



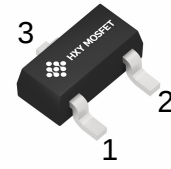
## Discription

The SM24CANA-02HTG protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

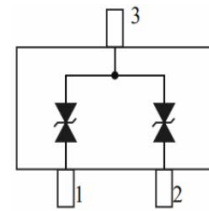
It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.

## Features

- ★ LowLeakage
- ★ IEC61000-4-2Level4ESDProtection
- ★ We declare that the material of product compliant with RoHS requirements and Halogen Free.



SOT-23



Circuit Diagram

## Ordering Information

| Product ID     | Pack   | Qty(PCS) |
|----------------|--------|----------|
| SM24CANA-02HTG | SOT-23 | 3000     |

## Absolute Ratings(Tamb = 25°C)

| Symbol           | Parameter                                         | Value                              | Units            |
|------------------|---------------------------------------------------|------------------------------------|------------------|
| P <sub>PP</sub>  | Peak Pulse Power (t <sub>p</sub> = 8/20μs)        | 160                                | W                |
| T <sub>L</sub>   | Maximum lead temperature for soldering during 10s | 260                                | °C               |
| T <sub>stg</sub> | Storage Temperature Range                         | -55 to +150                        | °C               |
| T <sub>op</sub>  | Operating Temperature Range                       | -55 to +125                        | °C               |
| T <sub>j</sub>   | Maximum junction temperature                      | 150                                | °C               |
|                  | IEC61000-4-2 (ESD)                                | air discharge<br>contact discharge | ±30<br>±30<br>KV |



## Electrical Characteristics

| Device         | $V_{RWM}$<br>(V) | $I_R$ ( $\mu$ A)<br>@ $V_{RWM}$ | $V_{BR}$ (V) @ $I_T$<br>(Note 1) |     | $I_T$ | $V_C$ (V)<br>@MAX $I_{PP}$<br>(Note 2) | $I_{PP}$ (A)<br>(Note 2) | $P_{PK}$ (W)<br>(Note 2) | C (pF) |
|----------------|------------------|---------------------------------|----------------------------------|-----|-------|----------------------------------------|--------------------------|--------------------------|--------|
|                | Max              | Max                             | Min                              | Max | mA    | Max                                    | Max                      | Max                      | Typ    |
| SM24CANA-02HTG | 24               | 0.5                             | 26                               | 33  | 1     | 40                                     | 4                        | 160                      | 10     |

Other voltage available upon request.

1.  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C
2. Surge current waveform per Figure 1.

## Typical Characteristics

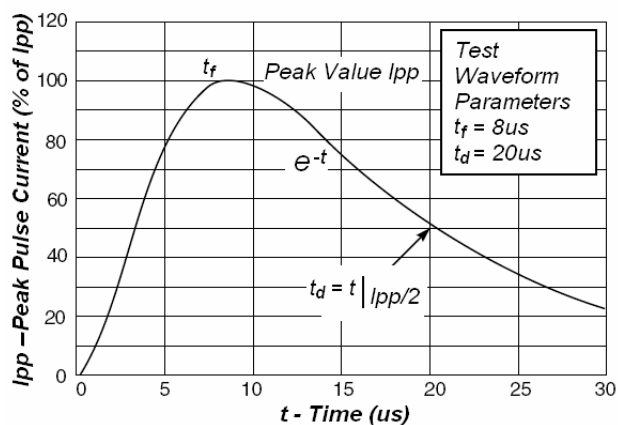


Fig1. Pulse Waveform

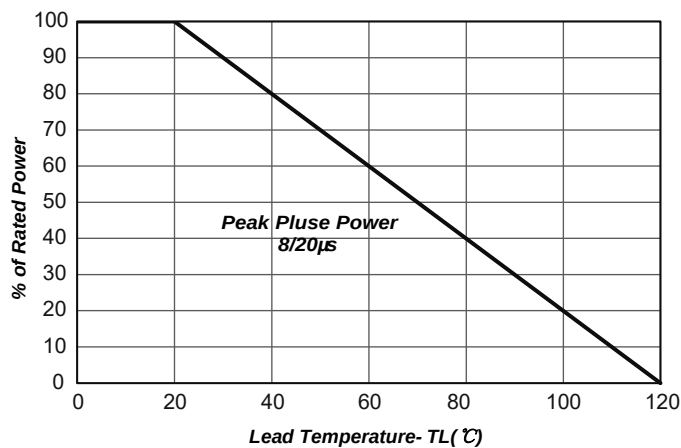


Fig2. Power Derating Curve



## 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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