

PRELIMINARY DATASHEET
**Silicon Controlled Rectifier
 1200V, 35A in TO247 Package**

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


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

Parameter	Symbol	Value	Units
Average on-state current $T_C = 79^\circ\text{C}$, 180° conduction half sine wave	$I_{T(AV)}$	35	A
Continuous RMS on-state current as AC switch	$I_{T(RMS)}$	55	
Non-repetitive surge peak on-state current $T_J = T_{Jmax}$, $t_p = 10$ ms, applied rated V_{RRM} $T_J = T_{Jmax}$, $t_p = 10$ ms, no applied V_{RRM}	I_{TSM}	500 600	
I^2t value for fusing $T_J = T_{Jmax}$, $t_p = 10$ ms, applied rated V_{RRM} $T_J = T_{Jmax}$, $t_p = 10$ ms, no applied V_{RRM}	I^2t	1250 1760	A^2s
$I^2\sqrt{t}$ value for fusing $t = 0.1$ to 10ms, no voltage reapplied	$I^2\sqrt{t}$	12500	$\text{A}^2\sqrt{\text{s}}$
Rate of rise of on-state current $T_J = 125^\circ\text{C}$	di/dt	100	$\text{A}/\mu\text{s}$
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}	0.5 10	mA
Maximum direct leakage current $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_{DRM}	0.5 10	
Operating junction and storage temperature	T_J, T_{stg}	-40... +125	$^\circ\text{C}$

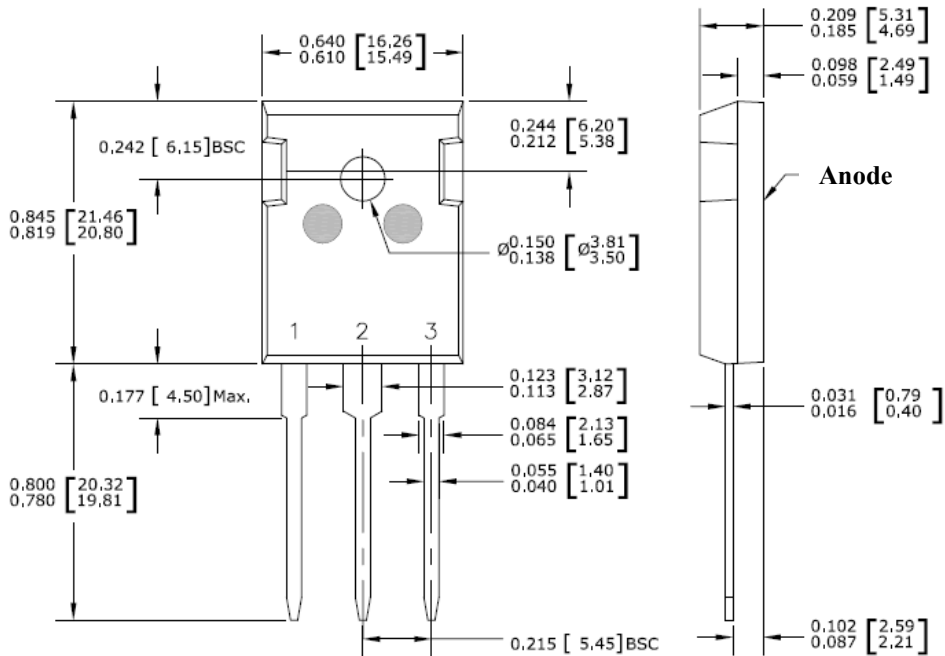
Thermal Characteristics

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.6	$^\circ\text{C} / \text{W}$
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	$I_{T(AV)}$	$T_C = 79^\circ\text{C}$ 180° conduction half sine wave	-	-	35	A
Maximum on-state current, continuous RMS, AC switch	$I_{T(RMS)}$		-	-	55	
Maximum required DC gate current to trigger	I_{GT}	Anode Supply= 6V, $R_L = 33\Omega$	-	62	150	mA
Maximum required DC gate voltage to trigger	V_{GT}		-	0.78	2.5	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	-	74	150	
Maximum latching current	I_L		-	200	300	
Maximum rate of rise of off-state voltage	dV/dt	$T_j = T_{jmax}$ linear to 80% V_{DRM}	-	-	1000	V/ μs
Maximum peak on-state voltage	V_{TM}	110 A	-	1.55	1.85	V
Maximum peak negative voltage	V_{RGM}	$I_{RG} = 100\text{mA}$	-	-	10	
Threshold voltage, low level value $T_j = 125^\circ\text{C}$	V_{TT01}	$T_j = 125^\circ\text{C}$	-	-	1.02	
Threshold voltage, high level value $T_j = 125^\circ\text{C}$	V_{TT02}		-	-	1.23	
Maximum peak gate power	P_{GM}		-	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}	$T_j = 125^\circ\text{C}$	-	-	9.74	m Ω
On-state slope resistance, high level value $T_j = 125^\circ\text{C}$	R_{t2}		-	-	7.50	

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.**