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

Pb-Free

RoHS COMPLIANT

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)

1. Cathode 2. Gate 3. Anode
TO-92 Plastic Package

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	V_{DRM} V_{RRM}	100	V
	MCR100-4		200	
	MCR100-5		300	
	MCR100-6		400	
	MCR100-7		500	
	MCR100-8		600	
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^2t	0.415	A^2s
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
Operating junction temperature range		T_J	-40 ~ +125	°C
Storage temperature range		T_{STG}	-40 ~ +150	°C

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 (Continous dc) at Anode Voltage = 7 Vdc., R_L=100Ω	I_{GT}	-	200	μA
Gate Trigger Current (Continous 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

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

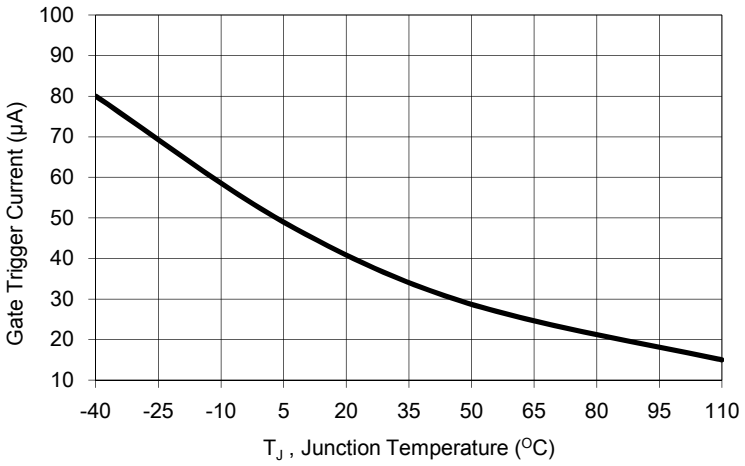


Fig. 1 Typical Gate Trigger Curent VS. Junction Temperature

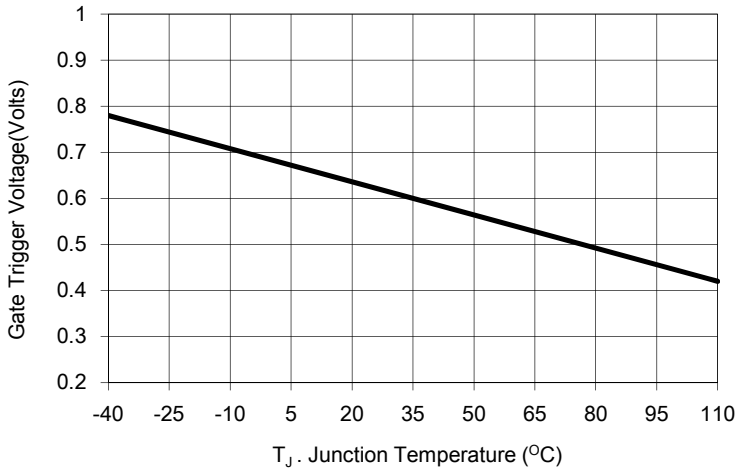


Fig. 2 Typical Gate Trigger Voltage VS. Junction Temperature

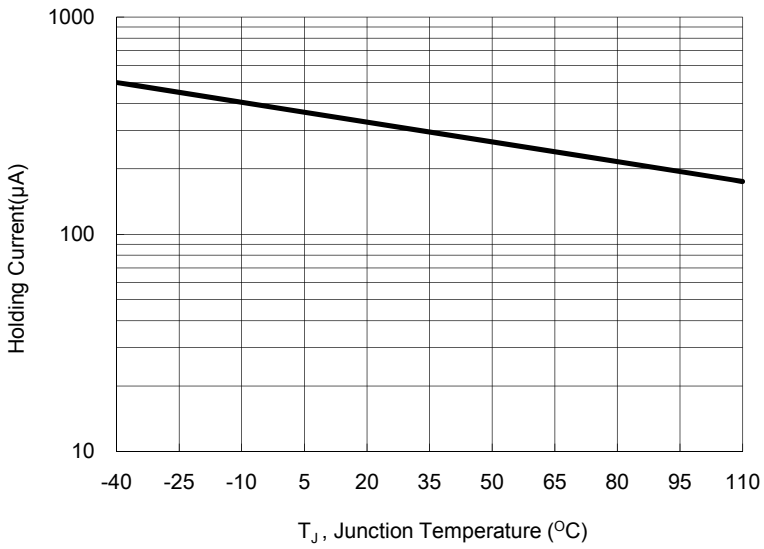


Fig. 3 Typical Holding Curent VS. Junction Temperature

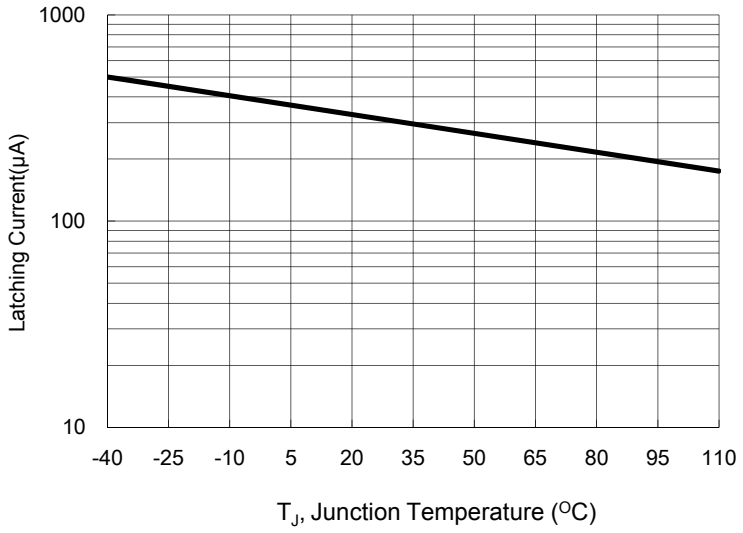


Fig. 4 Typical Lacthing Curent VS. Junction Temperature

Fig. 5 Typical RMS Current Derating

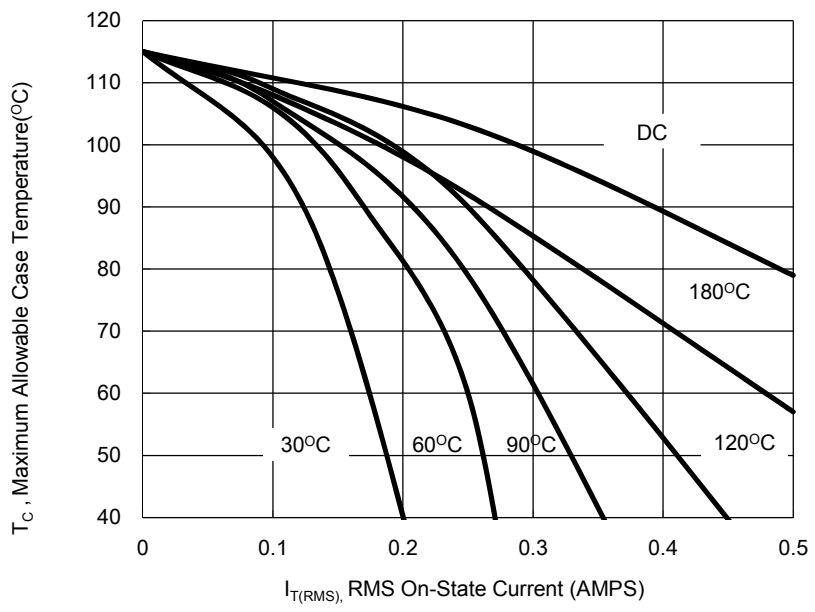
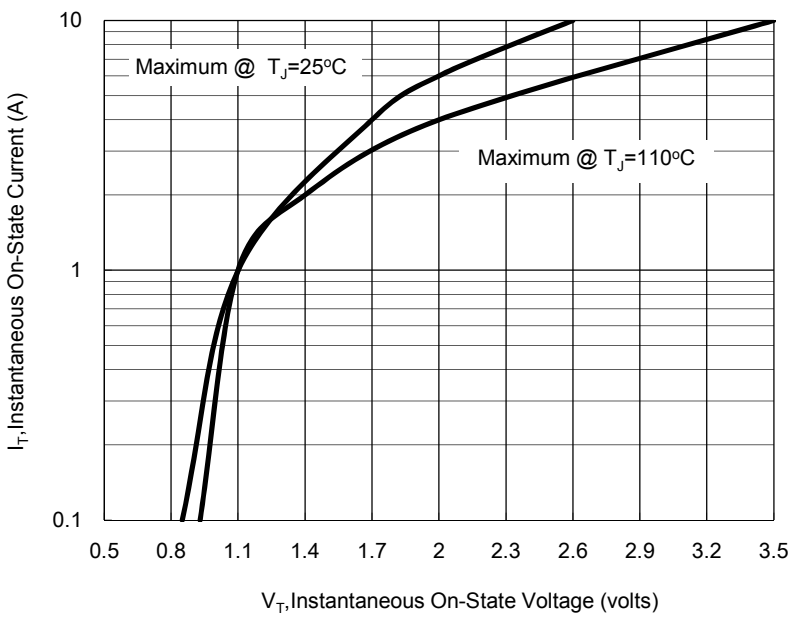


Fig. 6 Typical On-State Characteristics



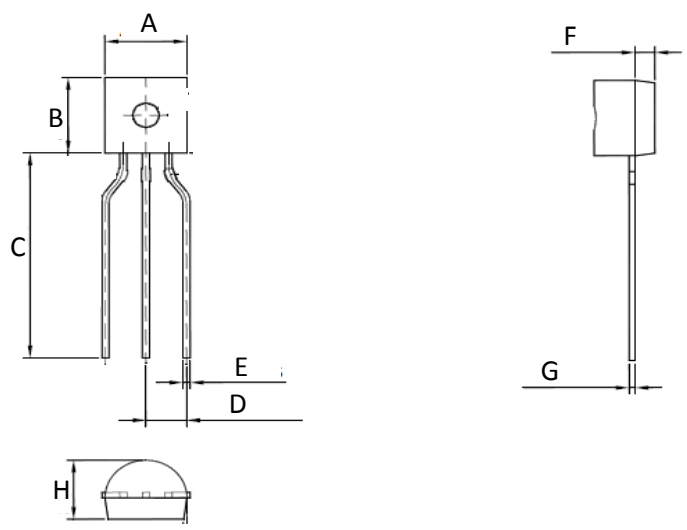
ORDER INFORMATION (EXAMPLE)

MCR100-3 A1G

- Green compound code
- Packing code
- Part no.

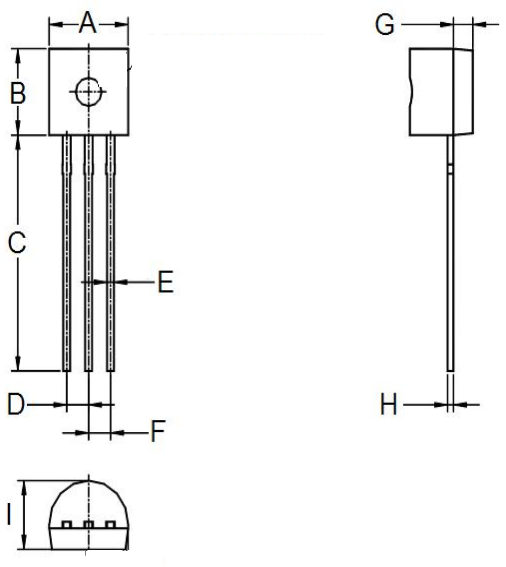
PACKAGE OUTLINE DIMENSIONS

TO-92 (Ammo)



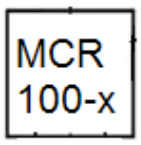
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	5.10	0.169	0.201
B	4.30	4.70	0.169	0.185
C	12.50	-	0.492	-
D	2.20	2.80	0.087	0.110
E	0.35	0.55	0.014	0.022
F	0.59	1.40	0.023	0.055
G	0.29	0.51	0.011	0.020
H	3.30	4.10	0.130	0.161

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

MARKING DIAGRAM



x = Device P/N from 3~8

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