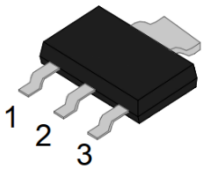
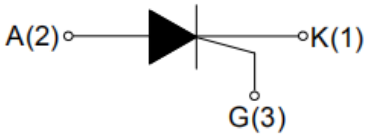
MCR100-8T

Silicon Controlled Rectifier

Features



- Sensitive Gate Trigger Current
- Blocking Voltage to 800 V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant
- High Dv/Dt Rate
- $I_{T(RMS)}$ to 0.8A of SCR



Mechanical Data

- Case: SOT-223-3L

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	-40~110	℃
Repetitive peak off-state voltage (Tj=25℃)	V_{DRM}	800	V
Repetitive peak reverse voltage (Tj=25℃)	V_{RRM}	800	V
RMS on-state current (TC=80℃)	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	8	A
I^2t value for fusing (tp=10ms)	I^2t	0.5	A^2s
Critical rate of rise of on-state current (IG=2×IGT)	dI/dt	50	A/μs
Peak gate current	I_{GM}	0.2	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Peak gate power	P_{GM}	0.5	W
Thermal Resistance(between Junction and Case)	$R_{\theta(J-C)}$	25（Typ.）	℃/W

Electronics Characteristics（Tc=25℃ Unless otherwise specified）

Parameter	Symbol	Min	Typ.	Max.	Unit
Gate Trigger Current (Continuous dc)@VD=12V, RL=33Ω	I_{GT}	-	20	200	μA
Gate Trigger Voltage (Continuous dc) @VD=12V, RL=33Ω	V_{GT}	-	0.5	1.0	V
Gate non-trigger voltage@VD=VDRM,Tj=110℃,RL=3.3kΩ	V_{GD}	0.2	-	-	V
Holding Current@IT=50mA	I_H	-	-	2	mA
Latching Current@IG=1.2IGT	I_L	-	-	3	mA
Critical Rate-of-Rise of Off State Voltage@VD=0.66×VDRM, Tj=110℃,Gate Open Circuit,RGK=1KΩ	dV/dt	200	-	-	V/μs
Peak Forward On-State Voltage@ITM=2A,tp=380μs, Tj=25℃	V_{TM}	-	-	1.5	V
Peak Repetitive Forward@VDRM=VRRM,RGK=1KΩ,Tj=25℃	I_{DRM}	-	-	2	μA
Reverse Blocking Current@VDRM=VRRM,RGK=1KΩ,Tj=110℃	I_{RRM}	-	-	100	μA

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 RMS on-state current

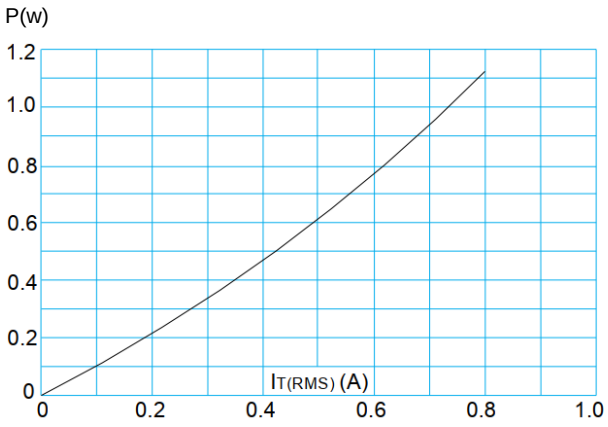


FIG.2: RMS on-state current versus case temperature in different packaging

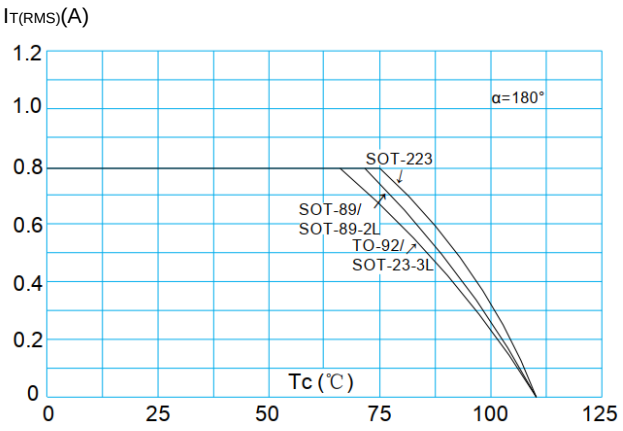


FIG.3: Surge peak on-state current versus number of cycles

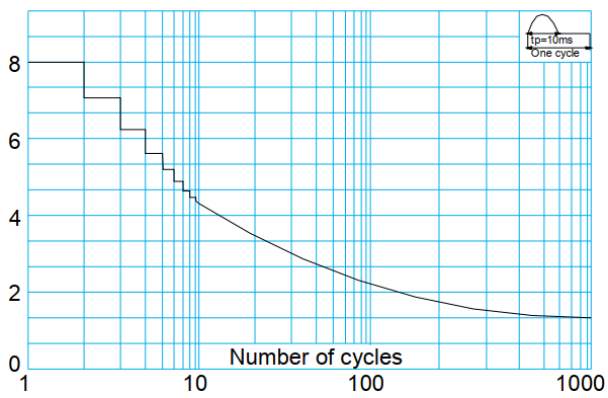


FIG.4:On-state characteristics (maximum values)

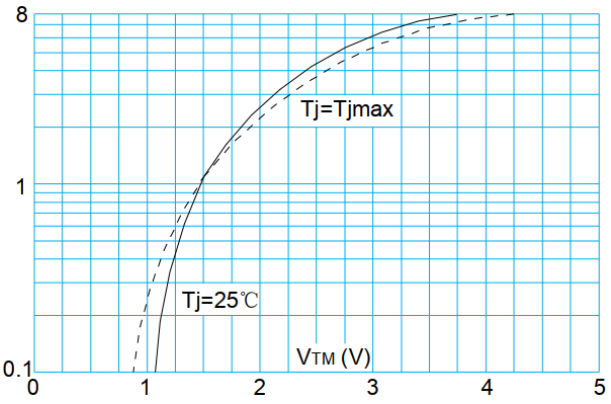


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 50A/μs)

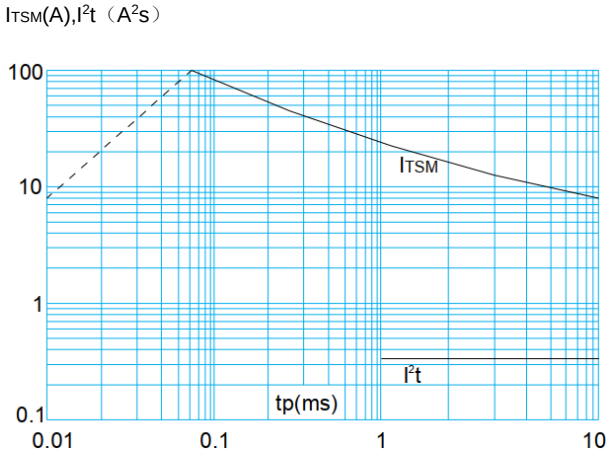
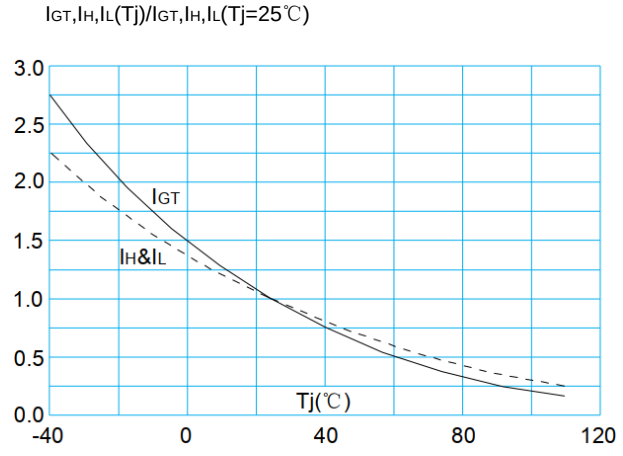
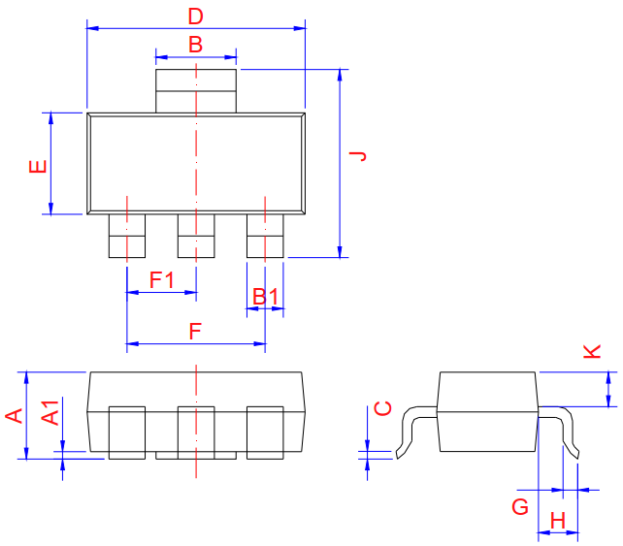


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

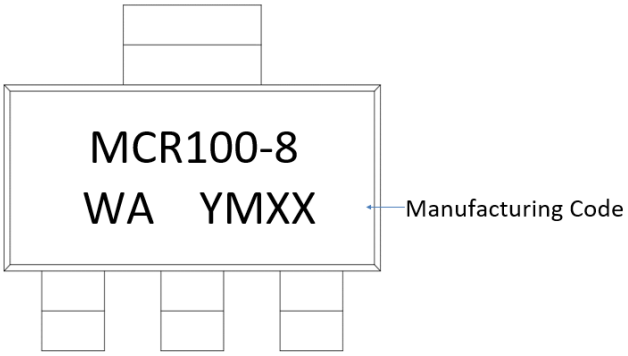


Outline Drawing

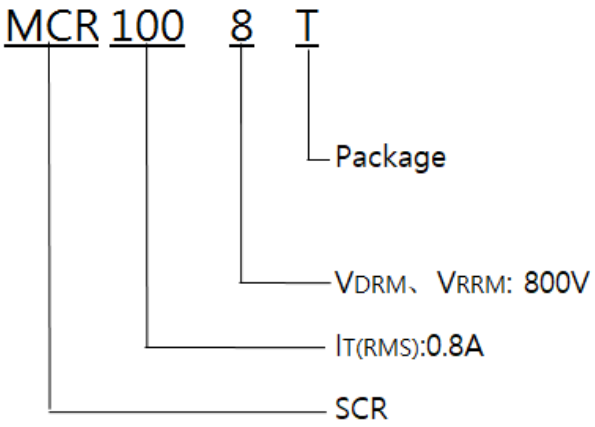
SYMBOL	MM		
	MIN	NOM	MAX
A	1.5	1.6	1.81
A1	0.01	0.06	0.14
B	2.9	3.0	3.1
B1	0.6	0.7	0.84
C	0.22	0.25	0.35
D	6.2	6.5	6.7
E	3.3	3.5	3.7
F	-	4.6	6.8
F1	-	2.3	-
G	0.7	0.9	1.15
H	1.5	1.75	2.0
J	6.7	7.0	7.3
K	0.8	0.9	1.0



Marking Code



Part Number System



Package Information

4000pcs/Tape & Reel

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