MCR100-8 0.8A Sensitive SCR

Rev.A.2.1

^ Z/Wd/KEW

The MCR100-8 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 M

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

NOTE 1: Operating junction temperature T_j is up to 125 when a resistor ≤1kΩ is connected between Gate and Cathode. Without this resistor, the T_j is up to 110 only.

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Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	-	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
dV/dt	V_D=540V T_j=125 R_{GK}=1KΩ	200	-	-	V/μs
	V_D=540V T_j=125 R_{GK}=220Ω	500	-	-	
t_{on}	I_G=10mA I_A=20mA I_R=2mA T_j=25	-	2	-	μs
t_{off}		-	50	-	μs

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Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_T=1A t_p=380μs	T_j=25	1.35	V
V_{TO}	Threshold voltage	T_j=125	0.93	V
R_D	Dynamic Resistance	T_j=125	0.34	Ω
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25	2	μA
I_{RRM}		T_j=125	0 .2	mA

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Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	63	/W
$R_{th(j-a)}$	junction to ambient (DC)	140	/W

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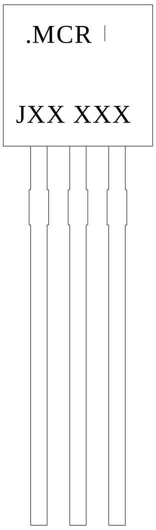


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width t_p<10ms, and corresponding value of I^2t (dI/dt<50A/μs)

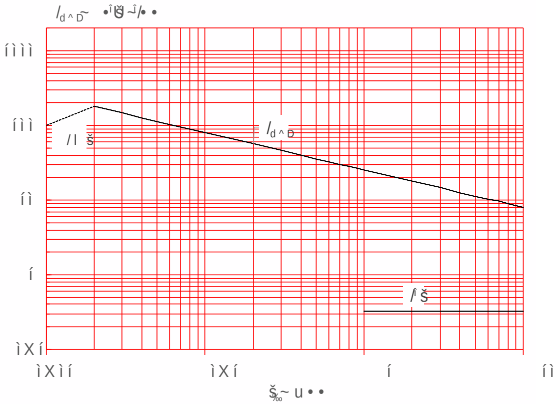


FIG.6: Relative variations of gate triggercurrent, holding current and latching current versus junction temperature

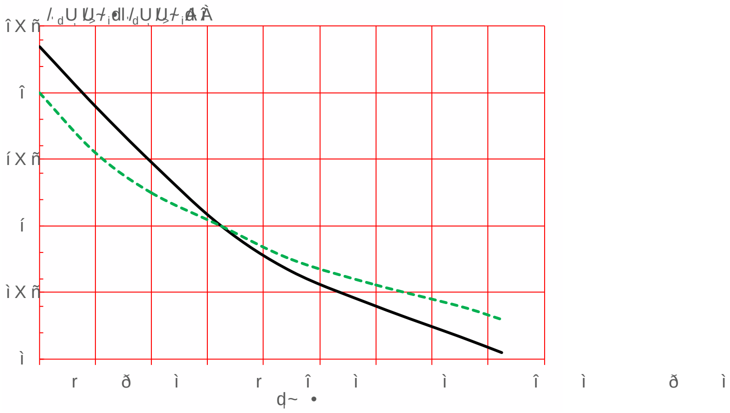
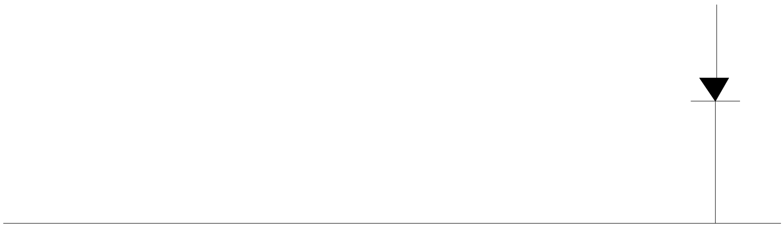


FIG.7 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards.



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Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(εA)	Package	Base qty. (pcs)	Delivery mode
MCR100-8	**800**	**ò200**	**TO-92**	**1,000**	**Bulk Pack**
MCR100-8-TR				**2,000**	**Tape & Reel**

Document Revision History

Date	Revision	Changes
Apr.12, 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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PACKAGE	OUTLINE	BAG (PCS)	INNER BOX (PCS)	CARTON BOX (PCS)
TO-92	Bulk Pack	1,000	10,000	50,000

P1	3.55	3.85	4.15
P2	5.95	6.35	6.75
¸ P	-1.00	0	1.00
F1 ÃF2	2.30	2.50	2.70
F1-F2	-0.10	0	0.10
W	17.50	18.00	19.00
W0	5.50	6.00	6.50
W1	8.50	9.00	9.50
W2			1.00
D0	3.80	4.00	4.20
¸ H	-1.00	0	1.00
L1	2.50		
H	18.00	19.00	20.00