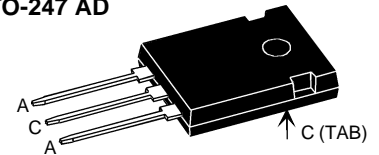


Power Schottky Rectifier with common cathode

$I_{FAV} = 2 \times 20 \text{ A}$
 $V_{RRM} = 15 \text{ V}$
 $V_F = 0.32 \text{ V}$

Preliminary Data

| V_{RSM} | V_{RRM} | Type |
|-----------|-----------|---------------|
| V | V | |
| 15 | 15 | DSSK 40-0015B |


TO-247 AD


A = Anode, C = Cathode, TAB = Cathode

| Symbol | Conditions | Maximum Ratings | |
|----------------|--|-----------------|------------------|
| I_{FRMS} | | 50 | A |
| I_{FAV} | $T_C = 135^\circ\text{C}$; rectangular, $d = 0.5$ | 20 | A |
| I_{FAV} | $T_C = 135^\circ\text{C}$; rectangular, $d = 0.5$; per device | 40 | A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine | 350 | A |
| E_{AS} | $I_{AS} = \text{tbd A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive | tbd | mJ |
| I_{AR} | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive | tbd | A |
| $(dv/dt)_{cr}$ | | tbd | V/ μs |
| T_{VJ} | | -55...+150 | $^\circ\text{C}$ |
| T_{VJM} | | 150 | $^\circ\text{C}$ |
| T_{stg} | | -55...+150 | $^\circ\text{C}$ |
| P_{tot} | $T_C = 25^\circ\text{C}$ | 90 | W |
| M_d | mounting torque | 0.8...1.2 | Nm |
| Weight | typical | 6 | g |

Features

- International standard package
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values
- Epoxy meets UL 94V-0

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 | $T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ | | 10 mA |
| | $T_{VJ} = 100^\circ\text{C}$ $V_R = V_{RRM}$ | | 200 mA |
| V_F | $I_F = 20 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ | | 0.32 V |
| | $I_F = 20 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$ | | 0.44 V |
| | $I_F = 40 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ | | 0.41 V |
| R_{thJC} | | | 1.4 K/W |
| R_{thCH} | | 0.25 | 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.

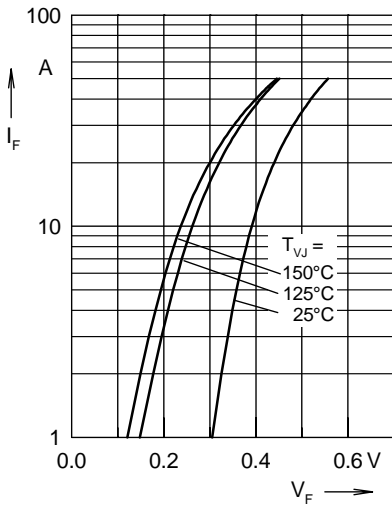


Fig. 1 Maximum forward voltage drop characteristics

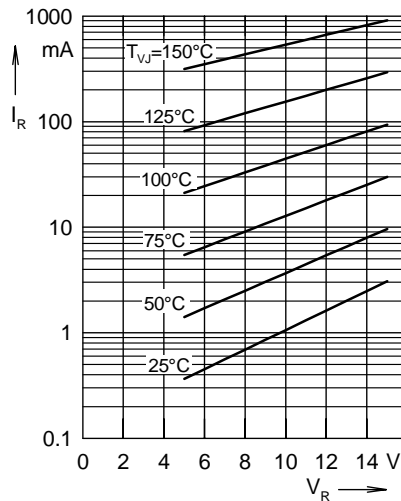


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

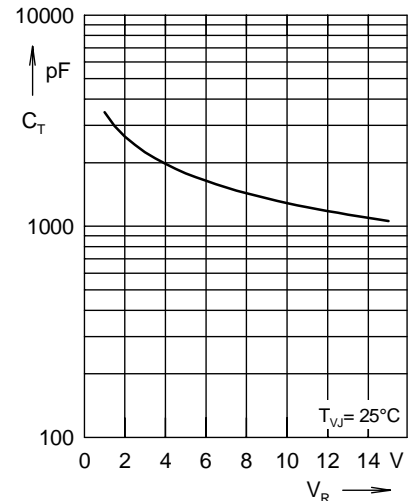


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

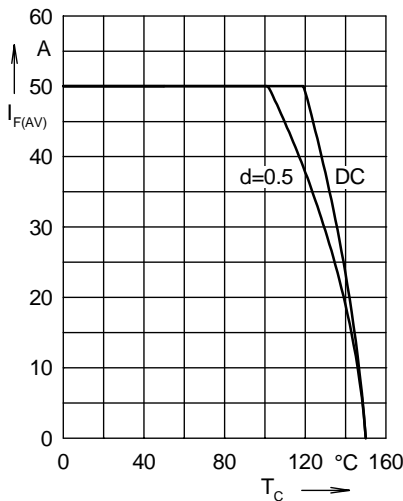


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

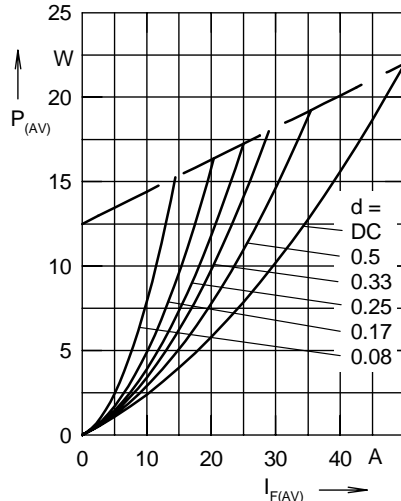


Fig. 5 Forward power loss characteristics

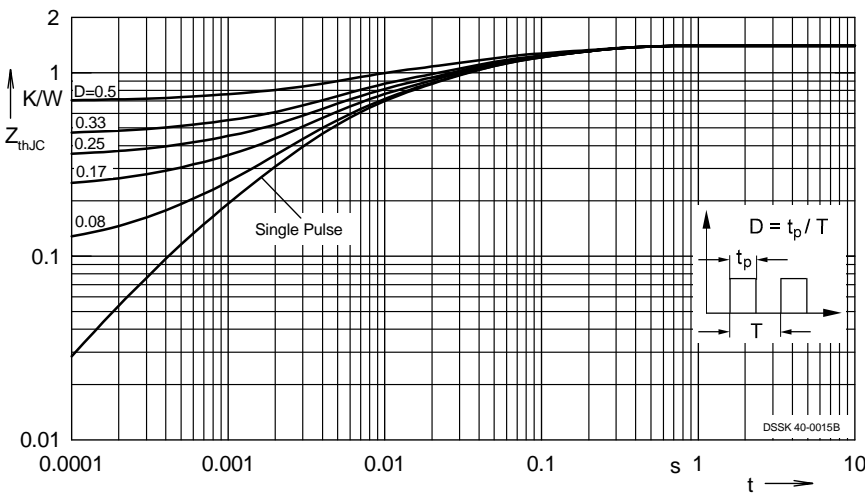


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode