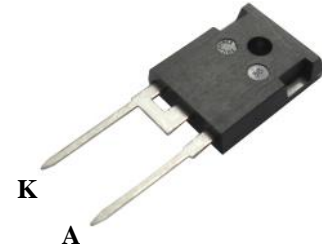


**PRELIMINARY DATASHEET**
**600V 32A, Silicon Carbide Schottky Diode in TO247**
**B1 version**
**FEATURES**

- Silicon Carbide material
- High surge current capability
- No reverse recovery charge
- Temperature independent switching behavior
- Pb-free finished; RoHS compliant

**APPLICATIONS**

- Switch mode power supplies (SMPS)
- Power factor correction (PFC)
- Motor drives
- High speed rectifiers
- Uninterruptible power supplies (UPS)
- Induction heating
- Solar inverters


**MAXIMUM RATINGS**, at  $T_j = 25^\circ\text{C}$ , unless otherwise specified

| Parameter  | Symbol         | Value        | Units            |
|--|----------------|--------------|------------------|
| Repetitive peak reverse voltage  | $V_{RRM}$      | 600          | V                |
| Continuous forward current<br>$T_c < 140^\circ\text{C}$  | $I_F$          | 32           | A                |
| Surge non-repetitive forward current, half sine wave<br>$T_c = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ | $I_{FSM}$      | 236          |                  |
| Operating junction and storage temperature   | $T_j, T_{stg}$ | -55 ... +175 | $^\circ\text{C}$ |

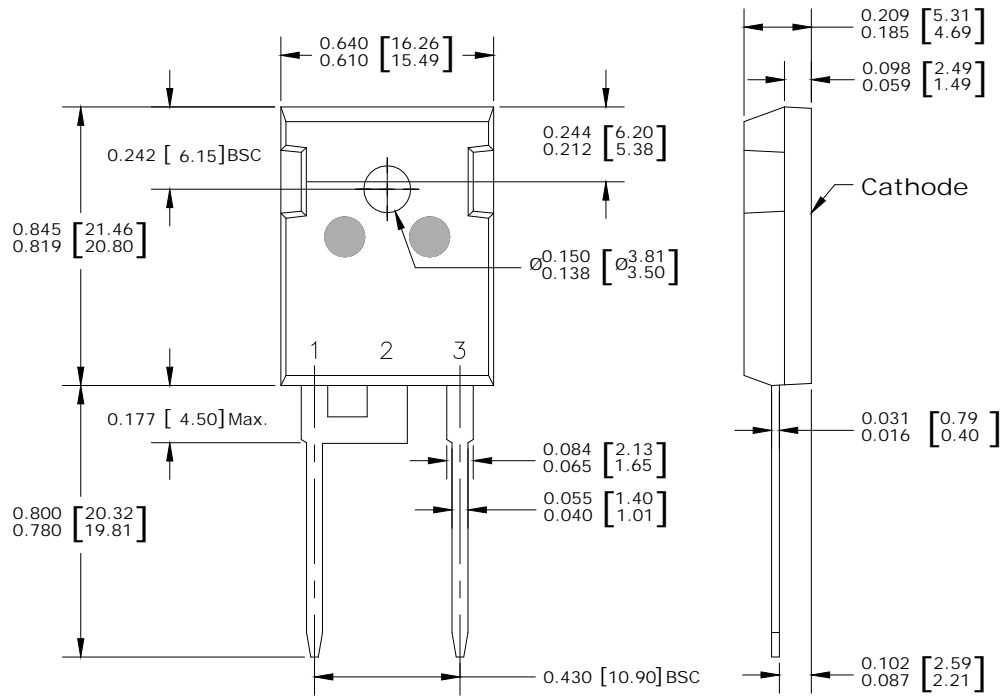
**Thermal Characteristics**

| Parameter                               | Symbol     | Max. Value | Units                     |
|---|------------|------------|---------------------------|
| <b>Characteristics</b>                  |            |            |                           |
| Thermal resistance, junction to case    | $R_{thJC}$ | 0.5        | $^\circ\text{C}/\text{W}$ |
| Thermal resistance, junction to ambient | $R_{thJA}$ | 62         |                           |

**Electrical Characteristics**, at  $T_j = 25^\circ\text{C}$ , unless otherwise specified

| Parameter                       | Conditions   | Symbol   | Value |      |      | Unit          |
|---------------------------------|--|----------|-------|------|------|---------------|
|                                 |  |          | Min.  | Typ. | Max. |               |
| <b>Static Characteristics</b>   |  |          |       |      |      |               |
| Cathode-anode Breakdown voltage | $I_R = 0.4\text{mA}$   | $V_{BR}$ | 600   | -    | -    | V             |
| Reverse leakage current         | $V_R = 600\text{V}$  | $I_R$    | -     | -    | 400  | $\mu\text{A}$ |
| Forward voltage drop            | $I_F = 32\text{A}$   | $V_F$    | -     | 1.5  | 1.7  | V             |
| <b>Dynamic Characteristics</b>  |  |          |       |      |      |               |
| Total capacitive charge         | $V_R = 400\text{V}$ ,<br>$di/dt = 200\text{A}/\mu\text{s}$ ,<br>$I_F \leq I_{F,max}$ , $T_j = 150^\circ\text{C}$ . | $Q_C$    | -     | 76   | -    | nC            |

**Package Outline Drawing**



**Disclaimer**

These specifications may not be considered as a guarantee of components characteristics. Components have to be tested depending on intended application as adjustments may be necessary. The use of **iQXPRZ Power Inc.** components in life support appliances and systems are subject to written approval of **iQXPRZ Power Inc.**