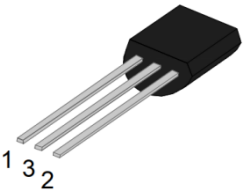
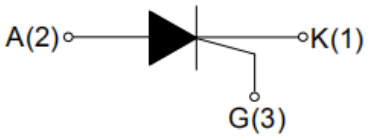
MCR100-6AL

Silicon Controlled Rectifier

Features

- Sensitive Gate Trigger Current
- Blocking Voltage to 400 V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant & HF
- $I_{T(RMS)}$ to 0.8A of SCR





Mechanical Data

- Case: TO-92

Absolute Maximum Ratings（Tc=25℃ Unless otherwise specified）

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40~150	℃
Operating junction temperature range	T_j	-40~125	℃
Repetitive peak off-state voltage (Tj=25℃)	V_{DRM}	400	V
Repetitive peak reverse voltage (Tj=25℃)	V_{RRM}	400	V
RMS on-state current	$I_{T(RMS)}$	0.8	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	0.5	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	9	A
I^2t value for fusing (tp=10ms)	I^2t	0.41	A^2s
Critical rate of rise of on-state current (IG=2×IGT)	dI/dt	50	A/μs
Peak gate current	I_{GM}	0.5	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Thermal Resistance(between Junction and Case)	$R_{\theta(J-C)}$	60（Typ.）	℃/W

Electronics Characteristics（Tc=25℃ Unless otherwise specified）

Parameter	Symbol	Min	Typ.	Max.	Unit
Gate Trigger Current (Continuous dc)@VD=12V	I_{GT}	10	40	200	μA
Gate Trigger Voltage (Continuous dc) @VD=12V	V_{GT}	-	-	1.0	V
Gate non-trigger voltage@VD=VDRM,Tj=125℃,R_{GK}=1kΩ	V_{GD}	0.2	-	-	V
Holding Current@IT=50mA	I_H	-	-	5	mA
Latching Current@IG=1.2IGT	I_L	-	-	6	mA
Critical Rate-of-Rise of Off State Voltage@VD=0.66×VDRM, Tj=125℃,Gate Open Circuit,RGK=1KΩ	dV/dt	50	-	-	V/μs
Peak Forward On-State Voltage@ITM=1A,tp=380μs, Tj=25℃	V_{TM}	-	-	1.5	V
Peak Repetitive Forward@VDRM=VRRM,RGK=1KΩ,Tj=25℃	I_{DRM}	-	-	5	μA
Reverse Blocking Current@VDRM=VRRM,RGK=1KΩ,Tj=125℃	I_{RRM}	-	-	0.5	mA

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

FIG.1: Maximum power dissipation versus average on-state current

P(w)

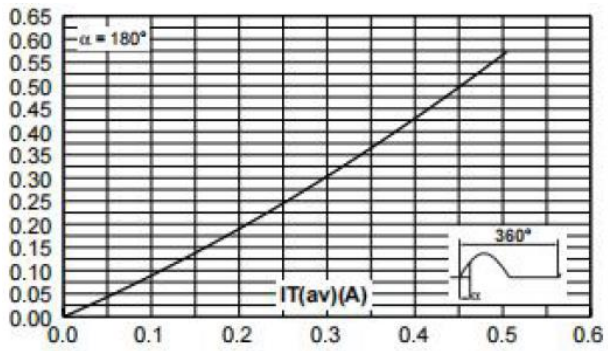


FIG.2: Average and DC on-state current versus case temperature

$I_{T(AV)}$(A)

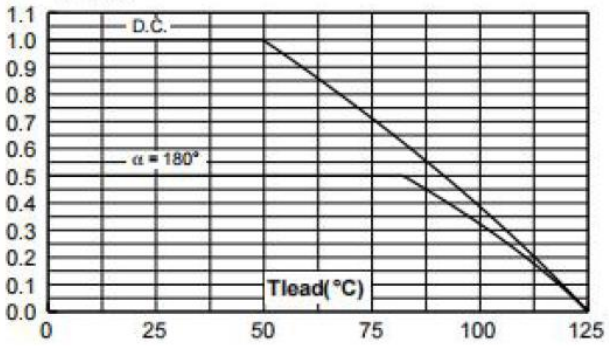


FIG.3: Surge peak on-state current versus number of cycles

$I_{TSM(A)}$

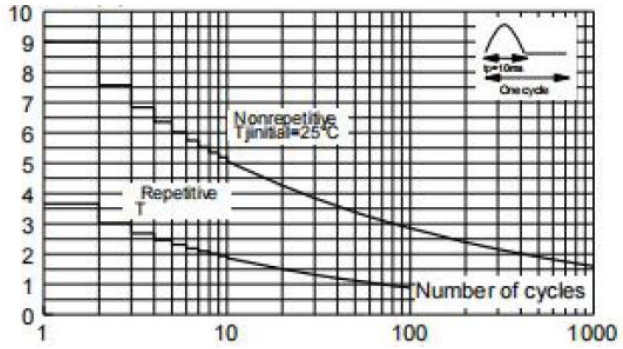


FIG.4:On-state characteristics (maximum values)

$I_{TM(A)}$

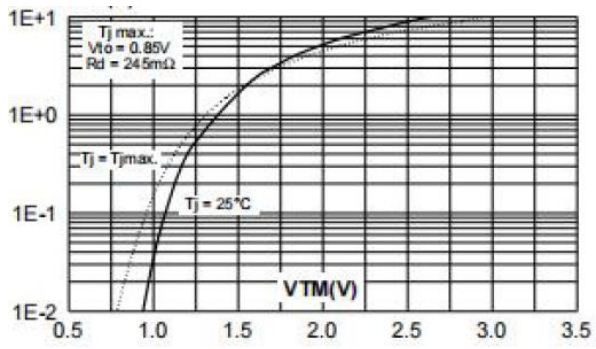


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of I^2t (dI/dt < 50A/μs)

I_{TSM}(A),I^2t（A^2s）

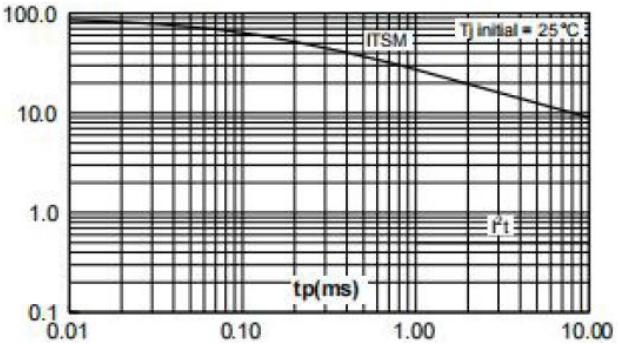
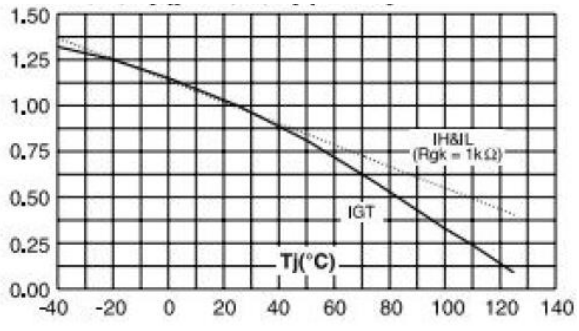


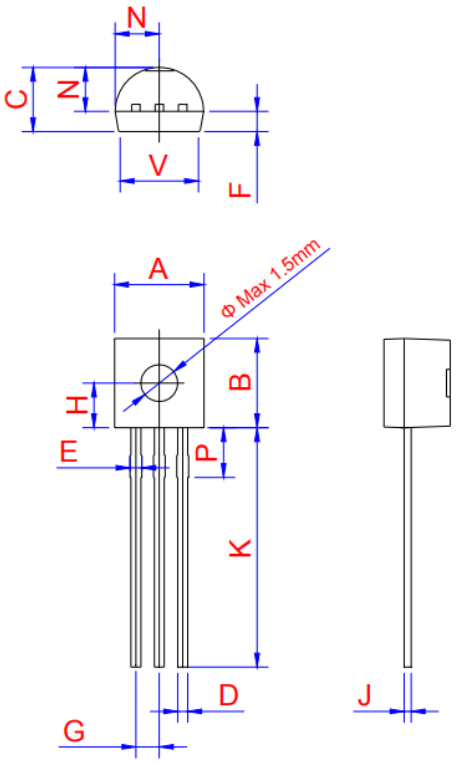
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

I_{GT},I_H,I_L(Tj)/I_{GT},I_H,I_L(Tj=25℃)

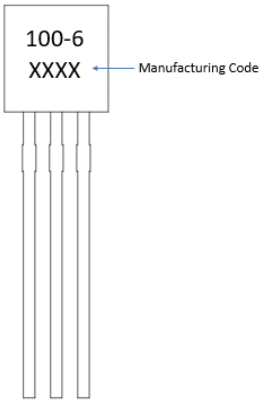


Outline Drawing

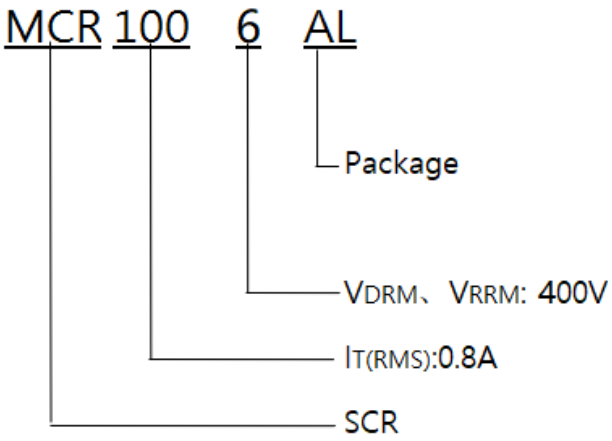
SYMBOL	MM		
	MIN	NOM	MAX
A	4.45	4.60	5.20
B	4.32	4.60	5.33
C	3.18	3.55	4.19
D	0.254	-	0.533
E	0.30	-	0.80
F	-	1.30	-
G	-	1.27	-
H	-	2.30	-
J	0.30	0.38	0.50
K	12.70	-	15.00
N	2.04	2.30	2.66
P	1.80	-	2.30
V	-	-	4.50



Marking Code



Part Number System



Package Information

Package	Base qty.	Delivery mode
TO-92	1000	Bulk Pack

Contact Information

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WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.

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