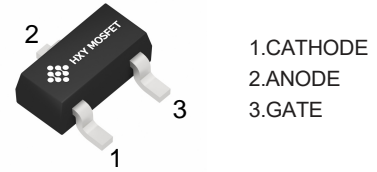


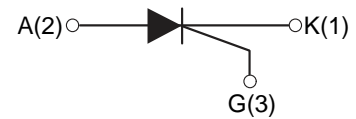


Features

- RMS on-state current to 0.8A
- General purpose switching



SOT-23



Package Marking and Ordering Information

| Product ID | Pack | Marking | Qty(PCS) |
|------------|--------|---------|----------|
| MCR100-6 | SOT-23 | 100-6 | 3000 |
| MCR100-8 | SOT-23 | 100-8 | 3000 |

Maximum Ratings (Ta=25 unless otherwise noted)

| Symbol | Parameter | Part | Value | Unit |
|--------------|---|----------|----------|------|
| V_{DRM} | Repetitive peak off-state voltage | MCR100-6 | 400 | V |
| V_{RRM} | Repetitive peak reverse voltage | MCR100-8 | 600 | V |
| V_{EBO} | Emitter-Base Voltage | | 7 | V |
| $I_{T(RMS)}$ | RMS on-state current(T=60°C) | | 0.8 | A |
| I_{TSM} | Non repetitive surge peak on-state current(tp=10ms) | | 8 | A |
| I_{GM} | Peak gate current (tp=20µs, Tj=110°C) | | 0.2 | A |
| P_{GM} | Peak gate power (tp=20µs, Tj=110°C) | | 500 | mW |
| $P_{G(AV)}$ | Average gate power dissipation(Tj=110°C) | | 100 | mW |
| T_J | Operation Junction Temperature Range | | -40~+110 | °C |
| T_{stg} | Storage Temperature Range | | -40~+150 | °C |

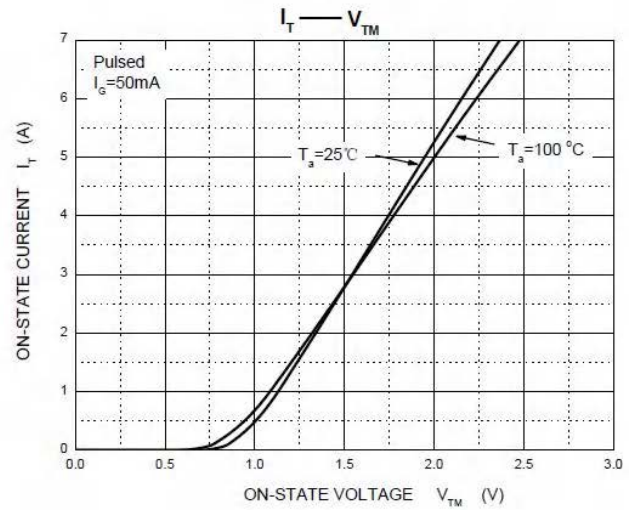
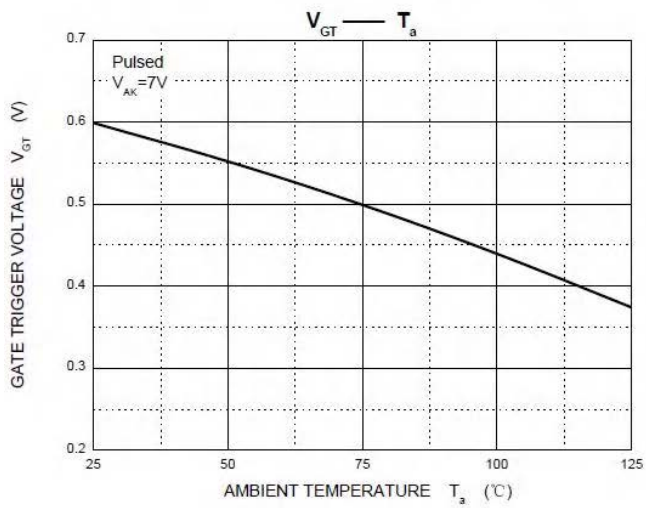
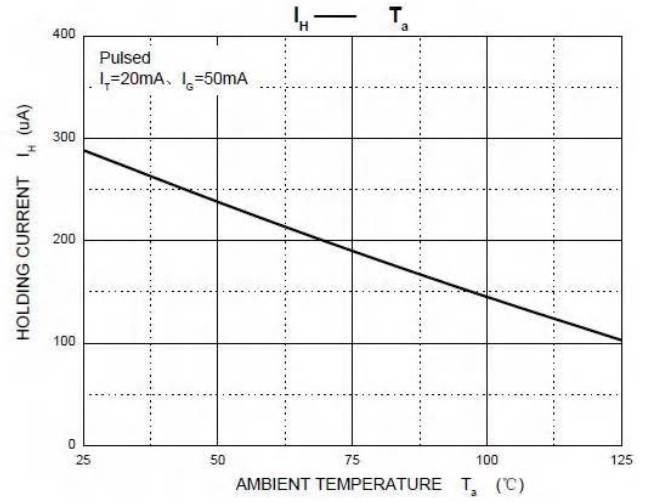
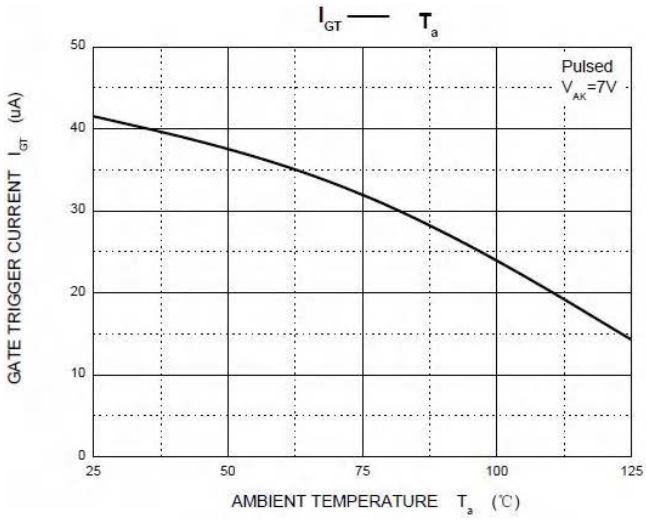
Electrical Characteristics(Ta=25 unless otherwise specified)

| Symbol | Parameter | Test conditions | Part | Min | Typ | Max | Unit |
|------------------------|--|-------------------------------|----------------------|------------|-----|------|------|
| V_{TM} | On state voltage | $I_{TM}=1A, tp=380\mu S$ | | | | 1.7 | V |
| V_{GT} | Gate trigger voltage | $V_{AK}=7V$ | | | | 0.8V | V |
| $V_{(BR)EBO}$ | Peak Repetitive forward and Reverse blocking voltage | $I_{DRM}/I_{RRM}=100\mu A$ | MCR100-6 MCR100-8 | 400 600 | | | V |
| I_{DRM} I_{RRM} | Peak forward or reverse blocking Current | $V_{AK}=V_{DRM}$ or V_{RRM} | | | | 10 | µA |
| I_H | Holding current | $I_{HL}=20mA, V_{AK}=7V$ | | | | 5 | mA |
| I_{GT} | Gate trigger current | $V_{AK}=7V$ | | 15 | | 60 | µA |

* Forward current applied for 1 ms maximum duration duty cycle1%.

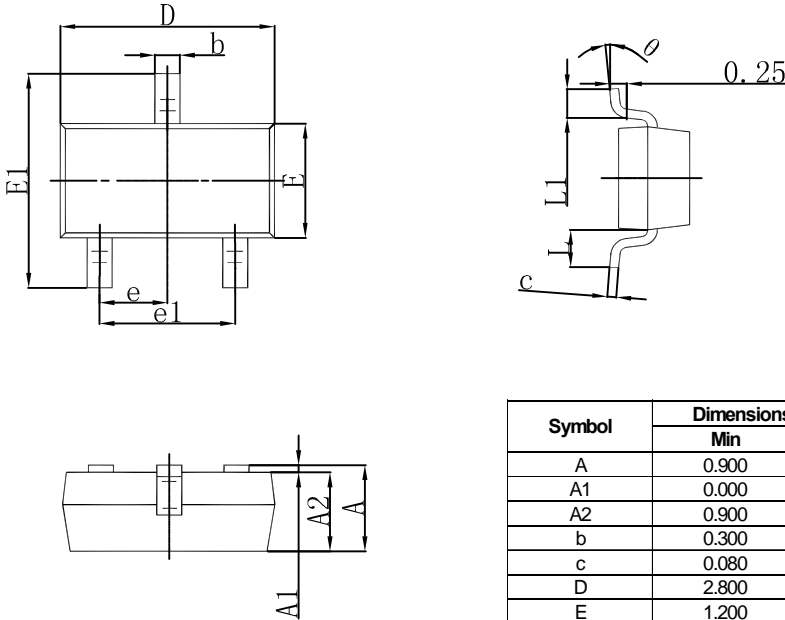


Typical Characteristics



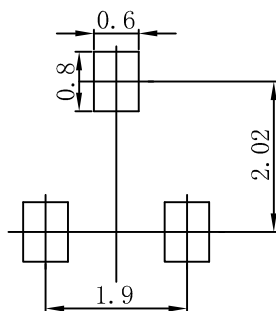


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.



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