

## FEATURES

- | 100W Peak Pulse Power per Line (tp=8/20μs)
- | Protects five I/O lines
- | Low clamping voltage
- | Small package: SOT-23-5
- | Low leakage current
- | Working voltage: 5 V

## APPLICATIONS

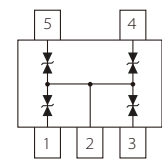
- | Cellular Phone Handsets and Accessories
- | Microprocessor based equipment
- | Personal Digital Assistants (PDA's)
- | Notebooks, Desktops, and Servers
- | Portable Instrumentation
- | Networking and Telecom
- | Servers and Parallel Ports
- | Peripherals



SOT-23-5



Marking



Schematic Symbol

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

- |             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |

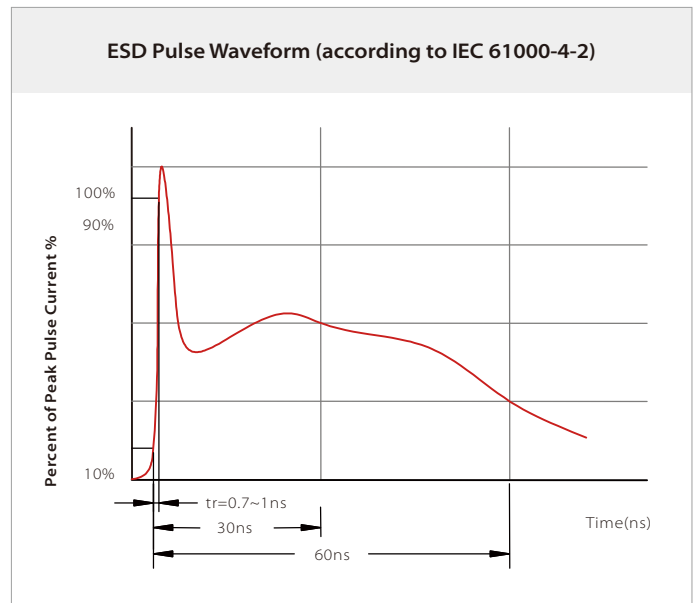
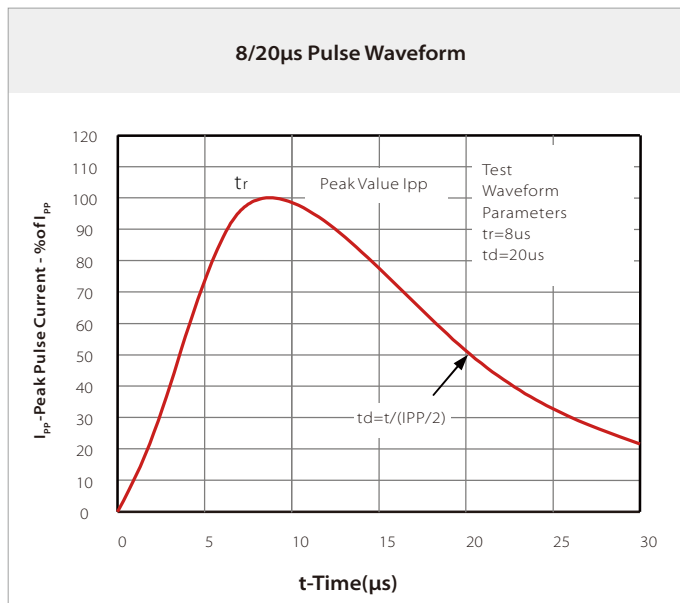
## THERMAL CONSIDERATIONS

| Symbol    | Parameter                             | Value       | Unit  |
|-----------|---------------------------------------|-------------|-------|
| $P_{PP}$  | Peak Pulse Power (tp=8/20μs waveform) | 100         | Watts |
| $T_J$     | Operating Temperature Range           | -55 to +150 | °C    |
| $T_{STG}$ | Storage Temperature Range             | -55 to +150 | °C    |

## ELECTRICAL CHARACTERISTICS

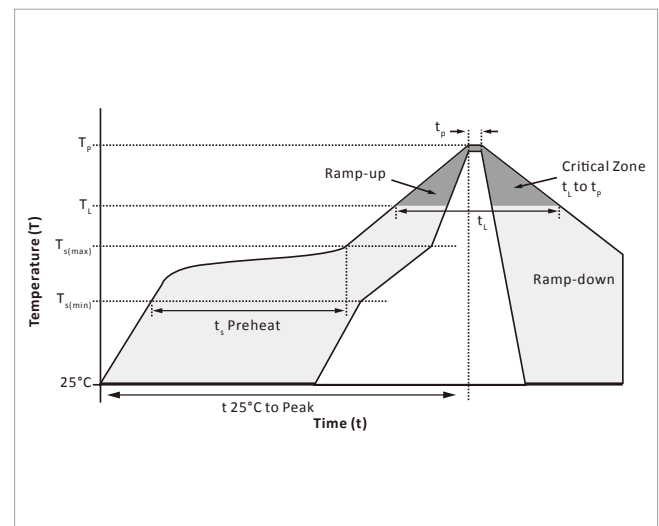
| Symbol    | Parameter                      | Condition                            | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|--------------------------------------|------|------|------|------|
| $V_{RWM}$ | Reverse Stand-off Voltage      |                                      |      |      | 5    | V    |
| $V_{BR}$  | Reverse Breakdown Voltage      | $I_T=1\text{mA}$                     | 6    |      |      | V    |
| $I_R$     | Reverse Leakage Current        | $V_{RWM}=5\text{V}$                  |      |      | 1    | μA   |
| $V_C$     | Clamping Voltage (Tp=8/20us)   | $I_{pp}=1\text{A}, tp=8/20\text{us}$ |      |      | 9.8  | V    |
| $V_C$     | Clamping Voltage (Tp=8/20us)   | $I_{pp}=4\text{A}, tp=8/20\text{us}$ |      |      | 25   | V    |
| $I_{pp}$  | Peak Pulse Current (Tp=8/20us) | tp=8/20us                            |      |      | 4    | A    |
| $C_J$     | Off State Junction Capacitance | $V_R=0\text{V}, f=1\text{MHz}$       |      | 30   |      | pF   |

## CHARACTERISTIC CURVES

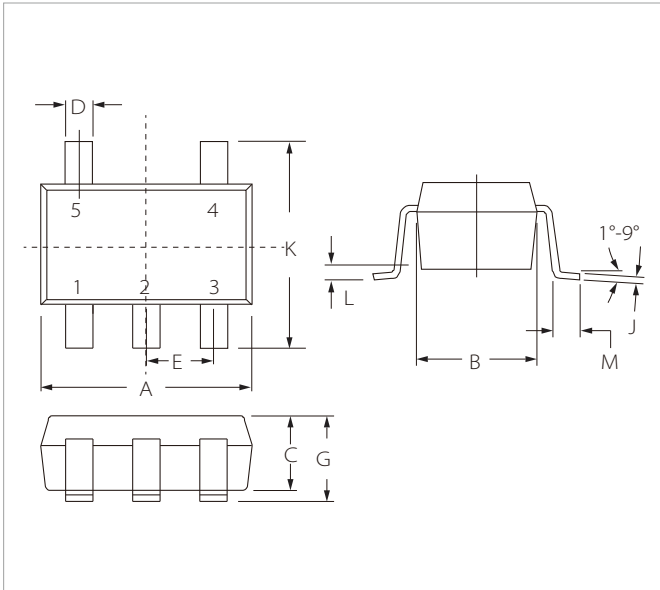


## SOLDERING PARAMETERS

| Reflow Condition                                       |                                  | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat   | Temperature Max ( $T_{s(min)}$ ) | 150°C              |
|  | Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|  | Time (min to max) ( $t_p$ )      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                  | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                  | 3°C/second max     |
| Reflow   | Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|  | Time (min to max) ( $t_L$ )      | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                             |                                  | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )   |                                  | 20 – 40 seconds    |
| Ramp-down Rate   |                                  | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )                |                                  | 8 minutes max.     |
| Do not exceed  |                                  | 260°C              |

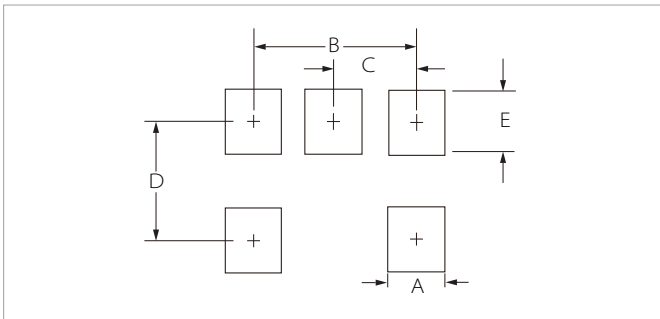


## SOT-23-5 PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches     |       |
|------|-------------|------|------------|-------|
|      | Min.        | Max. | Min.       | Max.  |
| A    | 2.80        | 3.10 | 0.110      | 0.122 |
| B    | 1.50        | 1.80 | 0.059      | 0.071 |
| C    | 0.90        | 1.30 | 0.036      | 0.051 |
| D    | 0.25        | 0.50 | 0.010      | 0.020 |
| E    | 0.95(Typ)   |      | 0.037(Typ) |       |
| G    | 0.90        | 1.40 | 0.036      | 0.055 |
| J    | 0.08        | 0.25 | 0.003      | 0.010 |
| K    | 2.60        | 3.00 | 0.102      | 0.118 |
| L    | 0.00        | 0.10 | 0.00       | 0.004 |
| M    | 0.37        | 2.64 | 0.014      | -     |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches  |
|------|-------------|---------|
|      | Nominal     | Nominal |
| A    | 0.70        | 0.028   |
| B    | 1.90        | 0.074   |
| C    | 0.95        | 0.037   |
| D    | 2.40        | 0.094   |
| E    | 1.00        | 0.039   |

## ORDERING INFORMATION

| Part Number  | Component Package | QTY/Reel | Reel Size |
|--------------|-------------------|----------|-----------|
| SE25T10B5.0D | SOT-23-5          | 3000PCS  | 7"        |

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