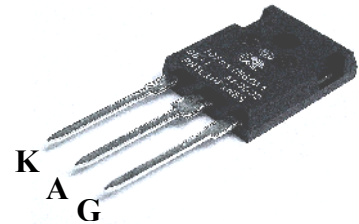


**PRELIMINARY DATASHEET**
**Silicon Controlled Rectifier, 1200/ 70A  
 In EXT TO247 Package**

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


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

Parameter	Symbol	Value	Units
Average on-state current $T_c = 82^\circ\text{C}$ , $T_j = 180^\circ\text{C}$ 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	$\text{A}^2\text{s}$
$I^2\sqrt{t}$ value for fusing $t = 0.1$ to 10ms, 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	$^\circ\text{C}$

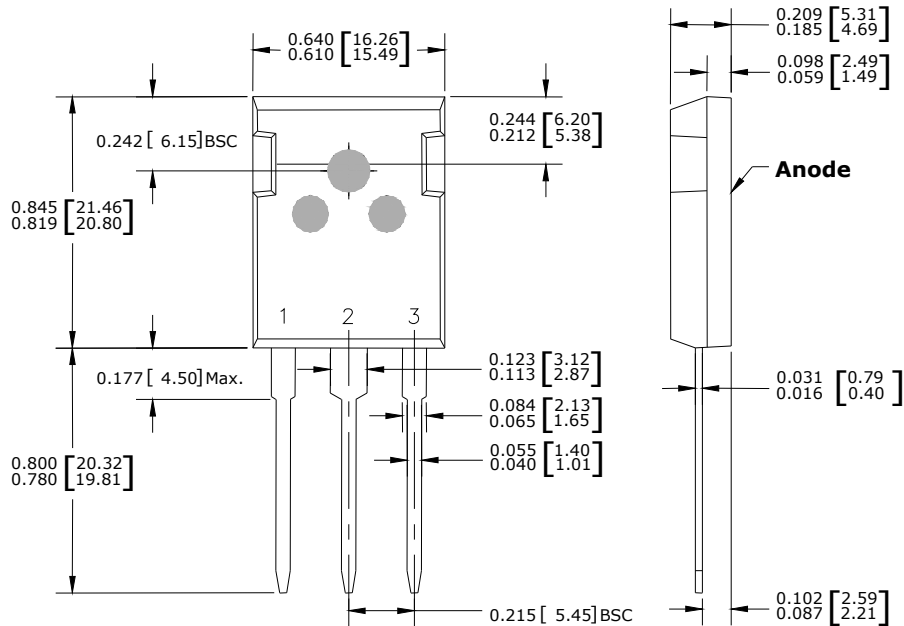
**Thermal Resistance**

Parameter	Symbol	Max. Value	Units
<b>Characteristics</b>			
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

	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 $T_J = -40^\circ\text{C}$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_{GT}$		-	270 100 80	- - -	mA
Maximum required DC gate voltage to trigger $T_J = -40^\circ\text{C}$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$V_{GT}$	Anode Supply= 6V, resistive load	- - -	4.0 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	mA
Maximum holding current	$I_H$	$T_J = 25^\circ\text{C}$ , anode supply 6 V, resistive load	-	-	200	
Maximum latching current	$I_L$		-	-	400	
Maximum rate of rise of off-state voltage	$dV/dt$	$T_J = T_{Jmax}$ linear to 80% $V_{DRM}$	-	-	500	V/ $\mu\text{s}$
Maximum peak on-state voltage	$V_{TM}$	100 A	-	-	1.4	V
Maximum peak negative voltage	$V_{GM}$		-	10	-	
Threshold voltage, low level value $T_J = 125^\circ\text{C}$	$V_{TT01}$	$T_J = 125^\circ\text{C}$	-	-	0.916	
Threshold voltage, high level value $T_J = 125^\circ\text{C}$	$V_{TT02}$		-	-	1.21	
Maximum peak gate power	$P_{GM}$	$T = 30 \mu\text{s}$	-	10	-	
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 $\Omega$
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.**