

DESCRIPTION

Highly sensitive triggering levels, the HMCR100-x Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies....

- **产品特点:** 先进的玻璃钝化芯片工艺, 具有灵敏的控制极触发电流, 通态压降小, 高灵敏触发单向可控硅。
- **主要用途:** 广泛应用于点火器、负离子发生器、雾化器、镇流器、漏电保护器; 各种万能开关器、小型马达控制器、彩灯控制器 漏电保护器、灯具继电器驱动器、逻辑集成电路驱动、大功率可控硅门极驱动、摩托车点火器等线路功率控制。
- **代替型号:** PCR406、PCR606、BT169GW、MCR100-6、MCR100-8、MCK100-6、MCK100-8、X00602MA、X00602MN、X00619、P0111DA、P0115MA、P0118MA、P0111DN、P0111MN、P0115MN、P0118MN、EC103D1、EC103D1W、MCR08BT1

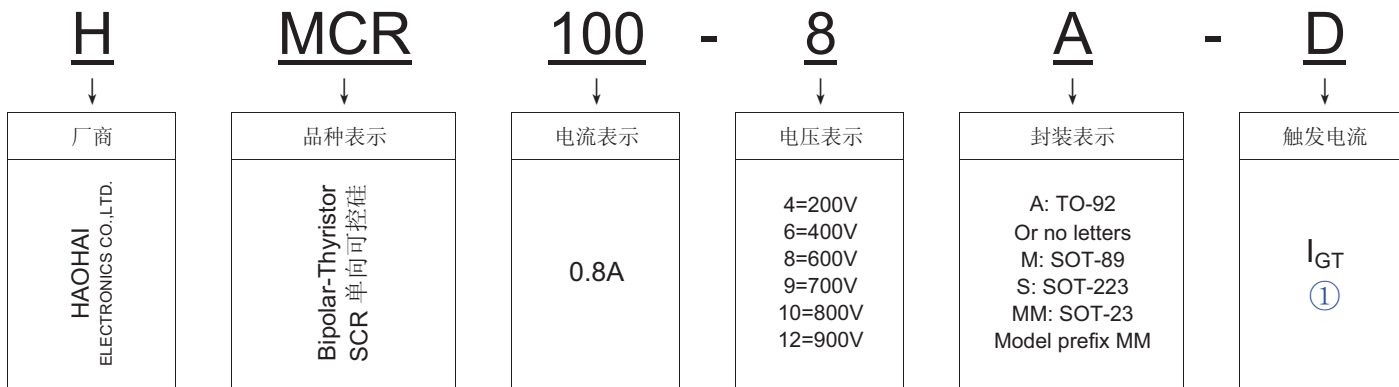
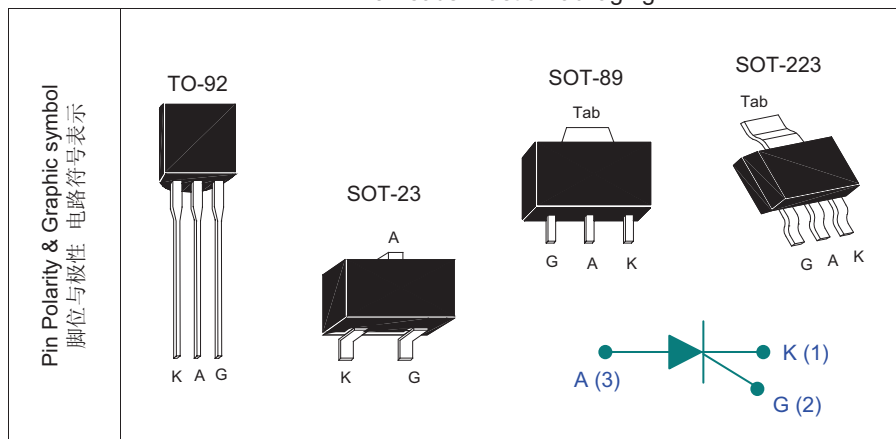
Product Model Reference & Naming 【产品型号参考及型号命名】

0.8A (Amperes)	产品型号列表、封装区分、型号对照电压值						I _{GT}
	封装标识	400V	600V	700V	800V	900V	
TO-92	A	MCR100-6	MCR100-8	MCR100-9	MCR100-10	MCR100-12	≤200μA ① I _{GT} Class
SOT-23	MM	MMCR100-6	MMCR100-8	MMCR100-9	MMCR100-10	MMCR100-12	
SOT-89	M	MCR100-6M	MCR100-8M	MCR100-9M	MCR100-10M	MCR100-12M	
SOT-223	S	MCR100-6S	MCR100-8S	MCR100-9S	MCR100-10S	MCR100-12S	
Remarks (说明)		标准品种	高压品种	高压品种	高压品种	特制高压	

PINNING: Insulated Package

Pin in Symbol and Description			
1	K	Cathode	阴极
2	G	Gate	控制极
3	A	Anode	阳极
4		Tab	散热片

3-Leads Plastic Packaging



I_{GT} Class 触发电流分段 ①

Item	A	B	C	D	E	F	G	H	J	K	Unit
I _{GT}	1~5	5~10	10~30	30~60	40~100	50~200	1~10	20~40	30~45	40~200	μA

■ ABSOLUTE RATINGS (Limiting Values) 【额定值参数】

SYMBOL	Parameter & Test Conditions		Value	Unit
$I_{T(RMS)}$	On-State RMS Current	180°C Conduction Angles, $T_C=77^\circ\text{C}$	0.8	A
$I_{T(AV)}$	average on-state current		0.5	
I_{TSM}	Peak Non-Repetitive Surge Current	$T_J=25^\circ\text{C}$, $t_p=10\text{mS}$	9	
		$T_J=25^\circ\text{C}$, $t_p=8.3\text{mS}$	10	
I_{GM}	Forward Peak Gate Current	$T_J=110^\circ\text{C}$, $t_p=20\mu\text{S}$	0.2	
I^2t	I^2t for fusing	$t=10\text{mS}$	0.415	A^2ses
$P_{G(AV)}$	Forward Average Gate Power	$T_J=110^\circ\text{C}$	0.1	
V_{DRM}	Peak Repetitive Off-State Voltage ($T_J=25^\circ\text{C}$)	见参考特性对应说明 See Reference Feature Description	400~900	V
V_{RRM}	Peak Repetitive Peak Reverse Voltage ($T_J=25^\circ\text{C}$)			
T_J	Operating Junction Temperature Range		-40~+110	°C
T_{stg}	Storage Temperature Range		-40~+150	
T_L	Maximum Lead Temperature for Soldering Purposes 1/8, from Case for 10 Seconds		260	

■ ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$ Unless Otherwise Noted)

SYMBOL	Parameter & Test Conditions		Min	Typ	Max	Unit
I_{GT}	$V_D=6\text{V}$, $R_L=100\Omega$	$T_J=25^\circ\text{C}$	--	40	200	μA
I_H	Holding Current	$I_T=50\text{mA}$, $R_{GK}=1\text{K}\Omega$	--	--	5	mA
I_L	Latching Current	$I_G=1\text{mA}$, $R_{GK}=1\text{K}\Omega$	--	--	6	
V_{GT}	Gate Trigger Voltage	$V_D=6\text{V}$, $R_L=100\Omega$	--	0.6	0.8	V
V_{GD}	Gate Non-Trigger Voltage	$V_D=V_{DRM}$, $R_L=3.3\text{K}\Omega$, $T_J=110^\circ\text{C}$	0.2	--	--	
V_{TM}	Peak Forward On-State Voltage	$I_{TM}=1\text{A}$, $t_p=380\mu\text{S}$, $T_J=25^\circ\text{C}$	--	1.3	1.7	
I_{DRM}	Peak Reverse Blocking Current ($V_D=V_{DRM}$, $R_{GK}=1\text{K}\Omega$)	$T_J=25^\circ\text{C}$	--	--	5	μA
		$T_J=110^\circ\text{C}$	--	--	0.1	
I_{RRM}	Peak Reverse Blocking Current ($V_R=V_{RRM}$, $R_{GK}=1\text{K}\Omega$)	$T_J=25^\circ\text{C}$	--	--	5	
		$T_J=110^\circ\text{C}$	--	--	0.1	

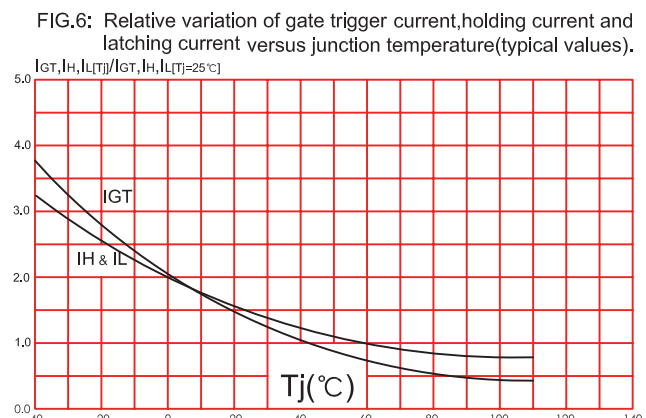
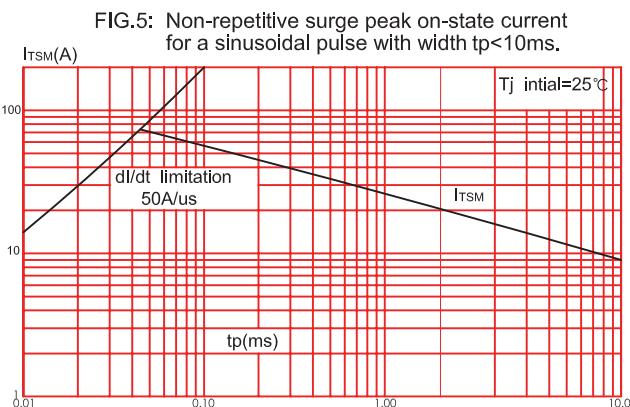
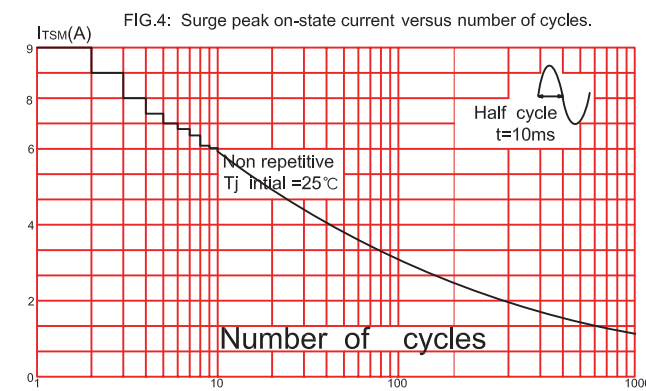
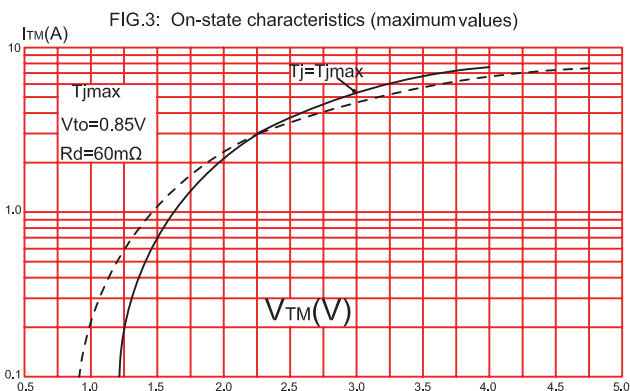
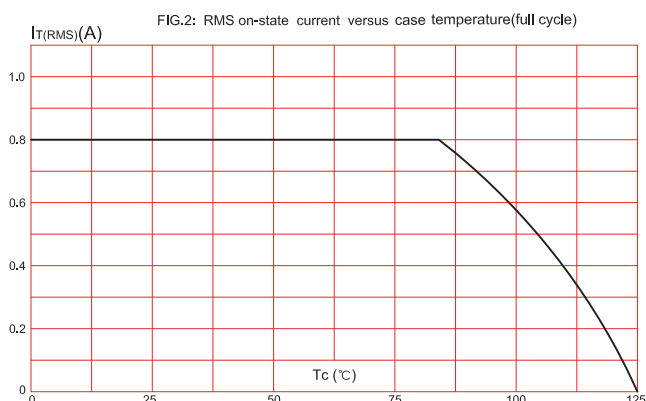
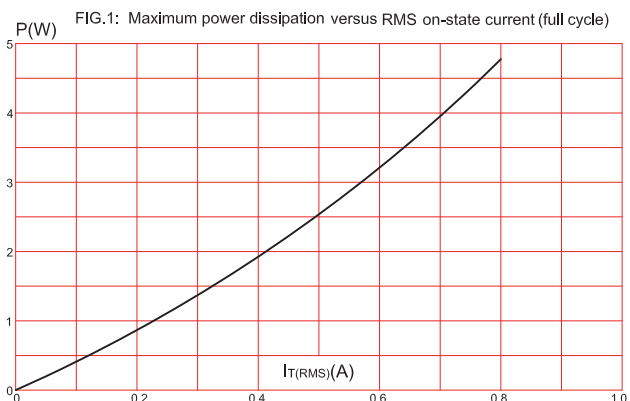
■ DYNAMIC CHARACTERISTICS

SYMBOL	Parameter & Test Conditions		Min	Typ	Max	Unit
dv/dt	$V_D=67\%V_{DRM}$, $R_{GK}=1\text{K}\Omega$, $T_J=110^\circ\text{C}$		100	--	--	$\text{V}/\mu\text{s}$

■ THERMAL CHARACTERISTICS

SYMBOL	Parameter & Test Conditions		Min	Typ	Max	Unit
$R_{th(j-c)}$	Thermal Resistance-Junction-to-Case	TO-92	--	--	75	$^\circ\text{C}/\text{W}$

Voltage Current Characteristic of SCR 可控硅电压电流特性



PACKAGE MECHANICAL DATA (mm & inch) 封装尺寸数据 (毫米与英寸对照)

打印标识

REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.45	5.20	0.175	0.205
B	4.32	5.33	0.170	0.210
C	3.18	4.19	0.125	0.165
D	0.407	0.533	0.016	0.021
G	1.15	1.39	0.045	0.055
H	2.42	2.66	0.095	0.105
J	0.39	0.50	0.015	0.020
K	12.70		0.500	
N	2.04	2.66	0.080	0.105
P		2.54		0.100
V	3.43		0.135	

TO-92 (TO-226AA)
Package Code: A

Marking

MCR 100-8
KKG106

MCR100-8: Part Number
KKG: Registered trademark
106: Chip Code
LOGO in
The upper left corner mark
MCR100-8: 产品型号
KKG: 注册商标
106: 芯片代码
左上角为公司LOGO

REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0	0.100	0	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-3L
Package Code: MM

Marking

MCR18.

MMCR100-6:
MCR16 or 06E
MMCR100-8:
MCR18 or 08E
".": Chip Size Code
Conventional varieties
not marked
打印标识
MMCR100-6:
MCR16 或 06E
MMCR100-8:
MCR18 或 08E
".": 芯片标记
常规品种无标记

■ Packaging Specifications (包装数量、包装规格、装箱规格、包装尺寸数据)

REF.	TO-92 (TO-226AA)			SOT-23-3L		
	Bag	BOX	Carton	Reel	BOX	Carton
QTY	1,000 Pcs	10,000 Pcs	100,000 Pcs	3,000 Pcs	45,000 Pcs	180,000 Pcs
Size	--	240×160×90mm	500×350×250mm	7"	220×220×200mm	440×440×230mm
G.W.	197 g	2312 g	22315 g	113 g	1932 g	8639 g

PACKAGE MECHANICAL DATA (mm & inch) 封装尺寸数据 (毫米与英寸对照)

打印标识

	REF	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	4.40	4.60	0.173	0.181
	B	2.40	2.60	0.094	0.102
C	1.40	1.60	0.055	0.063	
D	0.37	0.57	0.015	0.022	
E	0.32	0.52	0.013	0.020	
F	1.50	1.83	0.059	0.072	
G	1.50 BSC		0.059 BSC		
H	3.00 BSC		0.118 BSC		
J	0.30	0.50	0.012	0.020	
K	0.80	--	0.031	--	
L	--	4.25	--	0.167	

SOT-89
Package Code: M

<p>Marking</p>
<p>MCR100-8: Part Number KKG: Registered trademark LOGO in The upper left corner mark</p> <p>MCR100-8: 产品型号 KKG: 注册商标 左上角为公司LOGO</p>

	REF	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	1.50	1.80	0.059	0.071
	A1	0.01	0.10	0.001	0.004
B	2.90	3.10	0.114	0.122	
B1	0.60	0.80	0.024	0.031	
C	0.22	0.32	0.009	0.013	
D	6.30	6.70	0.248	0.264	
E	3.30	3.70	0.130	0.146	
F	4.60 TYP.		0.181 TYP.		
F1	2.30 TYP.		0.091 TYP.		
G	0.70	1.10	0.028	0.043	
H	1.50	2.00	0.059	0.079	
J	6.70	7.30	0.264	0.287	
K	0.90 TYP.		0.035 TYP.		

SOT-223
Package Code: S

<p>Marking</p>
<p>H: HAOHAI MCR100-8S: Part Number KKG: Registered trademark LOGO in The upper left corner mark</p> <p>MCR100-8S: 产品型号 KKG: 注册商标 左上角为公司LOGO</p>

■ Packaging Specifications (包装规格、装箱规格、包装尺寸数据)

REF.	SOT-89			SOT-223		
	Reel	BOX	Carton	Reel	BOX	Carton
QTY	1,000 Pcs	10,000 Pcs	40,000 Pcs	2,500 Pcs	5,000 Pcs	40,000 Pcs
Size	7"	210×210×220mm	460×450×240mm	13"	336×336×46mm	440×440×600
G.W.	158 g	1723 g	7.8 Kg	647.5 g	1471.5 g	

Manufacturers version information
2012-04-18, KKG™ Product Data-1.0
2014-04-18, KKG™ Product Data-1.1



经中华人民共和国工商行政管理总局商标局批准
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