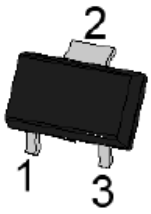
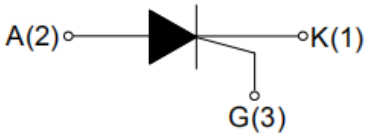
# MCR100-8WB

**Silicon Controlled Rectifier**

## Features

- Sensitive Gate Trigger Current
- Blocking Voltage to 800 V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant & HF
- High Dv/Dt Rate
- $I_{T(RMS)}$ to 1A of SCR




## Mechanical Data

- Case: SOT89-2L

## 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℃) | $V_{DRM}$ | 800 | V |
| Repetitive peak reverse voltage (Tj=25℃) | $V_{RRM}$ | 800 | V |
| RMS on-state current (TC=72℃) | $I_{T(RMS)}$ | 1 | A |
| Non repetitive surge peak on-state current (full cycle, F=50Hz) | $I_{TSM}$ | 10 | 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 | $I_{GM}$ | 0.5 | A |
| Average gate power dissipation | $P_{G(AV)}$ | 0.1 | W |
| Thermal Resistance(between Junction and Case) | $R_{\theta(J-C)}$ | 45（Typ.） | ℃/W |

## Electronics Characteristics（Tc=25℃ Unless otherwise specified）

| Parameter | Symbol | Min | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Gate Trigger Current (Continuous dc)@VD=12V, RL=33Ω | $I_{GT}$ | - | 40 | 200 | μA |
| Gate Trigger Voltage (Continuous dc) @VD=12V, RL=33Ω | $V_{GT}$ | - | - | 1.0 | V |
| Gate non-trigger voltage@VD=VDRM,Tj=125℃,RL=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 | 200 | - | - | V/μs |
| Peak Forward On-State Voltage@ITM=1.5A,tp=380μs, Tj=25℃ | $V_{TM}$ | - | - | 1.6 | V |
| Peak Repetitive Forward@VDRM=VRRM,RGK=1KΩ,Tj=25℃ | $I_{DRM}$ | - | - | 2 | μA |
| Reverse Blocking Current@VDRM=VRRM,RGK=1KΩ,Tj=125℃ | $I_{RRM}$ | - | - | 500 | 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

P(w)

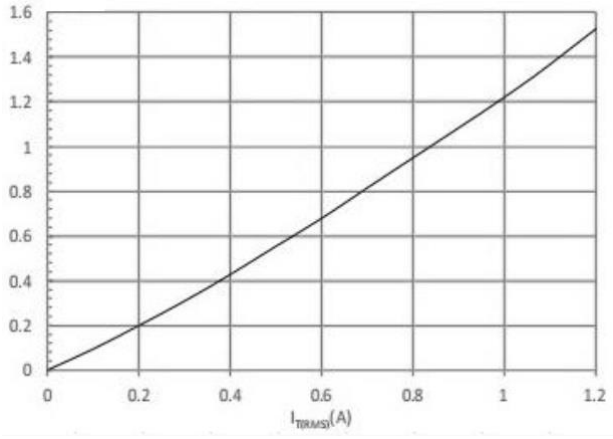



FIG.2: RMS on-state current versus case temperature

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

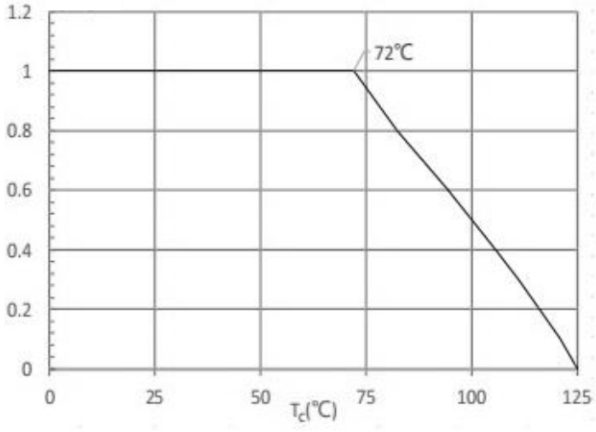



FIG.3: Surge peak on-state current versus number of cycles

$I_{TSM(A)}$

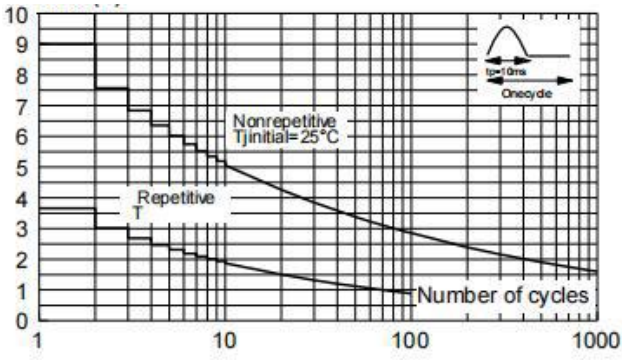



FIG.4:On-state characteristics (maximum values)

$I_{TM(A)}$

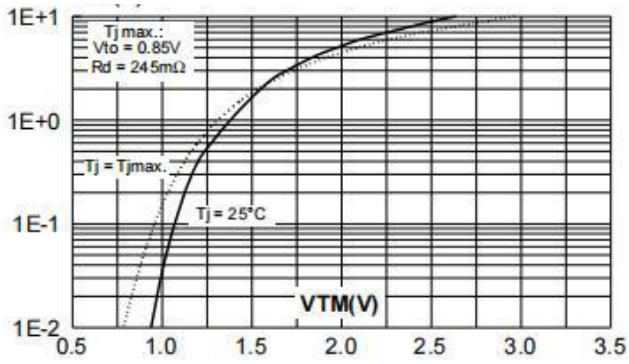



FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of $I^2t$

$I_{TSM}$(A),$I^2t$（$A^2s$）

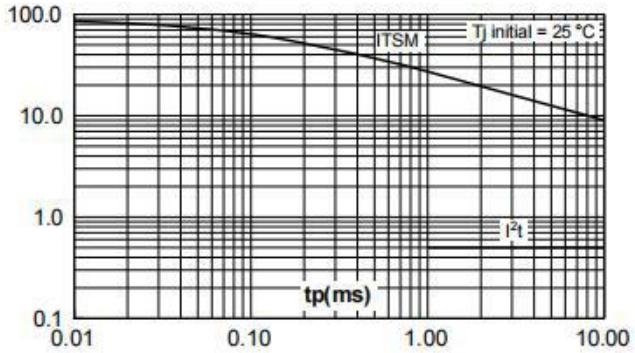
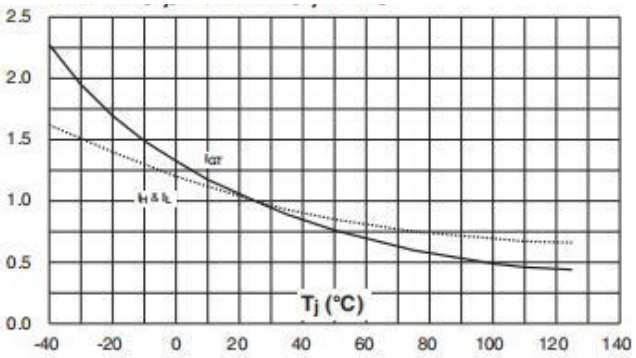


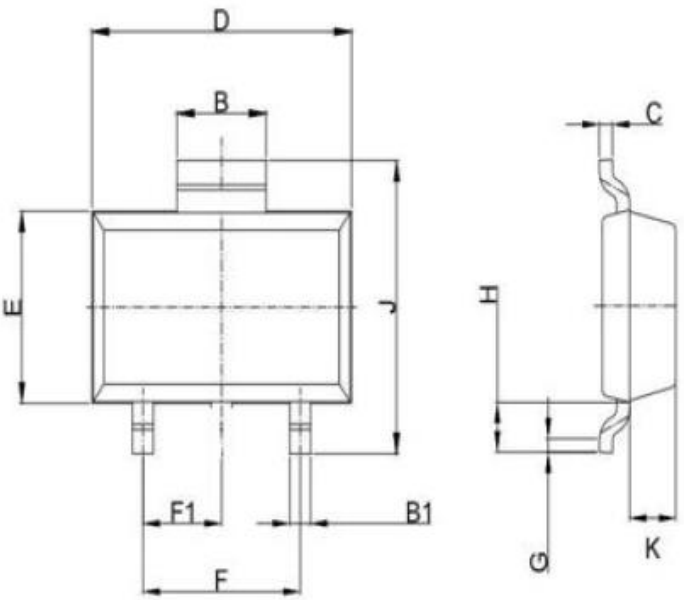

FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

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

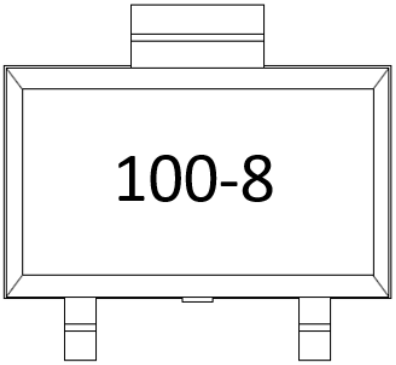


## Outline Drawing

| SYMBOL | MM | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| B | 1.6 | 1.7 | 1.8 |
| B1 | 0.3 | 0.4 | 0.5 |
| C | 0.22 | 0.254 | 0.32 |
| D | 4.75 | 4.95 | 5.15 |
| E | 2.75 | 2.95 | 3.30 |
| F | | 3.0 | |
| F1 | | 1.5 | |
| G | 0.2 | 0.3 | 0.4 |
| H | 0.58 | 0.78 | 0.98 |
| J | 4.3 | 4.5 | 4.7 |
| K | | 0.88 | |



## Marking Code




## Package Information

| Package | Base qty. | Delivery mode |
|---|---|---|
| SOT-89-2L | 4000 | Reel |

## Contact Information

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