

**PRELIMINARY DATASHEET**

**1200V 30A Silicon Carbide Schottky Diode,  
In TO247 B1 version**

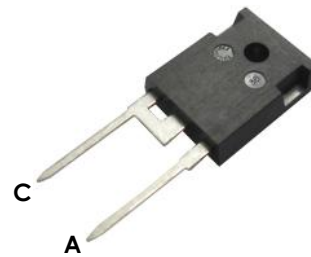
**APPLICATIONS**

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



**FEATURES**

- 175 °C maximum junction temperature
- Extremely fast switching independent with temperature
- Positive temperature coefficient for safe operation and ease of paralleling
- No reverse recovery or forward recovery
- Pb-free finished; **RoHS compliant**



**MAXIMUM RATINGS**

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	$V_{RRM}$	1200	V
DC forward current $T_C = 130\text{ °C}$ $T_C = 25\text{ °C}$	$I_{F(AV)}$	30 90	A
Surge non-repetitive forward current, half sine wave $T_C = 25\text{ °C}$ , $t_p = 8.3\text{ms}$	$I_{FSM}$	142	
Operating junction and storage temperature range	$T_j, T_{stg}$	-55 to 175	°C

**Thermal Characteristics**

Parameter	Symbol	Max. Value	Units
<b>Characteristics</b>			
Thermal resistance, junction to case	$R_{thJC}$	0.5	°C/W

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
<b>Static Characteristics</b>					
Reverse leakage current $V_R = 1200\text{V}, T_j = 25^\circ\text{C}$ $V_R = 1200\text{V}, T_j = 175^\circ\text{C}$	$I_R$	- -	- -	500 700	$\mu\text{A}$
Forward voltage drop $I_F = 30\text{A}, T_j = 25^\circ\text{C}$ $I_F = 30\text{A}, T_j = 175^\circ\text{C}$	$V_F$	- -	1.7 2.8	2.0 -	V
<b>Dynamic Characteristics</b>					
Total capacitive charge $V_R = 600\text{V}, I_F = 30\text{A}, T_j = 25^\circ\text{C}, di/dt = 150\text{A}/\mu\text{s}$ $V_R = 600\text{V}, I_F = 30\text{A}, T_j = 175^\circ\text{C}, di/dt = 150\text{A}/\mu\text{s}$	$Q_C$	- -	65 66	- -	nC

Figure 1 – Typical Forward voltage drop vs forward current

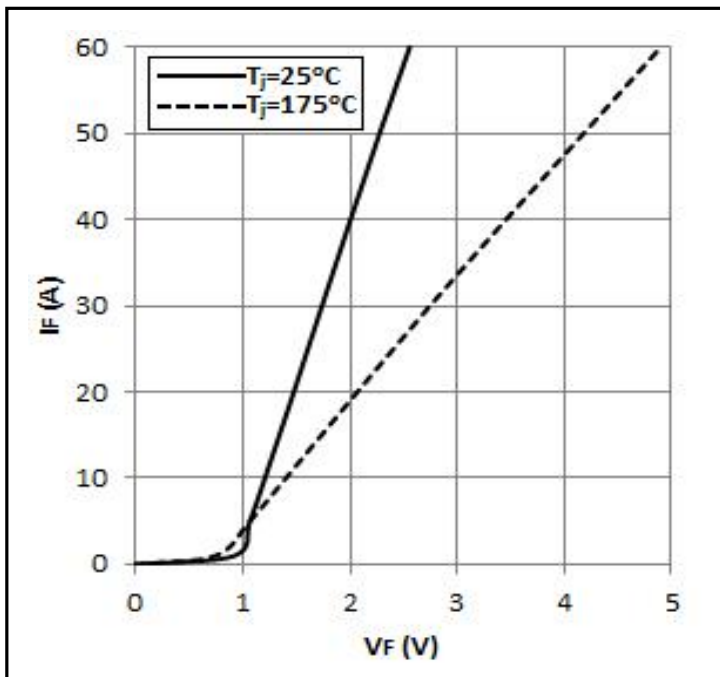
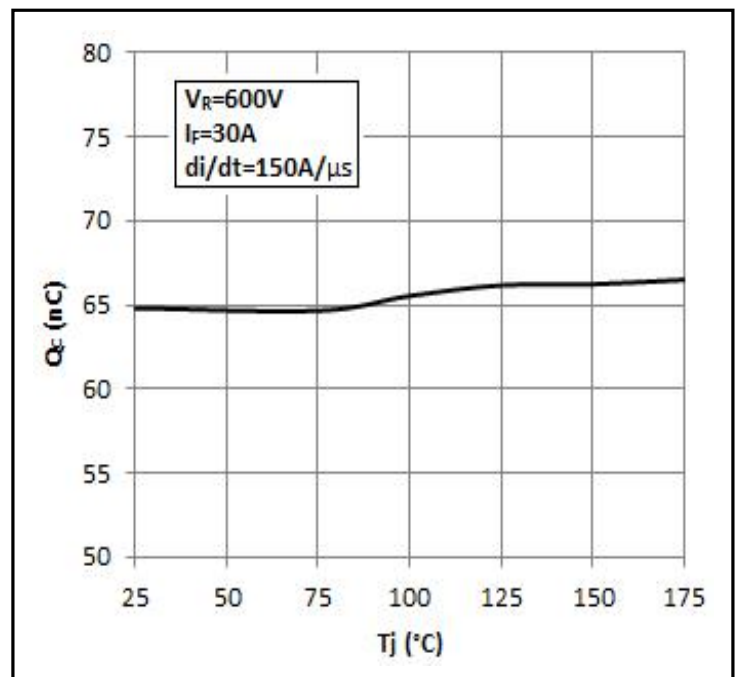
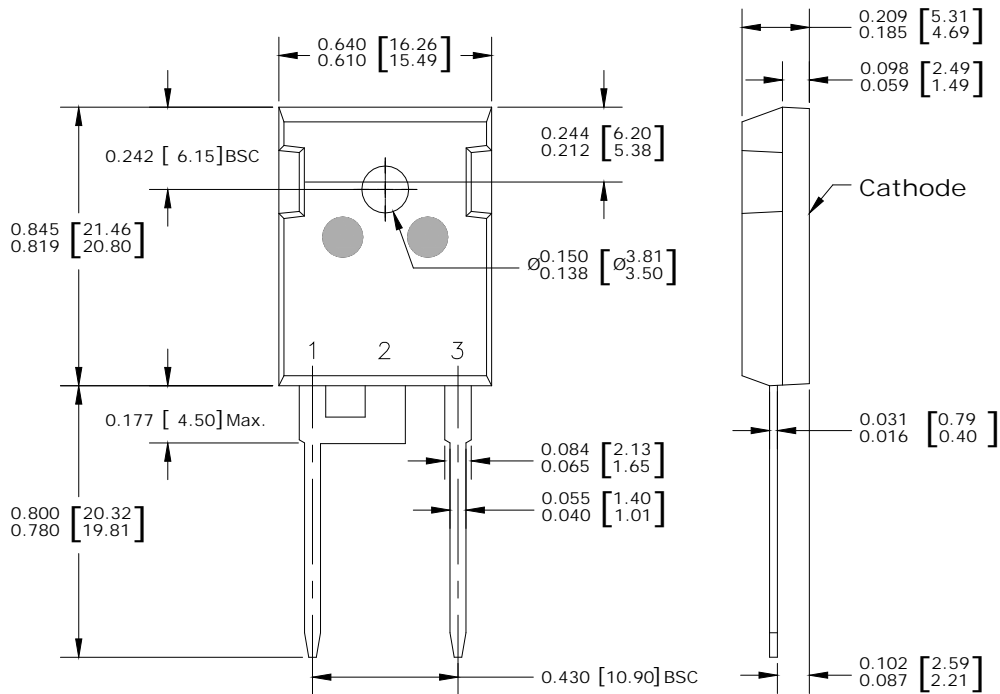


Figure 2 – Capacitive charge vs Junction temperature



**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.**