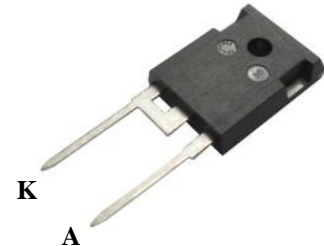


PRELIMINARY DATASHEET
1200V 30A, Silicon Carbide Schottky Diode in TO247
B1 version
FEATURES

- 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 inverter


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

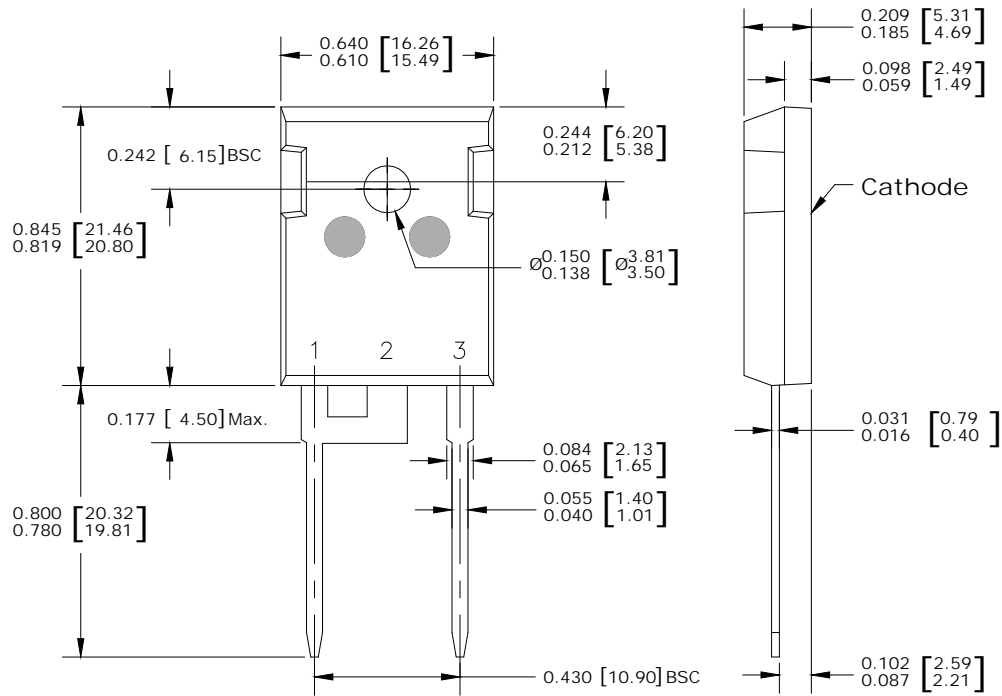
Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	V_{RRM}	1200	V
Continuous forward current $T_c < 135^\circ\text{C}$	I_F	30	A
Surge non-repetitive forward current, half sine wave $T_c = 25^\circ\text{C}$, $t_p = 10\text{ms}$	I_{FSM}	146	
Non-repetitive peak forward current	I_{Fmax}	778	
Diode dv/dt ruggedness $V_R = 0 \dots 240\text{V}$	dv/dt	50	V/ns
Operating junction and storage temperature	T_j, T_{stg}	-55 ... +175	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max. Value	Units
Characteristics			
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.	
Static Characteristics						
Cathode-anode Breakdown voltage	$I_R = 0.60\text{mA}$	V_{BR}	1200	-	-	V
Reverse leakage current	$V_R = 1200\text{V}$	I_R	-	-	610	μA
Forward voltage drop	$I_F = 30\text{A}$	V_F	-	1.5	1.8	V
Dynamic Characteristics						
Total capacitive charge	$V_R = 400\text{V}$, $di/dt = 200\text{A}/\mu\text{s}$, $I_F \leq I_{F,max}$, $T_j = 150^\circ\text{C}$.	Q_c	-	110	-	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.**