

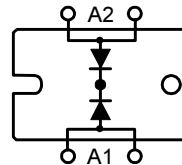
Power Schottky Rectifier

Non isolated

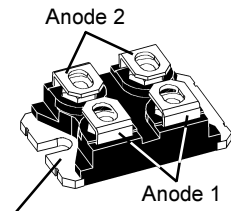
Preliminary Data

$I_{FAVM} = 2x160 \text{ A}$
 $V_{RRM} = 100 \text{ V}$
 $V_F = 0.80 \text{ V}$

| V_{RSM} | V_{RRM} | Type |
|-----------|-----------|---------------|
| V | V | |
| 100 | 100 | DSS 2x160-01A |



miniBLOC, SOT-227 B



Common cathode

| Symbol | Conditions | Maximum Ratings | |
|----------------|--|-----------------|------------------|
| I_{FRMS} | | 200 | A |
| I_{FAVM} | $T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$ | 160 | A |
| I_{FAVM} | $T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$; per device | 320 | A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine | 1400 | A |
| E_{AS} | $I_{AS} = 17 \text{ A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive | 31 | mJ |
| I_{AR} | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive | 1.7 | A |
| $(dv/dt)_{cr}$ | | 5000 | V/ μs |
| T_{VJ} | | -40...+150 | $^\circ\text{C}$ |
| T_{VJM} | | 150 | $^\circ\text{C}$ |
| T_{stg} | | -40...+150 | $^\circ\text{C}$ |
| P_{tot} | $T_C = 25^\circ\text{C}$ | 410 | W |
| 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
- Epoxy meets UL 94V-0
- 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 | $T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ | 4 | mA |
| | $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$ | 40 | mA |
| V_F | $I_F = 160 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ | 0.80 | V |
| | $T_{VJ} = 25^\circ\text{C}$ | 0.92 | V |
| | $I_F = 320 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ | 1.06 | V |
| R_{thJC} | | 0.30 | 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

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

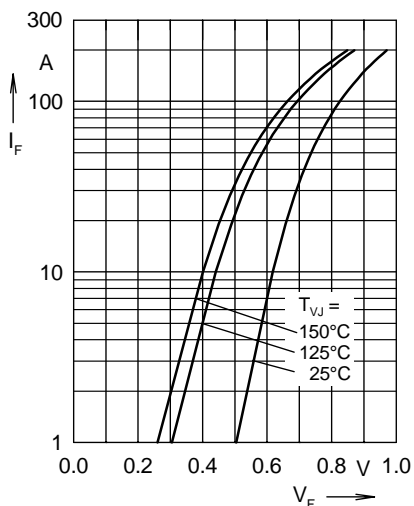


Fig. 1 Maximum forward voltage drop characteristics

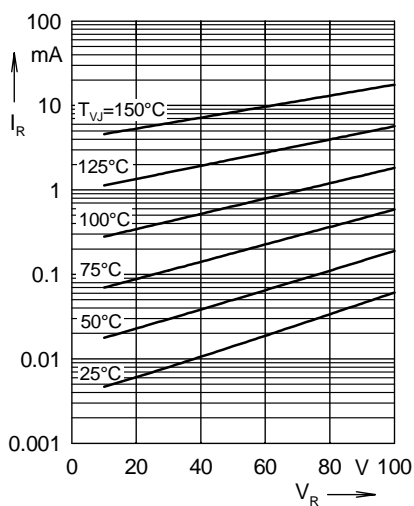


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

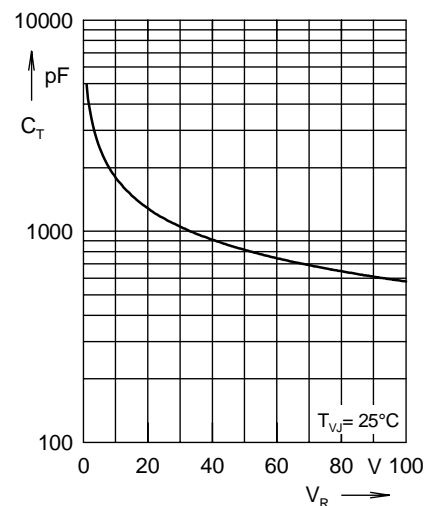


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

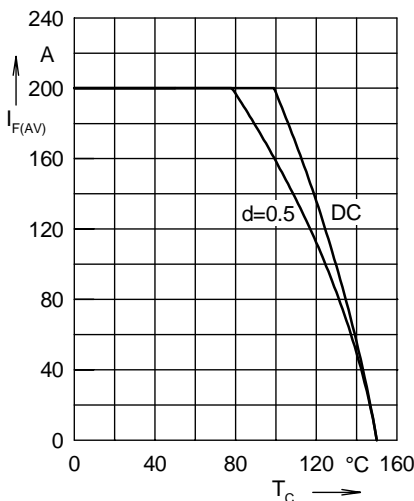


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

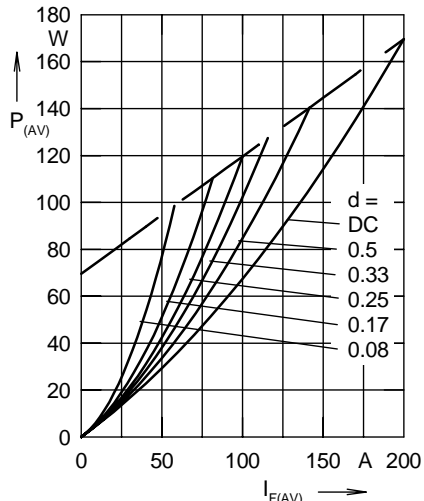


Fig. 5 Forward power loss characteristics

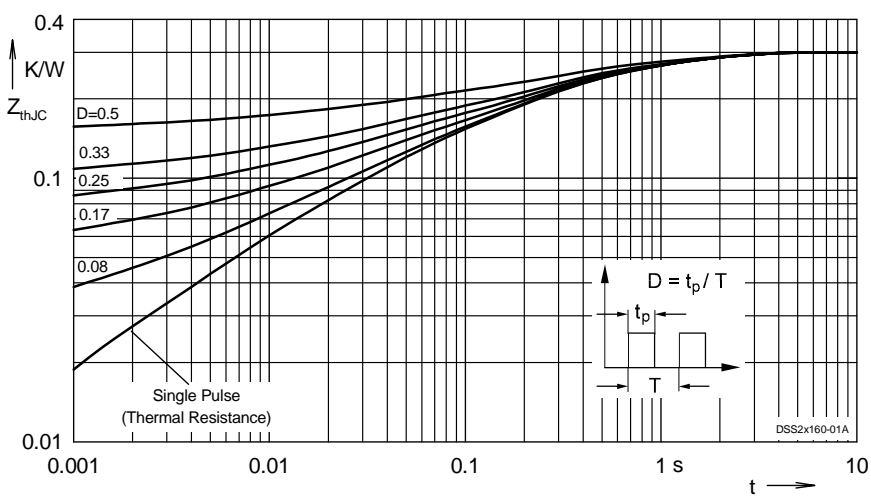


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode