## FEATURES

- 80W Peak Pulse Power per Line (tp=8/20μs)
- Protects two Bidirectional Configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Working voltages : 5.0V
- Low Leakage current

## APPLICATIONS

- Dataline
- Automatic Teller Machines
- Net works
- Power line

SOT-23

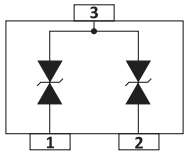

Marking

## IEC COMPATIBILITY

- IEC61000-4-2 (ESD) ±25kV (air), ±25kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

| | |
|---|---|
| **RoHS** | Compliance with 2011/65/EU |
| **HF** | Compliance with IEC61249-2-21:2003 |




Schematic Symbol

## THERMAL CONSIDERATIONS

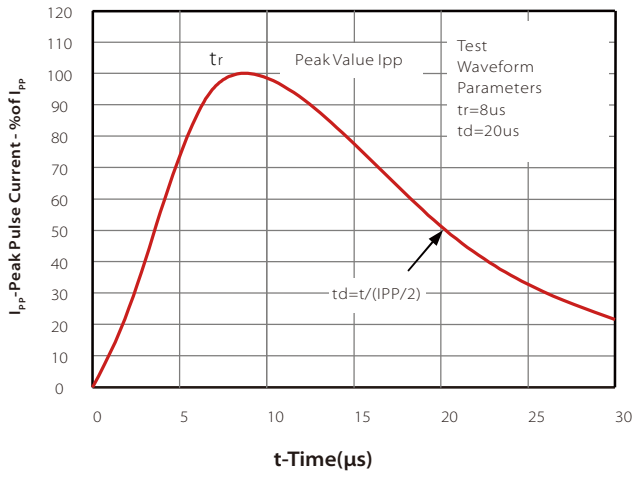
| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $P_{PP}$ | Peak Pulse Power (tp=8/20μs waveform) | 80 | Watts |
| $T_J$ | Operating Temperature Range | -55 to +125 | ℃ |
| $T_{STG}$ | Storage Temperature Range | -55 to +125 | ℃ |

## ELECTRICAL CHARACTERISTICS

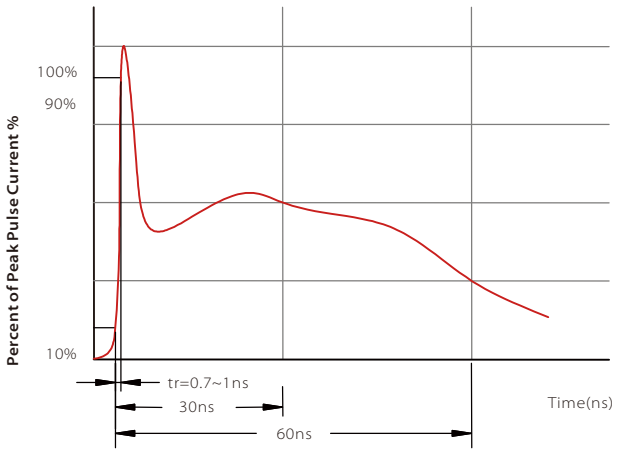
| Symbol | Parameter | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_{RWM}$ | Reverse Stand-off Voltage | | | | 5 | V |
| $V_{BR}$ | Reverse Breakdowm Voltage | $I_T$=1mA | 6 | | | V |
| $I_R$ | Reverse Leakage Current | $V_{RWM}$=5V | | 0.1 | 0.5 | μA |
| $V_C$ | Clamping Voltage (Tp=8/20us) | $I_{PP}$=8A,tp=8/20us | | 10 | | V |
| $I_{PP}$ | Peark Pulse Current(Tp=8/20us) | tp=8/20us | | | 8 | A |
| $C_J$ | Off State Junction Capacitance | $V_R$=0V, f=1MHz | | 20 | | pF |

# CHARACTERISTIC CURVES

**8/20μs Pulse Waveform**

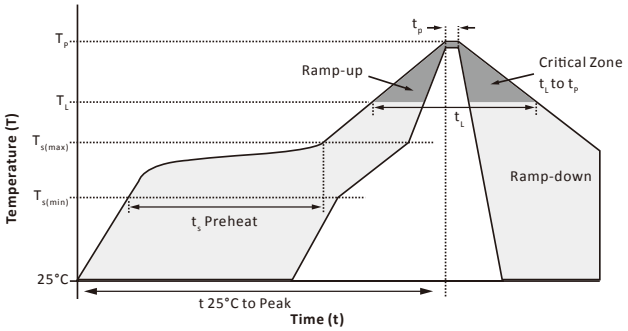



**ESD Pulse Waveform (according to IEC 61000-4-2)**

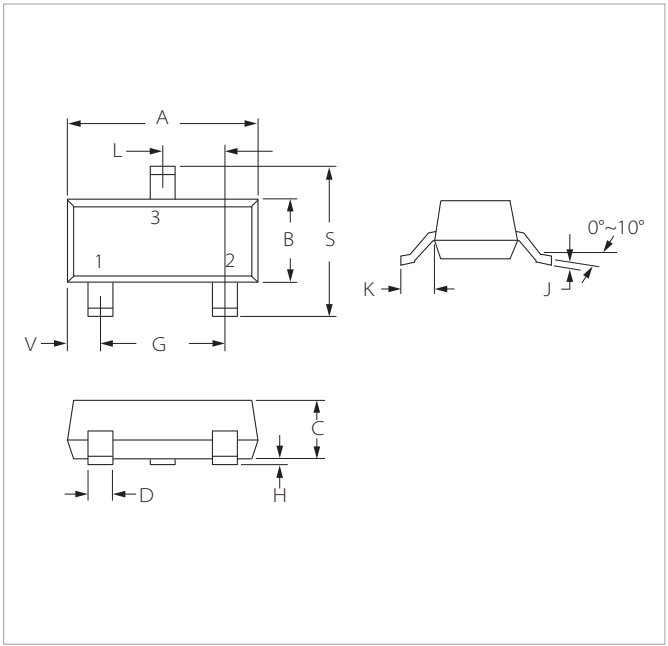



# SOLDERING PARAMETERS

| 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) ($t_s$) | 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 |

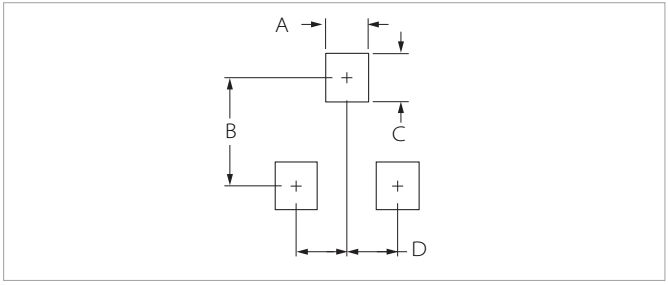


# SOT-23 PACKAGE INFORMATION




| Ref. | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 2.80 | 3.04 | 0.110 | 0.120 |
| B | 1.20 | 1.40 | 0.047 | 0.055 |
| C | 0.89 | 1.11 | 0.035 | 0.044 |
| D | 0.37 | 0.50 | 0.015 | 0.020 |
| G | 1.78 | 2.04 | 0.070 | 0.081 |
| H | 0.01 | 0.100 | 0.001 | 0.004 |
| J | 0.085 | 0.180 | 0.003 | 0.007 |
| K | 0.35 | 0.69 | 0.014 | 0.029 |
| L | 0.89 | 1.02 | 0.035 | 0.040 |
| S | 2.10 | 2.64 | 0.083 | 0.104 |
| V | 0.45 | 0.60 | 0.018 | 0.024 |

# RECOMMENDED PAD LAYOUT DIMENSIONS




| Ref. | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 0.71 | 0.97 | 0.028 | 0.038 |
| B | 1.88 | 2.13 | 0.074 | 0.084 |
| C | 0.71 | 0.97 | 0.028 | 0.038 |
| D | 0.81 | 1.07 | 0.032 | 0.042 |

# ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|---|---|---|---|
| SE23T08B5.0B | SOT-23 | 3000PCS | 7″ |

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