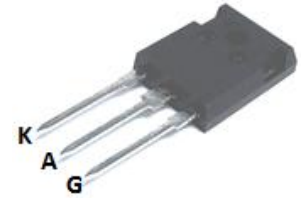


PRELIMINARY DATASHEET
**Silicon Controlled Rectifier, 1200/ 70A
 In EXT TO247 Package**

- High voltage & high current
- Low on-state voltage
- Suitable for over voltage control, motor control circuit and heating control system
- Pb-free finished; **RoHS compliant**


MAXIMUM RATINGS, $T_C = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Value	Units
Average on-state current $T_C = 82^\circ\text{C}$, 180° conduction half sine wave	$I_{T(AV)}$	70	A
Continuous RMS on-state current as AC switch	$I_{T(RMS)}$	75	
Non-repetitive surge peak on-state current $T_j = 125^\circ\text{C}$, $t_p = 10$ ms, applied rated V_{RRM} $T_j = 125^\circ\text{C}$, $t_p = 10$ ms, no applied V_{RRM}	I_{TSM}	1200 1400	
I^2t value for fusing $T_j = 125^\circ\text{C}$, $t_p = 10$ ms, applied rated V_{RRM} $T_j = 125^\circ\text{C}$, $t_p = 10$ ms, no applied V_{RRM}	I^2t	7 200 10 000	A^2s
$I^2\sqrt{t}$ value for fusing $t = 0.1$ to 10 ms, no voltage reapplied	$I^2\sqrt{t}$	102 000	$\text{A}^2\sqrt{\text{s}}$
Rate of rise of on-state current $T_j = 125^\circ\text{C}$	di/dt	150	$\text{A}/\mu\text{s}$
Peak gate current $T_j = 125^\circ\text{C}$	I_{GM}	2.5	A
Maximum repetitive peak off-state voltage $I_R = 100\mu\text{A}$	V_{DRM}	1200	V
Maximum repetitive reverse voltage $I_R = 100\mu\text{A}$	V_{RRM}	1200	
Maximum reverse leakage current $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	I_{RRM}	1.0 15	mA
Maximum direct leakage current $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	I_{DRM}	1.0 15	
Operating junction and storage temperature	T_j, T_{stg}	-40... +125	$^\circ\text{C}$

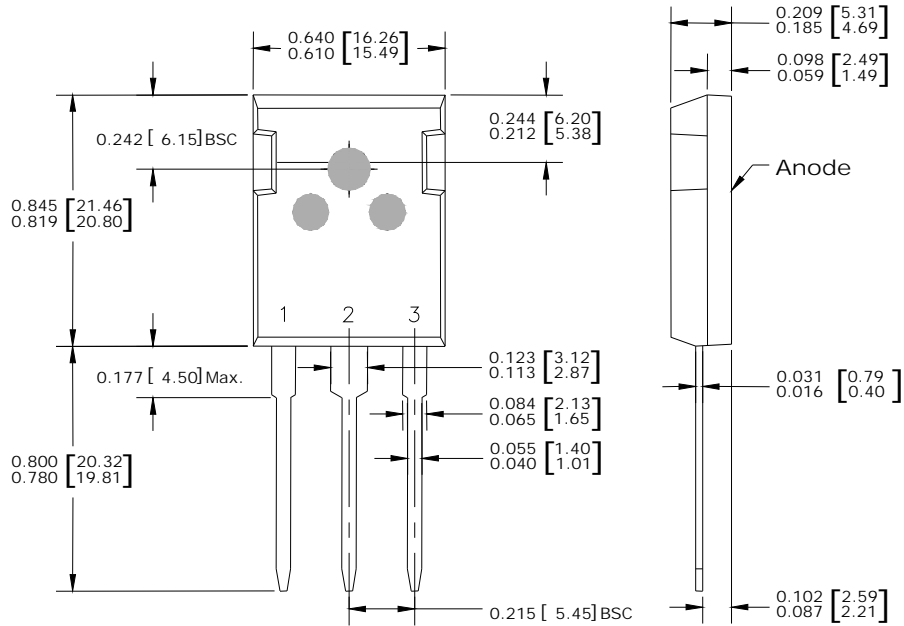
Thermal Characteristics

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.27	$^\circ\text{C}/\text{W}$
Thermal resistance, case to sink	R_{thCS}	0.2	
Thermal resistance, junction to ambient	R_{thJA}	40	

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

Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Average on-state current	$I_{T(AV)}$	$T_c = 82^\circ\text{C}$ 180° conduction half sine wave	-	-	70	A
Maximum on-state current, continuous RMS, AC switch	$I_{T(RMS)}$	Lead current limitation	-	-	75	
Maximum required DC gate current to trigger $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	I_{GT}		23 -	- -	100 80	mA
Maximum required DC gate voltage to trigger $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	V_{GT}	Anode Supply= 6V, resistive load	- -	1.5 1.1	- -	V
Maximum DC gate voltage not to trigger	V_{GD}	$V_{DRM} = \text{rated value}$	-	0.25	-	
Maximum DG gate current not to trigger	I_{GD}		-	-	6.0	
Maximum holding current	I_H	$T_j = 25^\circ\text{C}$, anode supply 6 V, resistive load	20	-	200	mA
Maximum latching current	I_L		35	-	400	
Maximum rate of rise of off-state voltage	dV/dt	$T_j = T_{jmax}$ linear to 80% V_{DRM}	-	-	500	V/ μs
Maximum peak on-state voltage	V_{TM}	100 A	-	-	1.4	V
Maximum peak negative voltage	V_{GM}		-	10	-	
Threshold voltage, low level value $T_j = 125^\circ\text{C}$	V_{TTO1}	$T_j = 125^\circ\text{C}$	-	-	0.916	
Threshold voltage, high level value $T_j = 125^\circ\text{C}$	V_{TTO2}		-	-	1.21	
Maximum peak gate power	P_{GM}	$T = 30 \mu\text{s}$	-	10	-	W
Maximum average gate power	$P_{G(ave)}$		-	2.5	-	
On-state slope resistance, low level value $T_j = 125^\circ\text{C}$	R_{t1}	$T_j = 125^\circ\text{C}$	-	-	4.138	m
On-state slope resistance, high level value $T_j = 125^\circ\text{C}$	R_{t2}		-	-	3.43	

Package Outline Drawing



CAUTION: These devices are ESD sensitive. Use proper handling procedure.

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.**