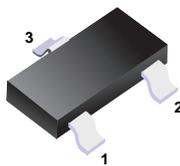


■ Features

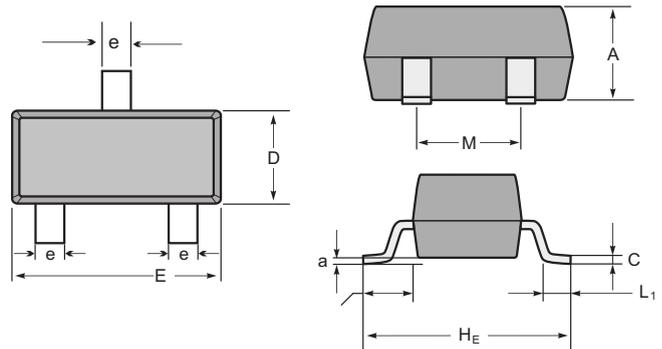
- Sensitive gate silicon controlled rectifiers
- reverse blocking thyristors



1.Cathode(K)
2.Gate(G)
3.Anode(A)

■ Simplified outline(SOT-23)

Pin	Symbol	Description
1	K	Cathode
2	G	Gate
3	A	Anode



SOT-23 mechanical data

UNIT	A	C	D	E	H _E	e	M	L	L ₁	a	
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbols	Value	Units
Peak Repetitive Off-State Voltage ^{Note4} (T _J = -40°C to 110°C, Sine Wave, 50 to 60 Hz, Gate Open)	MCR100-4 MCR100-6 MCR100-8	200 400 600	V
On-State RMS Current	I _{T(RMS)}	0.5	A
Peak Non-Repetitive Surge Current (1/2 Cycle, Sine Wave, 60 Hz, T _J = 25°C)	I _{TSM}	8	A
Circuit Fusing Considerations (t = 8.3ms)	I ² t	0.104	A ² s
Forward Peak Gate Power (Pulse Width ≤ 1 μs)	P _{GM}	0.1	W
Forward Average Gate Power (t = 8.3ms)	P _{G(AV)}	0.1	W
Peak Gate Current – Forward (Pulse Width ≤ 1 μs)	I _{GM}	1	A
Peak Gate Voltage – Reverse (Pulse Width ≤ 1 μs)	V _{GRM}	5	V
Operating Junction Temperature Range	T _J	-40 to +110	°C
Storage Temperature Range	T _{STG}	-40 to +150	°C

MCR100-4/-6/-8

■ Electrical Characteristics Ta = 25°C

Parameter	Symbols	Max	Units
Peak Forward or Reverse Blocking Current ^{Note2} at V _D = Rated V _{DRM} and V _{RRM} , R _{GK} = 1KΩ	I _{DRM} , I _{RRM}	10	μA
Peak Forward On-State Voltage ^{Note1} at I _{TM} = 0.8 A	V _{TM}	1.7	V
Gate Trigger Current ^{Note1} at V _{AK} = 7 V, R _L = 100 Ω	I _{GT}	200	μA
Holding Current ^{Note1} at V _{AK} = 7 V, Initiating Current = 20 mA	I _H	T _C = 25 5	mA
		T _C = -40 10	
Latch Current at V _{AK} = 7 V, I _g = 1 mA	I _L	T _C = 25 10	mA
		T _C = 40 15	
Gate Trigger Voltage ^{Note3} at V _{AK} = 7 V, R _L = 100 Ω	V _{GT}	T _C = 25 0.8	V
		T _C = 40 1.2	

Note:

1. Indicates pulse test width ≤ 1 ms, duty cycle ≤ 1%
2. R_{GK} = 1 KΩ included in measurement
3. Does not include R_{GK} in measurement
4. V_{DRM} and V_{RRM} for all types can be applied on continuous basis. Ratings apply for zero negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

RATING AND CHARACTERISTIC CURVES (MCR100-4/-6/-8)

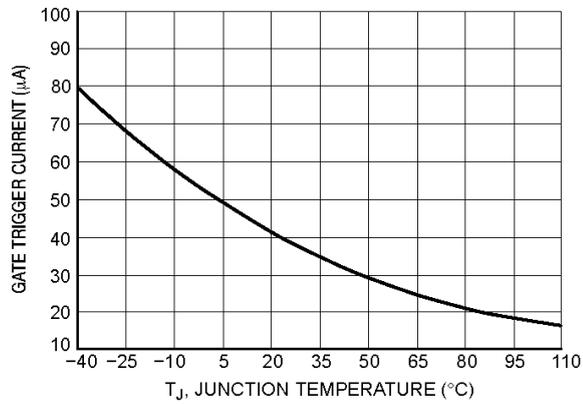


Figure 1. Typical Gate Trigger Current versus Junction Temperature

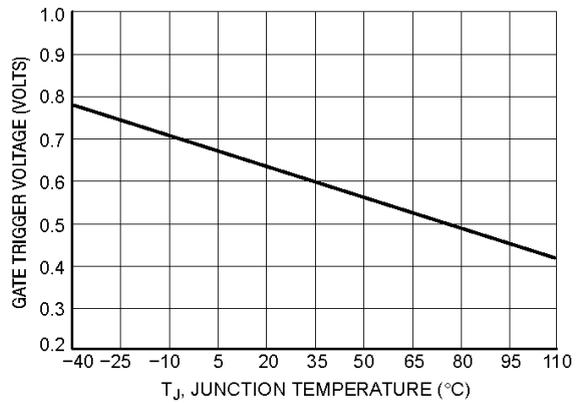


Figure 2. Typical Gate Trigger Voltage versus Junction Temperature

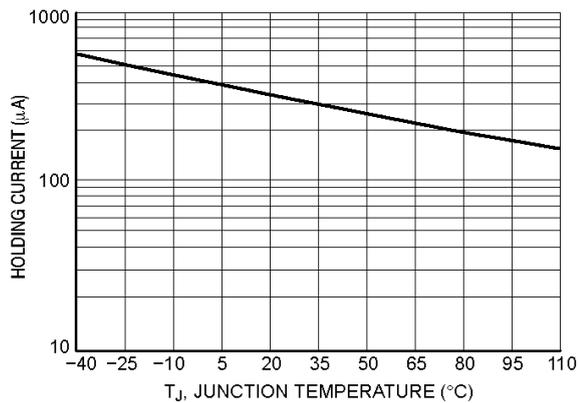


Figure 3. Typical Holding Current versus Junction Temperature

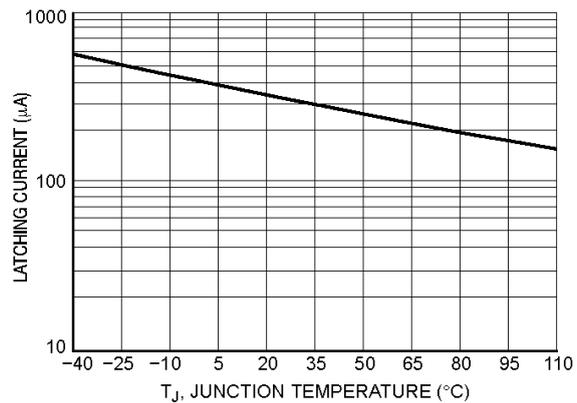


Figure 4. Typical Latching Current versus Junction Temperature

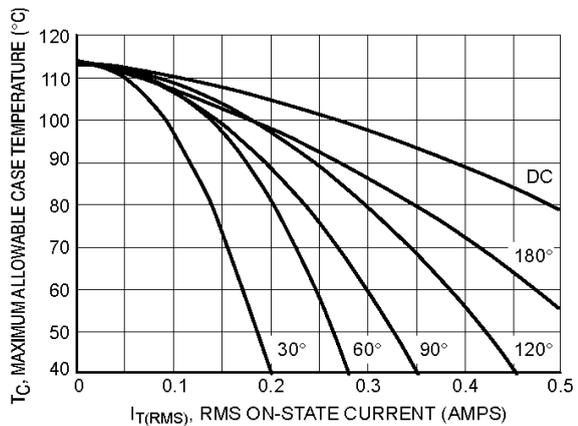


Figure 5. Typical RMS Current Derating

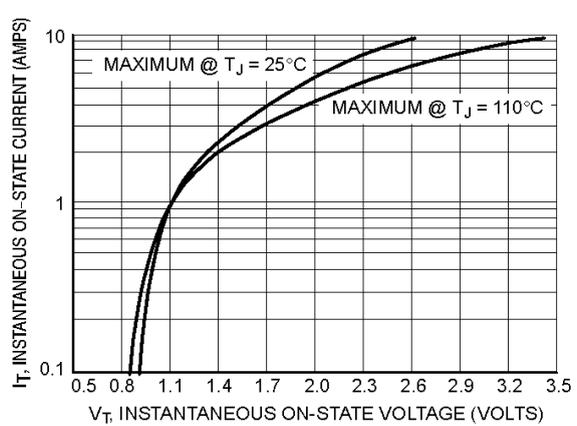


Figure 6. Typical On-State Characteristics