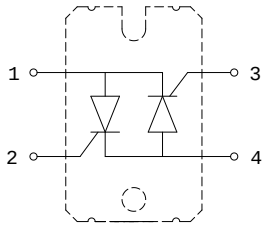
PRELIMINARY DATASHEET

Anti-Parallel Silicon Controlled Rectifier 1200V, 35A in SOT227 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 (per SCR), T_C = 25°C unless otherwise noted

Parameter	Symbol	Value	Units
Average on-state current T_C= 70°C, T_j= 180° C 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= 125°C, t_p = 10 ms, applied rated V_{RRM} T_j= 125°C, t_p = 10 ms, no applied V_{RRM}	I_{TSM}	500 600	
I^2t value for fusing T_j= 125°C, t_p = 10 ms, applied rated V_{RRM} T_j= 125°C, 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	$A^2\sqrt{s}$
Rate of rise of on-state current T_j= 125°C	di/dt	100	A/µs
Peak gate current T_j= 125° C	I_{GM}	2.5	A
Maximum repetitive peak off-state voltage IR = 100uA	V_{DRM}	1200	V
Maximum repetitive reverse voltage IR = 100uA	V_{RRM}	1200	
Maximum reverse leakage current T_j= 25°C T_j= 125°C	I_{RRM}	0.5 10	mA
Maximum direct leakage current T_j= 25°C T_j= 125°C	I_{DRM}	0.5 10	
Operating junction and storage temperature	T_j, T_{stg}	-40… +125	°C

Thermal Resistance (per SCR)

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.78	°C /W
Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 1-2 seconds)	V_{iso}	3000	V

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Electrical Characteristics (per SCR), at T_j = 25°C, unless otherwise specified

Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Average on-state current	$I_{T(AV)}$	T_C= 85°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 = 33Ω	-	62	90	mA
Maximum required DC gate voltage to trigger	V_{GT}		-	0.78	1.0	V
Maximum DC gate voltage not to trigger	V_{GD}	$V_{DRM=}$ rated value	-	0.25	-	
Maximum DG gate current not to trigger	I_{GD}		-	-	6.0	mA
Maximum holding current	I_H	T_J = 25 °C, anode supply 6 V, resistive load	-	73.5	110	
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	1.8	V
Maximum peak negative voltage	V_{RGM}	I_{RG} = 100mA	-	-	2	
Threshold voltage, low level value T_j= 125°C	V_{TTO1}	Tj = 125 °C	-	-	1.02	
Threshold voltage, high level value T_j= 125°C	V_{TTO2}		-	-	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°C	R_{t1}	Tj = 125 °C	-	-	9.74	mΩ
On-state slope resistance, high level value T_j= 125°C	R_{t2}		-	-	7.50	

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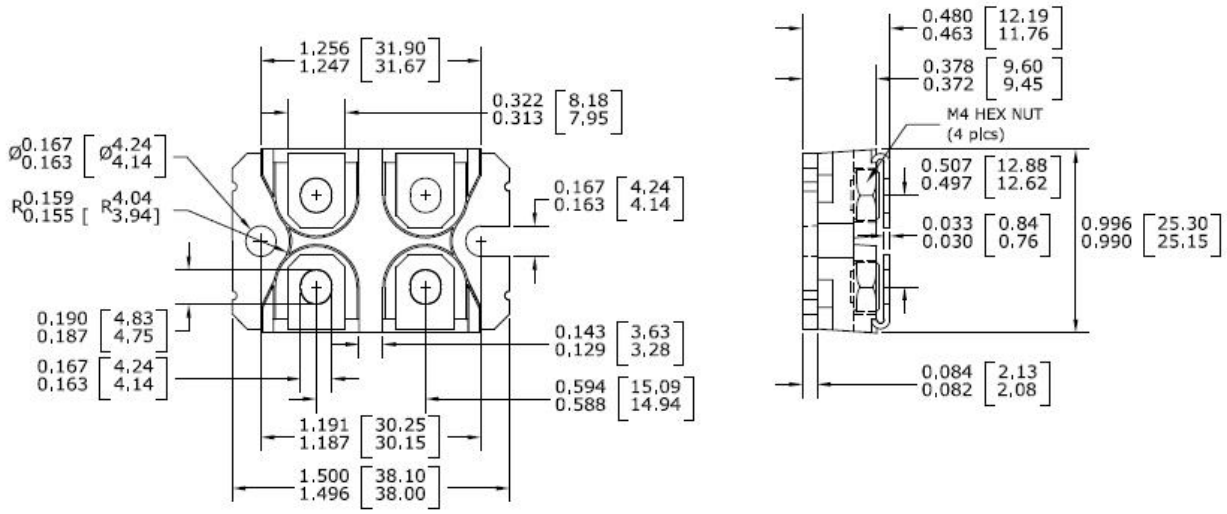
Package Outline Drawing



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.**

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