 500                   | mA         |
| $V_F$                    | $I_F = 120 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$  | 0.59                  | V          |
|                          | $I_F = 120 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$   | 0.62                  | V          |
|                          | $I_F = 240 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$  | 0.97                  | V          |
| $R_{thJC}$<br>$R_{thCH}$ | 0.1   | 0.4                   | K/W<br>K/W |

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

IXYS reserves the right to change limits, Conditions and dimensions.

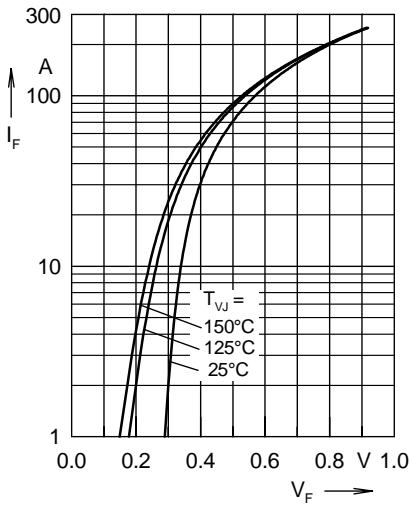


Fig. 1 Maximum forward voltage drop characteristics

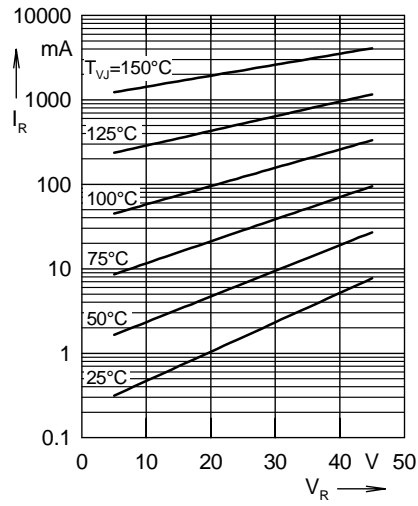


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

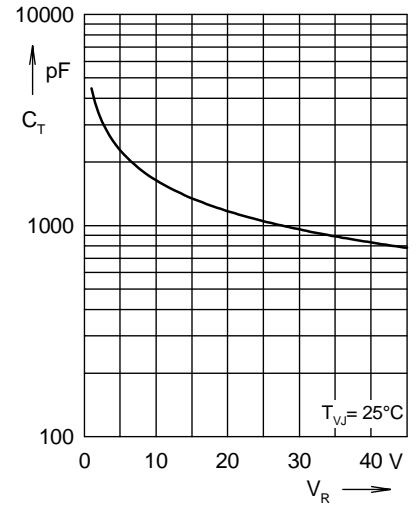


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

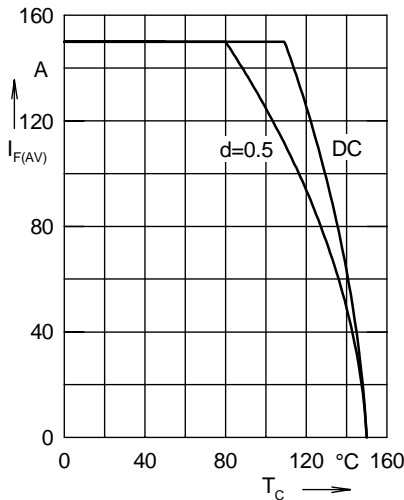


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

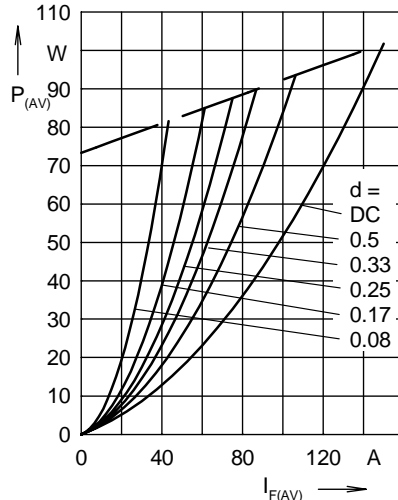


Fig. 5 Forward power loss characteristics

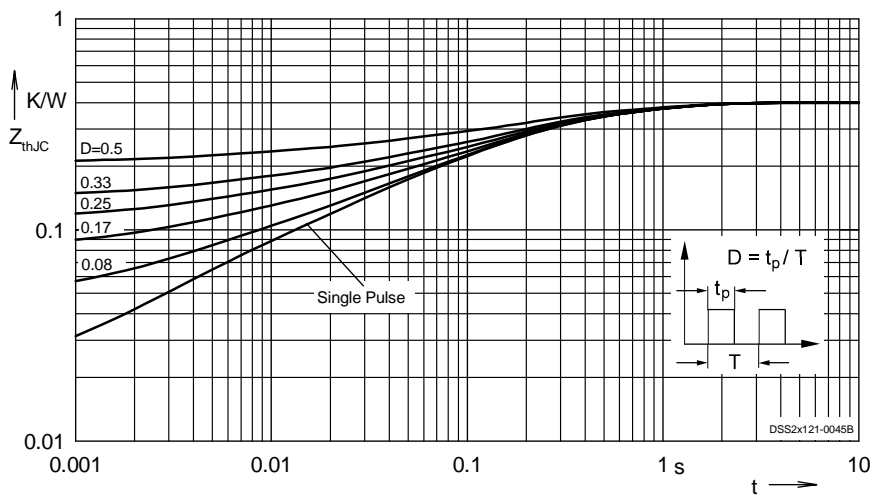


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode