



**THE DATASHEET OF  
DSSK20-015A**



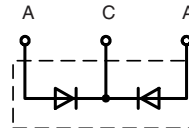
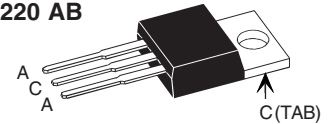
# Power Schottky Rectifier with common cathode

$$I_{FAV} = 2 \times 10 \text{ A}$$

$$V_{RRM} = 150 \text{ V}$$

$$V_F = 0.61 \text{ V}$$

| $V_{RSM}$ | $V_{RRM}$ | Type         |
|-----------|-----------|--------------|
| V         | V         |              |
| 150       | 150       | DSSK 20-015A |


**TO-220 AB**


A = Anode, C = Cathode, TAB = Cathode

| Symbol         | Conditions  | Maximum Ratings |                   |
|----------------|---|-----------------|-------------------|
| $I_{FRMS}$     |   | 35              | A                 |
| $I_{FAV}$      | $T_C = 165^\circ\text{C}$ ; rectangular, $d = 0.5$  | 10              | A                 |
| $I_{FAV}$      | $T_C = 165^\circ\text{C}$ ; rectangular, $d = 0.5$ ; per device                               | 20              | A                 |
| $I_{FSM}$      | $T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine                             | 200             | A                 |
| $E_{AS}$       | $I_{AS} = 2 \text{ A}$ ; $L = 100 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive | 0.2             | mJ                |
| $I_{AR}$       | $V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive                             | 0.2             | A                 |
| $(dv/dt)_{cr}$ |   | 18              | kV/ $\mu\text{s}$ |
| $T_{VJ}$       |   | -55...+175      | $^\circ\text{C}$  |
| $T_{VJM}$      |   | 175             | $^\circ\text{C}$  |
| $T_{stg}$      |   | -55...+150      | $^\circ\text{C}$  |
| $P_{tot}$      | $T_C = 25^\circ\text{C}$  | 105             | W                 |
| $M_d$          | mounting torque   | 0.4...0.6       | Nm                |
| Weight         | typical   | 2               | 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    | $V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$       |                       | 0.5 mA  |
|            | $V_R = V_{RRM}$ ; $T_{VJ} = 125^\circ\text{C}$      |                       | 5.0 mA  |
| $V_F$      | $I_F = 10 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$ |                       | 0.65 V  |
|            | $I_F = 10 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$  |                       | 0.79 V  |
|            | $I_F = 20 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$ |                       | 0.72 V  |
| $R_{thJC}$ |   |                       | 1.4 K/W |
| $R_{thCH}$ |   | 0.5                   | K/W     |

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

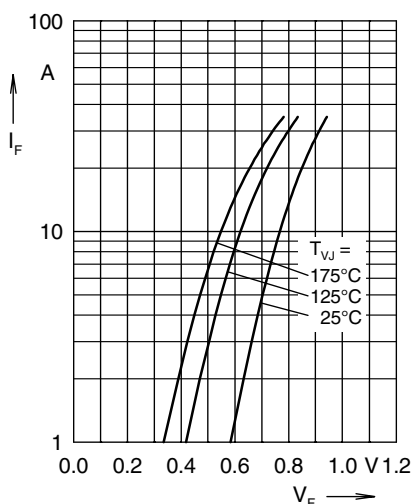


Fig. 1 Maximum forward voltage drop characteristics

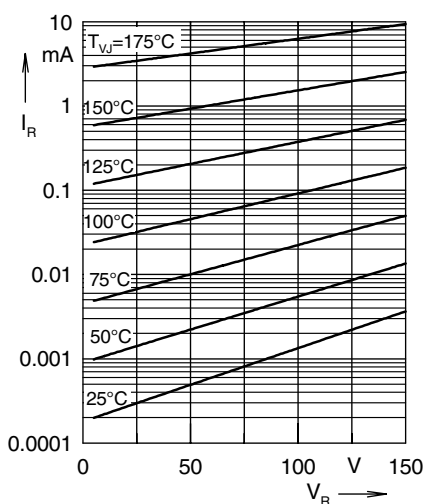


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

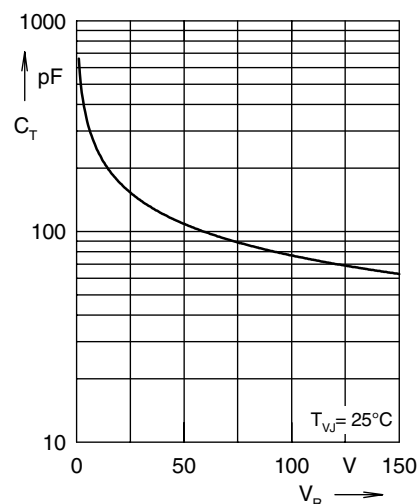


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

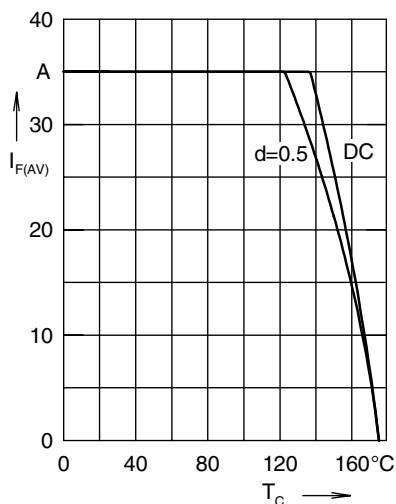


Fig. 4 Average forward current  $I_{F(AV)}$  versus case temperature  $T_C$

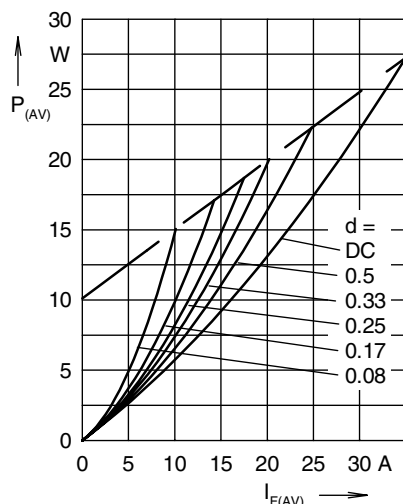


Fig. 5 Forward power loss characteristics

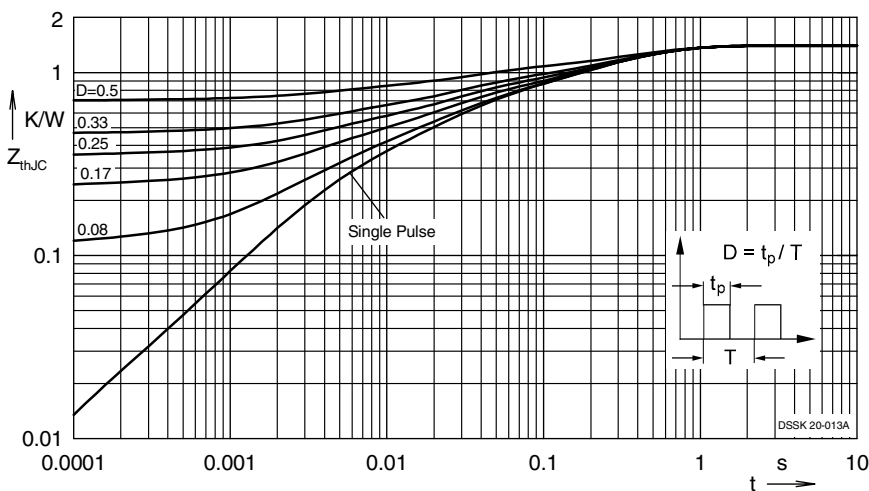


Fig. 6 Transient thermal impedance junction to case at various duty cycles

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