

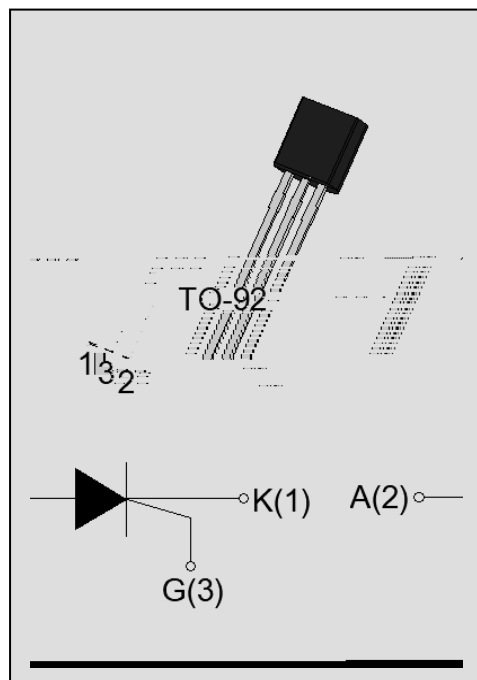


^ Z / W d / K E W

The MCR100-6 SCR provides high dV/dt rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Complying with UL standards (File ref: E252906). Package TO-92 is RoHS compliant.

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Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	≤ 200	μA



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Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125 ⁷	
Repetitive peak off-state voltage ($T_j=25^\circ C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	800	V
Average on-state current ($T_c 060^\circ C$)	$I_{T(AV)}$	0.5	A
RMS on-state current ($T_c 060^\circ C$)	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^\circ C$)	I_{TSM}	8	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^\circ C$)		9	
I^2t value for fusing ($t_p=10ms, T_j=25^\circ C$)	I^2t	0.32	A^2s
Critical rate of rise of on-state current ($I_G=2 I_{GT}, f=100Hz, T_j=125^\circ C$)	di/dt	50	$A/\mu s$
Peak gate current ($t_p=20\mu s, T_j=125^\circ C$)	I_{GM}	1	A



Average gate power dissipation ($T_j=125$)	$P_{G(AV)}$	0.1	W
Peak gate power	P_{GM}	2	W
Peak pulse voltage ($T_j=25$; non-repetitive,off-state;FIG.7)	V_{pp}	1	kV

Operating junction temperature T_j is up to 125 when a resistor $\leq 1k\Omega$ is connected between Gate and Cathode. Without this resistor, the T_j is up to 110 only.

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I_{GT}	$V_D=12V R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM} T_j=125$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	4	mA
I_H	$I_T=0.05A$	-	-	3	mA

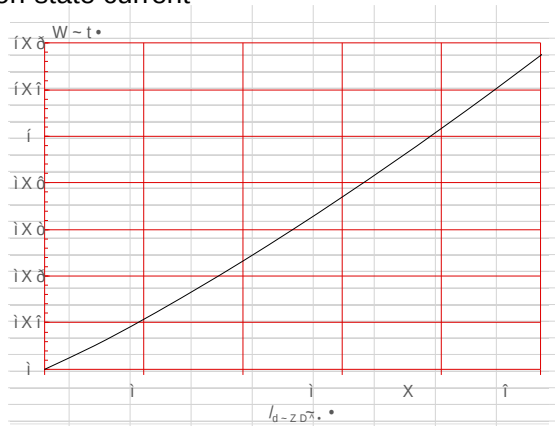


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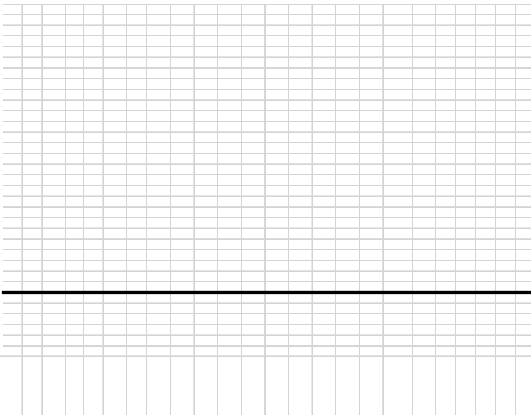
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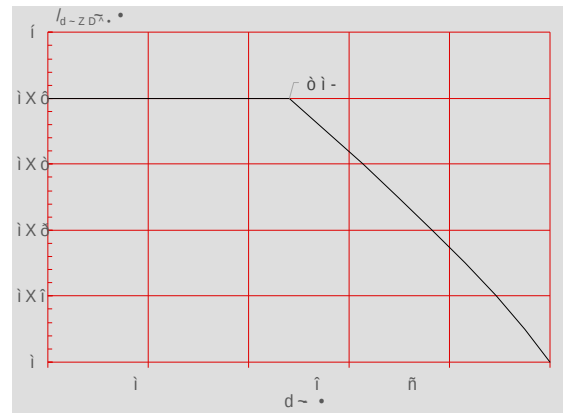
Maximum power dissipation versus RMS on-state current



Surge peak on-state current versus number of cycles



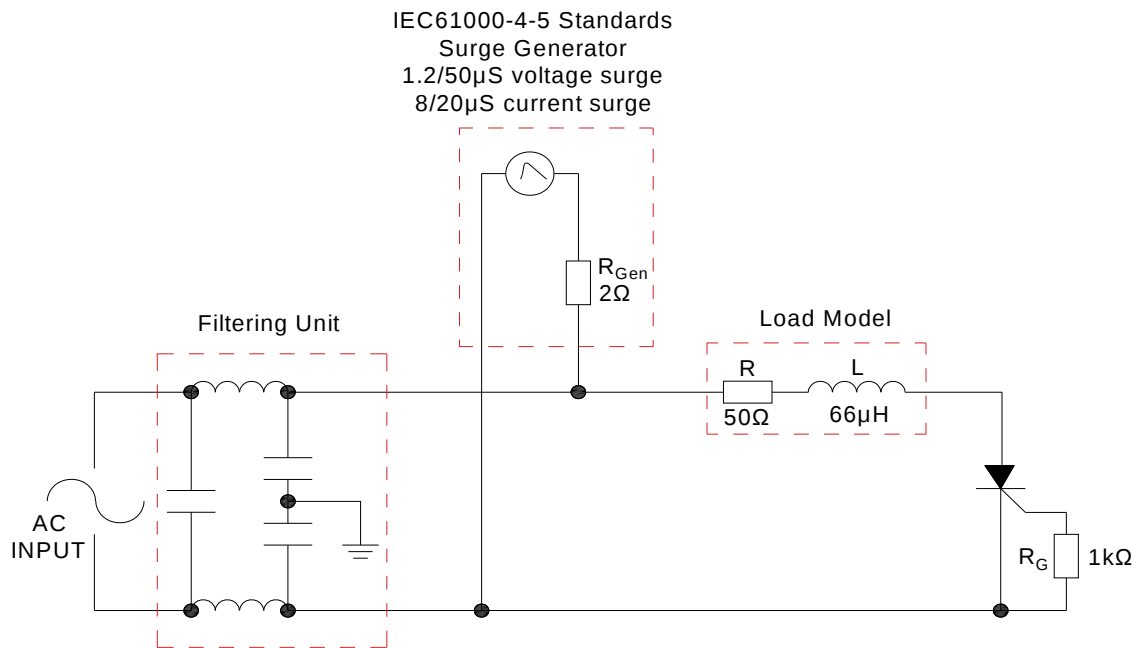
RMS on-state current versus case temperature



On-state characteristics



FIG.7 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards.



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Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie D] {E} o š{E}v] •



KZ Z/E' /E&KZD d/KE

Date	Revision	Changes
May.23, 2023	A.1.0	Last update
Mar.28, 2025	A.2.0	Renew PACKAGE MECHANICAL DATA
Sept.28, 2025	A.2.1	Revise PACKAGE MECHANICAL DATA



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