

# SCR XL 1225 / ML 1225

0.6A 300V (*ML1225*) / 400V (*XL1225*),  $I_{GT} < 200 \mu A$

## DESCRIPTION

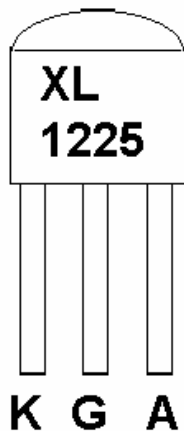
The 1225 Silicon Controlled Rectifiers are high performance diffused PNP devices. These parts are intended for low cost and high volume applications.

## ABSOLUTE MAXIMUM RATING

Parameter	Part No.	Symbol	Min.	Max	Unit	Test Conditions
Repetitive Peak Off State Voltage	XL 1225	$V_{DRM}$	400		V	$T_j=40^\circ C$ to
	ML 1225	$V_{DRM}$	300		V	$125^\circ C$ (RGK=1K)
On-State Current		$I_T(RMS)$	0.5		A	$T_c=40^\circ C$
Average On-State Current		$I_T(AV)$	0.5		A	Half Cycle= $180^\circ C$ , $T_c=40^\circ C$
Peak Reverse Gate Voltage		$V_{GRM}$	8		V	$I_{GR}=10\mu A$
Peak Gate Current		$I_{GM}$	1		A	10 $\mu s$ max.
Gate Dissipation		$PG(AV)$	0.1		W	20 ms max.
Operating Temperature		$T_j$	-40	125	$^\circ C$	
Storage Temperature		$T_{stg}$	-40	125	$^\circ C$	

## PIN ASSIGNMENT (TO-92 PACKAGE)

FRONT VIEW



K : Cathode  
G : Gate  
A : Anode

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	Min.	Max	Unit	Test Conditions
Off-State Leakage Current	I <sub>DRM</sub>		0.1	mA	@V <sub>DRM</sub> (RGK=1K)T <sub>j</sub> =125°C
Off-State Leakage Current	I <sub>DRM</sub>		1.0	μA	@V <sub>DRM</sub> (RGK=1K)T <sub>j</sub> =25°C
On-State Voltage	V <sub>T</sub>		1.93	V	at I <sub>T</sub> =0.8A, T <sub>j</sub> =25 °C
On-State Threshold Voltage	V <sub>T(TO)</sub>		0.95	V	T <sub>j</sub> =125°C
On-State Slops Resistance	r <sub>T</sub>		600	m	T <sub>j</sub> =125°C
Gate Trigger Current	I <sub>GT</sub>		200	μA	V <sub>D</sub> =7V
Gate Trigger Voltage	V <sub>GT</sub>		0.8	V	V <sub>D</sub> =7V
Holding Current	I <sub>H</sub>		5	mA	RGK=1K(ohm)
Latching Current	I <sub>L</sub>		6	mA	RGK=1K(ohm)
Critical Rate of Voltage Rise	dv/dt	25		V/μs	V <sub>D</sub> =0.67 ≠ V <sub>DRM</sub> (RGK=1K), T <sub>j</sub> =125°C
Critical Rate of Current Rise	di/dt	30		A/μs	I <sub>G</sub> =10mA, diG/dt=0, 1A/μs, T <sub>j</sub> =125°C
Gate Controlled Delay Time	t <sub>gd</sub>		500	ns	I <sub>G</sub> =10mA, diG/dt=0.1A/μs
Commutated Turn-Off Time	t <sub>g</sub>		200	μs	T <sub>C</sub> =85°C, V <sub>D</sub> =0.67 ≠ V <sub>DRM</sub> V <sub>R</sub> =35V, I <sub>T</sub> =I <sub>T(AV)</sub>
Thermal Resistance junc. to case	R <sub>θjc</sub>	100	K/W		
Thermal Resistance junc. to amb.	R <sub>θja</sub>	200	K/W		