

# Power Schottky Rectifier

## Non isolated

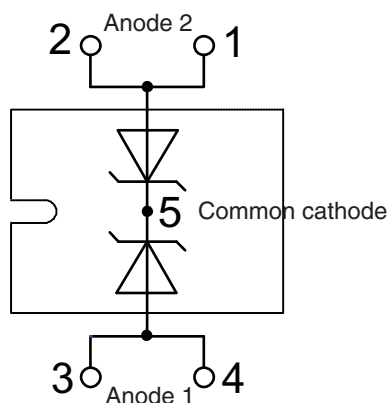
$$I_{FAVM} = 2x160 \text{ A}$$

$$V_{RRM} = 100 \text{ V}$$

$$V_F = 0.81 \text{ V}$$

Part number

**DSS 2x160-01A**



### Features / Advantages:

- Very low  $V_F$
- Extremely low switching losses
- Low  $I_{RM}$ -values
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

### Applications:

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

### Package: SOT-227UI (minibloc)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Base plate: Copper (non isolated)
- Advanced power cycling

### Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/disclaimer-electronics](http://www.littelfuse.com/disclaimer-electronics).

IXYS reserves the right to change limits, test conditions and dimensions.

20220623a

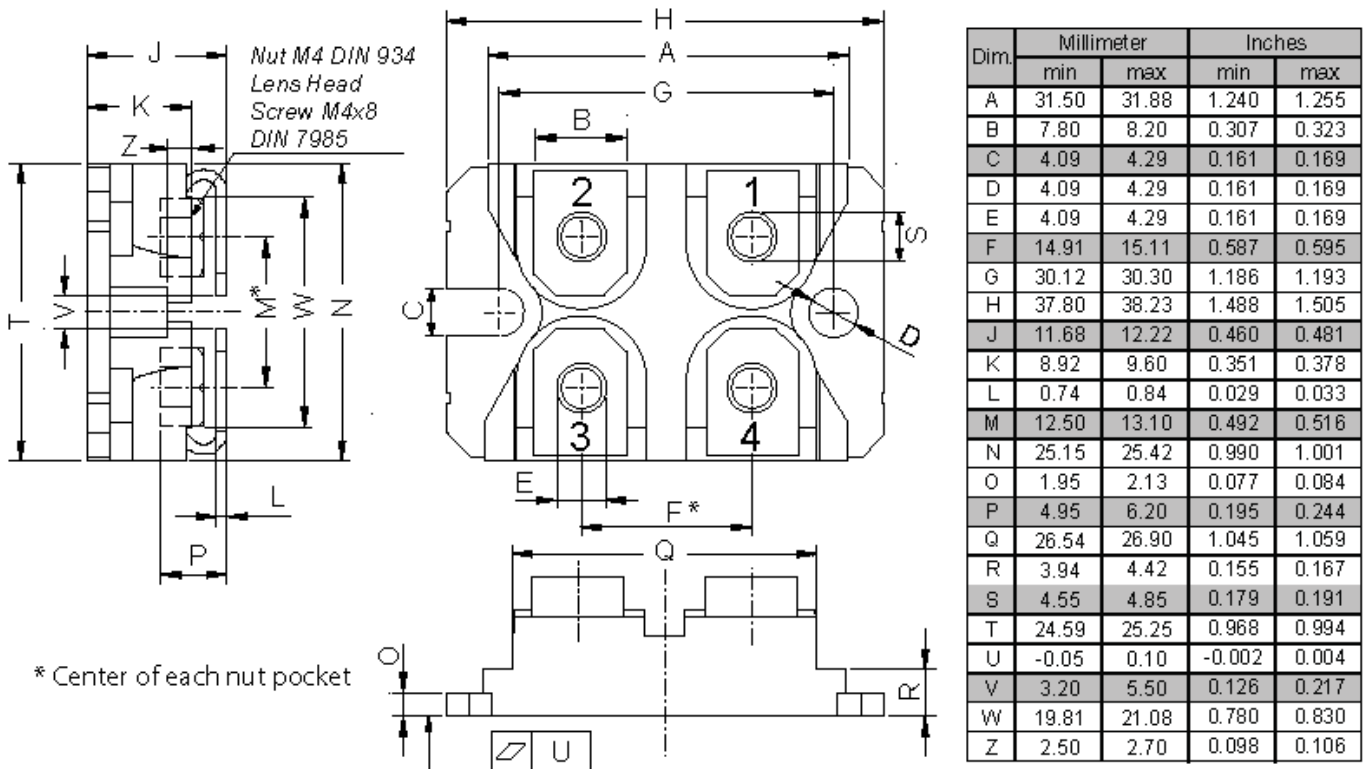
| Symbol         | Conditions                                                                                           | Maximum Ratings |                  |
|----------------|------------------------------------------------------------------------------------------------------|-----------------|------------------|
| $I_{FRMS}$     |                                                                                                      | 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                |
| $I_{FSM}$      | $T_{VJ} = 45^\circ\text{C}$ ; $t = 10\text{ ms}$ (50 Hz), sine                                       | 1400            | A                |
| $E_{AS}$       | $I_{AS} = 15\text{ A}$ ; $L = 100\text{ }\mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive | 11.3            | mJ               |
| $I_{AR}$       | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10\text{ kHz}$ ; repetitive                                     | 1.5             | A                |
| $(dv/dt)_{cr}$ |                                                                                                      | 5000            | V/ $\mu\text{s}$ |
| $P_{tot}$      | $T_C = 25^\circ\text{C}$                                                                             | 410             | W                |

| Symbol     | Conditions                                        | Characteristic Values |      |     |
|------------|---------------------------------------------------|-----------------------|------|-----|
|            |                                                   | typ.                  | max. |     |
| $I_R$ ①    | $V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$       |                       | 4    | mA  |
|            | $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$      |                       | 40   | mA  |
| $V_F$      | $I_F = 160\text{ A}$ $T_{VJ} = 125^\circ\text{C}$ |                       | 0.81 | V   |
|            | $T_{VJ} = 25^\circ\text{C}$                       |                       | 0.98 | V   |
|            | $I_F = 320\text{ A}$ $T_{VJ} = 125^\circ\text{C}$ |                       | 1.08 | V   |
| $R_{thJC}$ |                                                   |                       | 0.30 | K/W |
| $R_{thCH}$ |                                                   | 0.15                  |      | K/W |

① Pulse Width = 5 ms, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

### Outlines SOT-227B (minibloc)

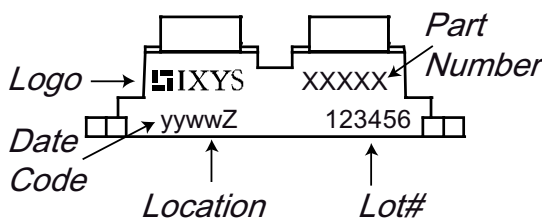


IXYS reserves the right to change limits, test conditions and dimensions.

20220623a

| Package SOT-227UI (minibloc) |                                                              |                      |      | Ratings |      |      |    |
|------------------------------|--------------------------------------------------------------|----------------------|------|---------|------|------|----|
| Symbol                       | Definitions                                                  | Conditions           |      | min.    | typ. | max. |    |
| $I_{RMS}$                    | RMS current                                                  | per terminal         |      |         |      | 150  | A  |
| $T_{VJ}$                     | virtual junction temperature                                 |                      |      | -40     |      | 150  | °C |
| $T_{op}$                     | operation temperature                                        |                      |      | -40     |      | 125  | °C |
| $T_{stg}$                    | storage temperature                                          |                      |      | -40     |      | 150  | °C |
| Weight                       |                                                              |                      |      |         | 30   |      | g  |
| $M_D$                        | mounting torque                                              |                      |      | 1.1     |      | 1.5  | Nm |
| $M_T$                        | terminal torque                                              |                      |      | 1.1     |      | 1.5  | Nm |
| $d_{Spp/App}$                | creepage distance on surface   striking distance through air | terminal to terminal | 10.5 | 0.8     |      |      | Nm |
| $d_{Spb/Apb}$                |                                                              | terminal to backside | 8.6  | 20      |      |      | N  |

### Product Marking



| Ordering | Part Number  | Marking on Product | Delivering Mode | Base Qty | Ordering Code |
|----------|--------------|--------------------|-----------------|----------|---------------|
| Standard | DSS2x160-01A | DSS2x160-01A       | Tube            | 10       | DSS2x160-01A  |

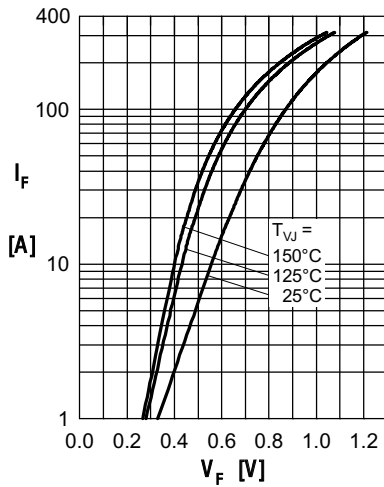
**Curves**


Fig. 1 Max. forward voltage drop characteristics

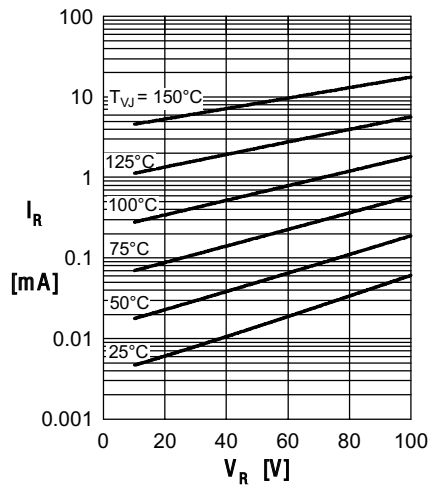


Fig. 2 Typ. reverse current  $I_R$  vs. reverse voltage  $V_R$

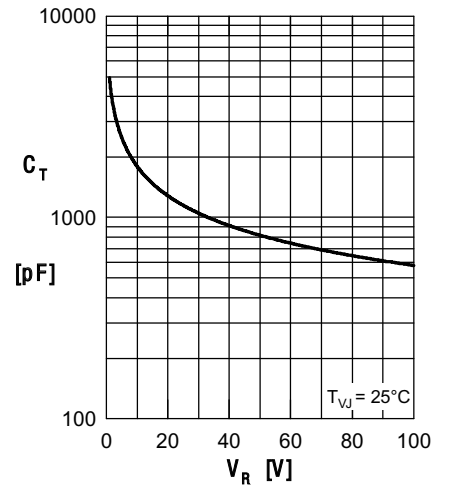


Fig. 3 Typ. junction capacitance  $C_T$  vs. reverse voltage  $V_R$

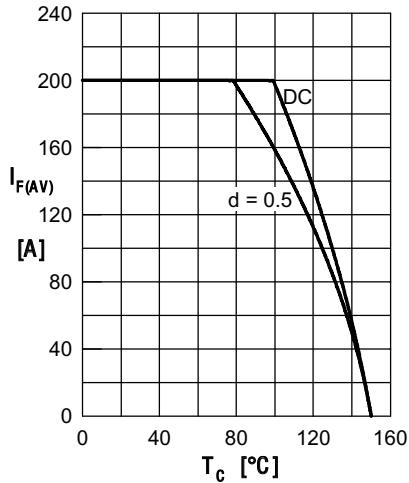


Fig. 4 Average forward current  $I_{F(AV)}$  vs. case temp.  $T_C$

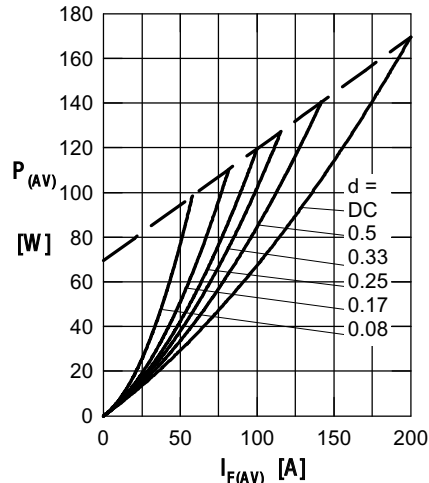


Fig. 5 Forward power loss characteristics

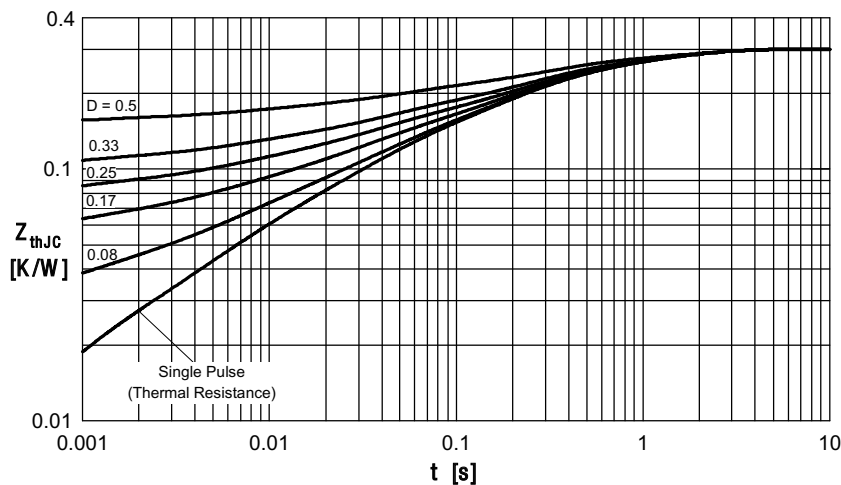


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode