



MCR100-8 0.8A Sensitive SCR

Rev.A.2.1

^ Z / W d / K E W

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.

D / E & d h Z ^

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A

V_{DRM} / V_{RRM} 800 V M

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

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

> dZ/dt , Z d Z/dt unless otherwise specified •

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125^\circ\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	4	mA
I_H	$I_T=0.05\text{A}$	-	-	3	mA
dV/dt	$V_D=540\text{V}$ $T_j=125^\circ\text{C}$ $R_{GK}=1\text{k}\Omega$	200	-	-	$\text{V}/\mu\text{s}$
	$V_D=540\text{V}$ $T_j=125^\circ\text{C}$ $R_{GK}=220\Omega$	500	-	-	
t_{on}	$I_G=10\text{mA}$ $I_A=20\text{mA}$ $I_R=2\text{mA}$	-	2	-	μs
t_{off}	$T_j=25^\circ\text{C}$	-	50	-	μs

dV/dt , Z d Z/dt ^ dV/dt ^

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_T=1\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.35	V
V_{TO}	Threshold voltage	$T_j=125^\circ\text{C}$	0.93	V
R_D	Dynamic Resistance	$T_j=125^\circ\text{C}$	0.34	Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	2	μA
I_{RRM}		$T_j=125^\circ\text{C}$	0.2	mA

d , $Z_D > Z$ ^ / ^ dE ^

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

D Z < / E '

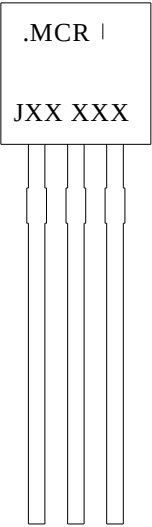


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

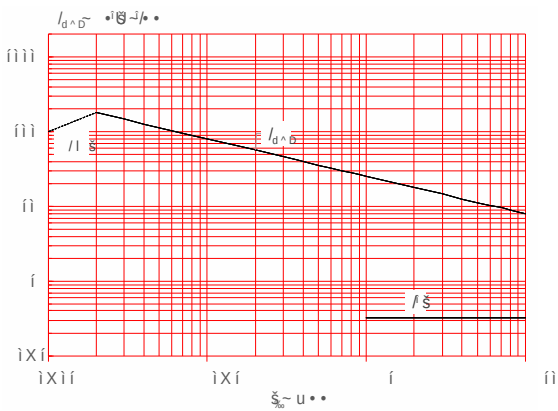


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

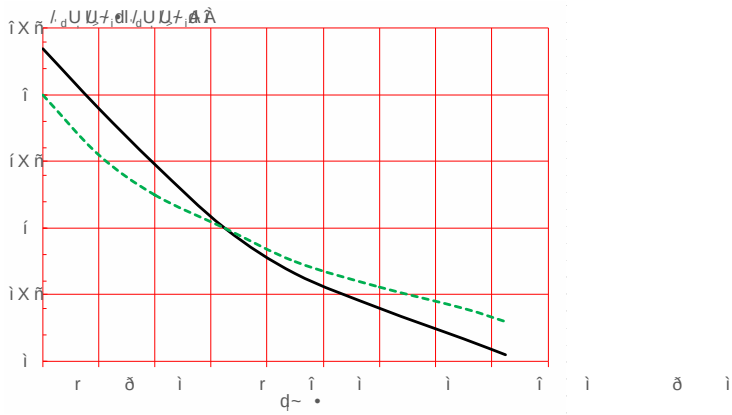


FIG.7 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards.



K Z Z / E ' / E & K Z D d / K E

Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(εA)	Package	Base qty. (pcs)	Delivery mode
MCR100-8	800	0200	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

MCR100-8

>/s Zz DK

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 ÅF2	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

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