

Small Signal Product

Thyristors

FEATURES

- Epitaxial planar die construction
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Packing code with suffix "G" means
Green compound (Halogen free)


TO-92


MECHANICAL DATA

- Case : TO-92 plastic package
- Terminal : Matte tin plated, lead free, solderable
per MIL-STD-202, method 208 guaranteed
- High temperature soldering guaranteed : 260°C/10s
- Weight : 0.19 gram (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Forward Current RMS (All Conduction Angles)	I _{T(RMS)}	0.8	A
Peak Repetitive Forward and Reverse Blocking Voltage (T _J =25°C to 125°C, R _{GK} =1KΩ)	MCR100-3 MCR100-4 MCR100-5 MCR100-6 MCR100-7 MCR100-8	100 200 300 400 500 600	V
Peak Forward Surge Current, T _A =25°C (1/2 Cycle, Sine Wave, 60Hz)	I _{TSM}	10	A
Circuit Fusing Considerations (t= 8.3 ms)	I ² t	0.415	A ² s
Forward Peak Gate Power (T _A =25°C, PW ≤ 1 μs)	P _{GM}	0.1	W
Forward Average Gate Power (T _A =25°C)	P _{GF(AV)}	0.01	W
Forward Peak Gate Current (T _A =25°C, PW ≤ 1 μs)	I _{GFM}	1	A
Reverse Peak Gate Current (T _A =25°C, PW ≤ 1 μs)	V _{GRM}	5	V

Notes: 1. Valid provided that electrodes are kept at ambient temperature

PARAMETER	SYMBOL	MIN	MAX	UNIT
Peak Forward or Reverse Blocking Current at V _{AK} = Rated V _{DRM} or V _{RRM}	I _{DRM} I _{RRM}	-	10	μA
Peak Forward On-State Voltage at I _{TM} =1A Peak, T _A =25°C	V _{TM}	-	1.7	V
Gate Trigger Current (Continuous dc) at Anode Voltage = 7 Vdc., R _L =100Ω	I _{GT}	-	200	μA
Gate Trigger Current (Continuous dc) at Anode Voltage = 7 Vdc., R _L =100Ω at Anode Voltage = Rated V _{DRM} , R _L =100Ω	V _{GT}	-	0.8	V
Holding Current at Anode Voltage =7 Vdc, Initiating Current=20mA	I _H	-	5	mA

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

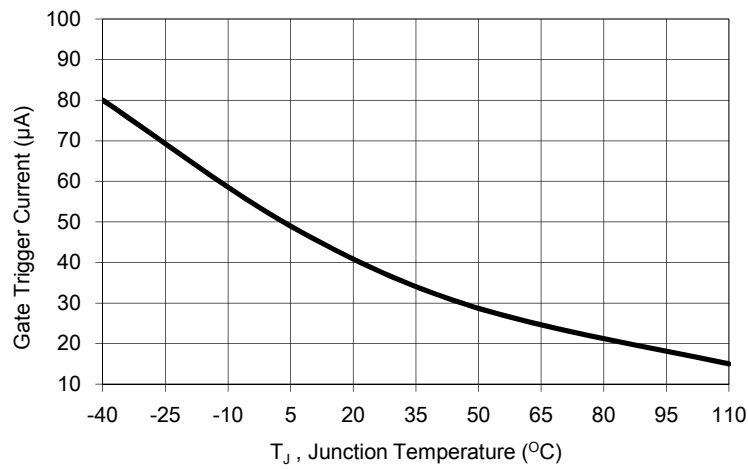


Fig. 1 Typical Gate Trigger Current VS. Junction Temperature

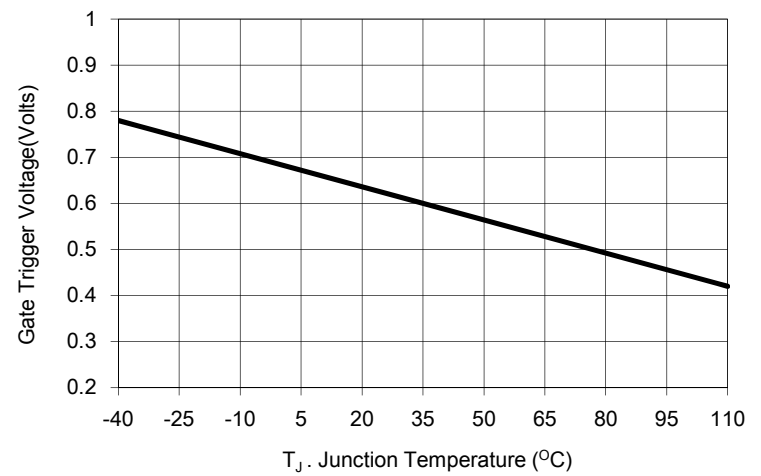


Fig. 2 Typical Gate Trigger Voltage VS. Junction Temperature

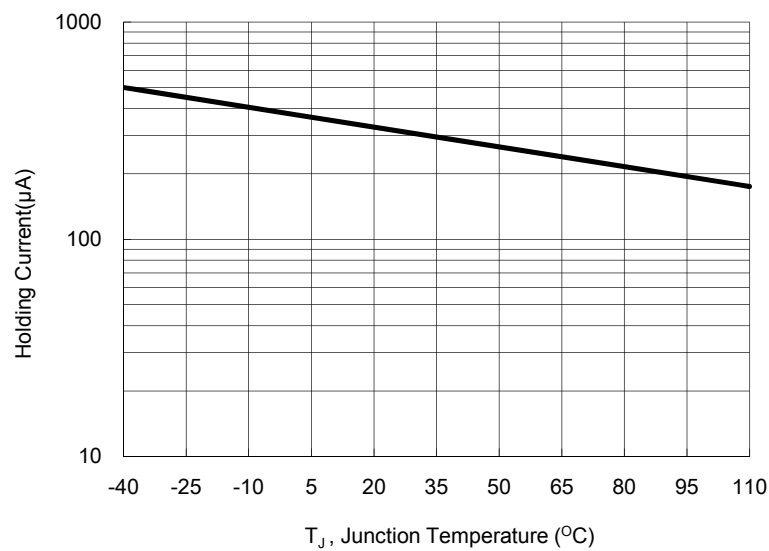


Fig. 3 Typical Holding Current VS. Junction Temperature

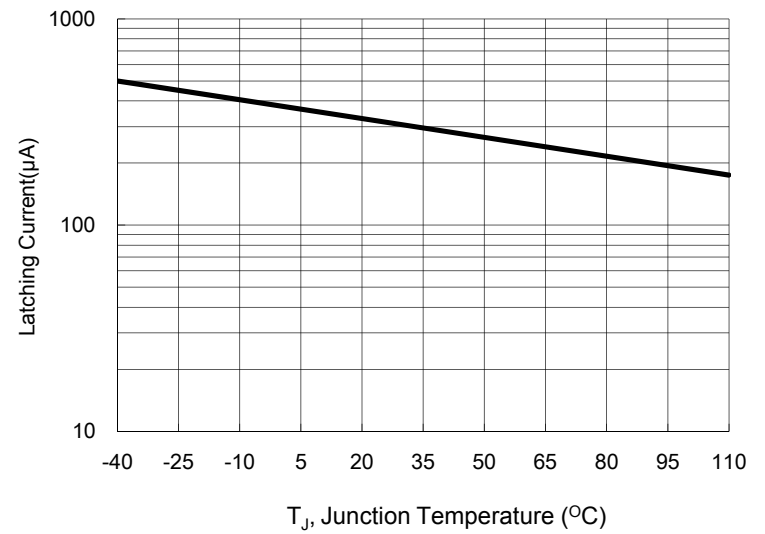


Fig. 4 Typical Latching Current VS. Junction Temperature

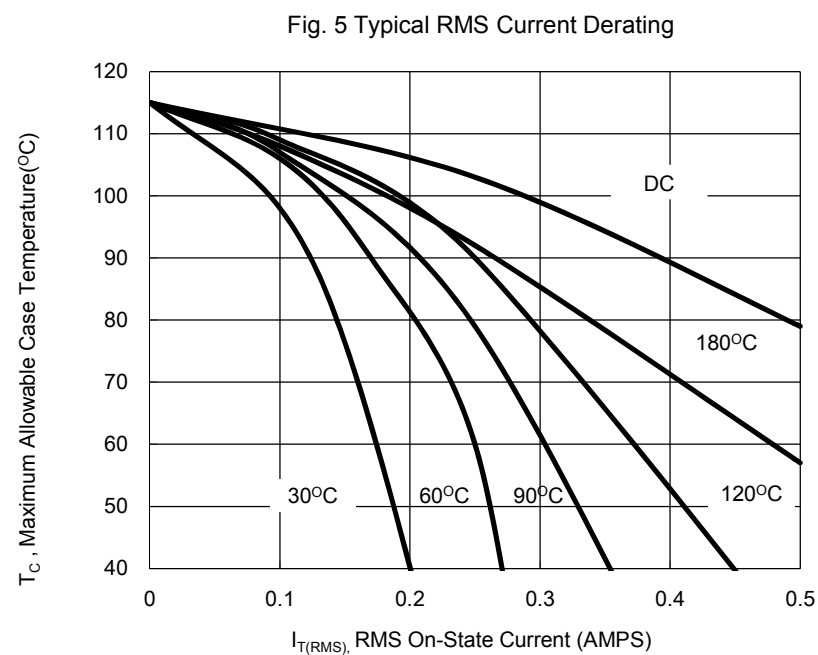


Fig. 5 Typical RMS Current Derating

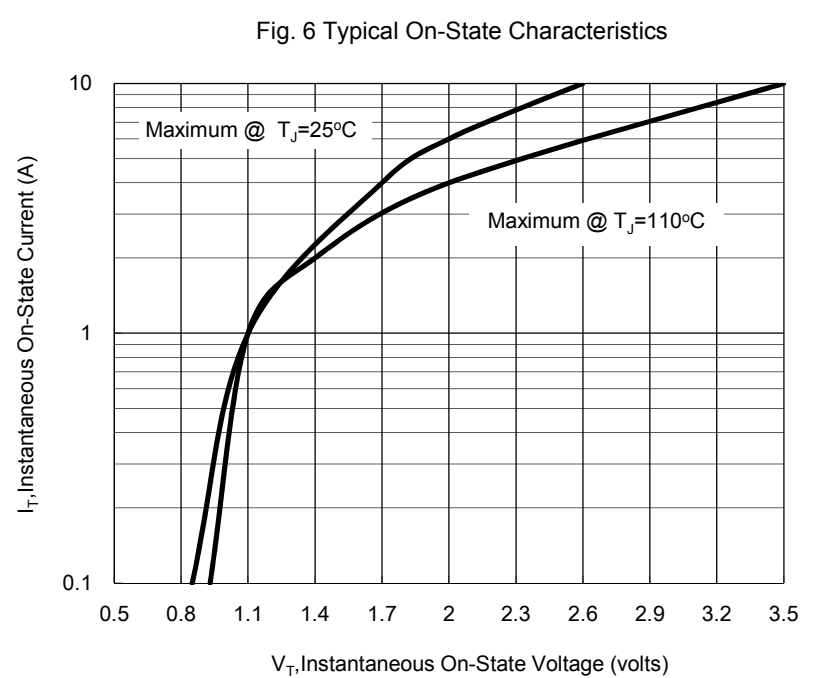


Fig. 6 Typical On-State Characteristics

Small Signal Product

ORDERING INFORMATION

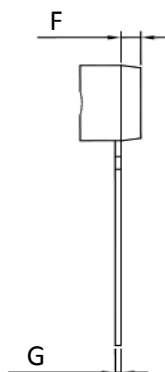
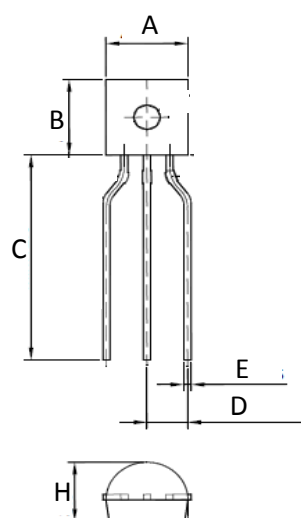
PART NO.	PART NO. SUFFIX (Note 2)	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
MCR100-x (Note 1)	-xx	A1	G	TO-92	4k / Box (Ammo)
		B1			5k / Box (Bulk)

Note 1: "x" defines voltage from 100V (MCR100-3) to 600V (MCR100-8)

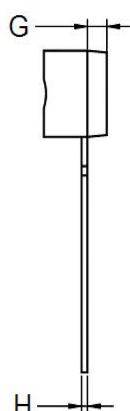
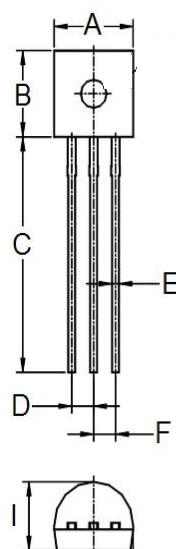
Note 2: Part No. Suffix „-xx “ would be used for special requirement

EXAMPLE

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MCR100-3 A1	MCR100-3		A1		Multiple manufacturer sources
MCR100-3-B0 A1G	MCR100-3	-B0	A1	G	Defined manufacturer source, Green compound

PACKAGE OUTLINE DIMENSIONS
TO-92 (Ammo)


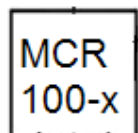
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	5.10	0.169	0.201
B	4.30	4.70	0.169	0.185
C	12.50	-	0.492	-
D	2.20	2.80	0.087	0.110
E	0.35	0.55	0.014	0.022
F	0.59	1.40	0.023	0.055
G	0.29	0.51	0.011	0.020
H	3.30	4.10	0.130	0.161

TO-92 (Bulk)


DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	5.10	0.169	0.201
B	4.30	4.70	0.169	0.185
C	12.50	14.50	0.492	0.571
D	1.17	1.37	0.046	0.054
E	0.35	0.55	0.014	0.022
F	1.17	1.37	0.046	0.054
G	0.59	1.40	0.023	0.055
H	0.29	0.51	0.011	0.020
I	3.30	4.10	0.130	0.161

Small Signal Product

MARKING DIAGRAM



x = Device P/N from 3~8

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