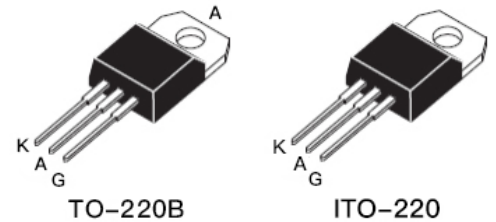


## Description

High sensitive triggering levels, the LC12 Series SCRs is suitable for all applications, where the available gate current is limited.

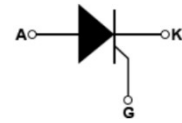
## Features

- On-state RMS current to 12A
- Max. blocking voltage =  $V_{DRM}$ ,  $V_{RRM}$  = 600V/800V



## Applications

- Ignition circuits
- Motor control
- Protection circuits
- Voltage regulation



## Absolute Maximum Ratings

Rating		Symbol	Value
Peak repetitive off-state voltage ( 50Hz to 60Hz; Gate open) (Note 1)		$V_{DRM}$ $V_{RRM}$	600V/800V
On-state RMS current (180° sine wave)		$I_{T(RMS)}$	12A
Non repetitive surge peak on-state current (full cycle, $T_{initial} = 25^{\circ}C$ )	$F=50Hz, t=10ms$	$I_{TSM}$	140A
$I^2t$ Value for fusing	$t_p=10ms$	$I^2t$	98A <sup>2</sup> s
Non repetitive surge peak off-state voltage	$t_p=10ms, T_J=25^{\circ}C$	$V_{DSM}/V_{RSM}$	$V_{DRM}/V_{RRM}+100V$
Peak gate current	$t_p=20\mu s, T_J=125^{\circ}C$	$I_{GM}$	4A
Average gate power dissipation	$T_J=125^{\circ}C$	$P_{G(AV)}$	1W
Storage junction temperature range		$T_{STG}$	-40°C to +150°C
Operating junction temperature range		$T_J$	-40°C to +125°C

Note:

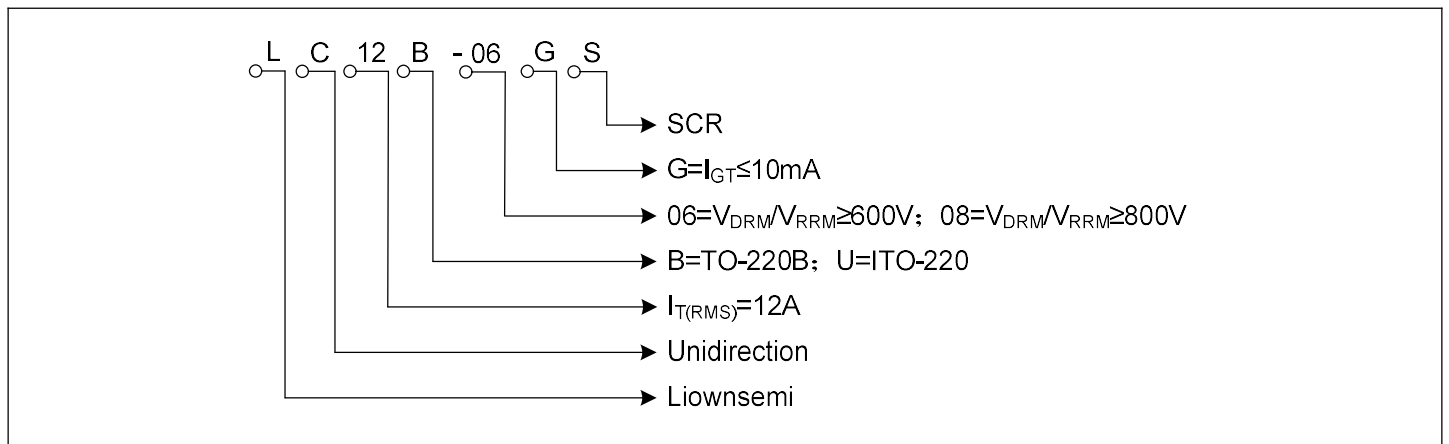
1.  $V_{DRM}$  and  $V_{RRM}$  for all types can be applied on a continuous basis.

Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

### Electrical Characteristics ( $T_J=25^{\circ}\text{C}$ , unless otherwise specified)

Parameter	Symbol	Value
$V_D=12\text{V}$ , $R_L=33\Omega$	$I_{GT \text{ Max.}}$	10mA
	$V_{GT \text{ Max.}}$	1.3V
$V_D=V_{DRM}$ , $R_L=3.3\text{k}\Omega$ , $T_J=125^{\circ}\text{C}$	$V_{GD \text{ Min.}}$	0.2V
$I_T=100\text{mA}$ , gate open	$I_H \text{ Max.}$	20mA
$I_G=1.2I_{GT}$	$I_L \text{ Max.}$	40mA
$V_D=67\%V_{DRM}$ gate open, $T_J=125^{\circ}\text{C}$	$dv/dt \text{ Min.}$	100V/ $\mu\text{s}$
$I_{TM}=12\text{A}$ , $t_p=380\mu\text{s}$ , $T_J=25^{\circ}\text{C}$	$V_{TM \text{ Max.}}$	1.7V
$V_{DRM}=V_{RRM}$ , $T_J=25^{\circ}\text{C}$	$I_{DRM \text{ Max.}}$	5 $\mu\text{A}$
$V_{DRM}=V_{RRM}$ , $T_J=125^{\circ}\text{C}$	$I_{RRM \text{ Max.}}$	2mA

### Part Number Code



### Ordering Information

Part Number	Marking	Package
LC12B-06GS	LC12B-06GS	TO-220B
LC12B-08GS	LC12B-08GS	TO-220B
LC12U-06GS	LC12U-06GS	ITO-220
LC12U-08GS	LC12U-08GS	ITO-220

Dimensions

TO-220B	Symbol	Millimeters	
		Min.	Max.
	A	9.80	10.40
	B	2.65	3.10
	C	14.80	16.10
	D	0.70	0.92
	D1	1.18	1.42
	E	2.40	2.70
	L	2.80	4.20
	L1	13.05	13.60
	H	5.85	6.82
	K	2.35	2.75
	T	4.38	4.61
	T1	1.15	1.36
	T2	0.35	0.65
	ΦR	3.75	3.95

ITO-220	Symbol	Millimeters	
		Min.	Max.
	A	9.80	10.40
	B	2.65	3.10
	C	14.80	16.10
	D	0.70	0.92
	D1	1.18	1.42
	E	2.40	2.70
	L	2.80	4.20
	L1	13.05	13.60
	H	5.85	6.82
	K	2.35	2.75
	T	4.38	4.61
	T1	1.15	1.36
	T2	0.35	0.65
	ΦR	3.75	3.95

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