

## FEATURES

- | 260W Peak Pulse Power (tp=8/20μs)
- | Bi-directional configurations
- | Working voltages : 24 V
- | Low leakage current
- | Low clamping voltage
- | Meet AEC-Q101 Requirements

## APPLICATIONS

- | Handsets and Accessories
- | Personal Digital Assestants(PDA' s)
- | Portable Instrumentation
- | Notebooks, Desktops, and Servers
- | Pagers Peripherals



SOT-323



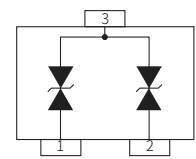
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## IEC COMPATIBILITY

- | 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

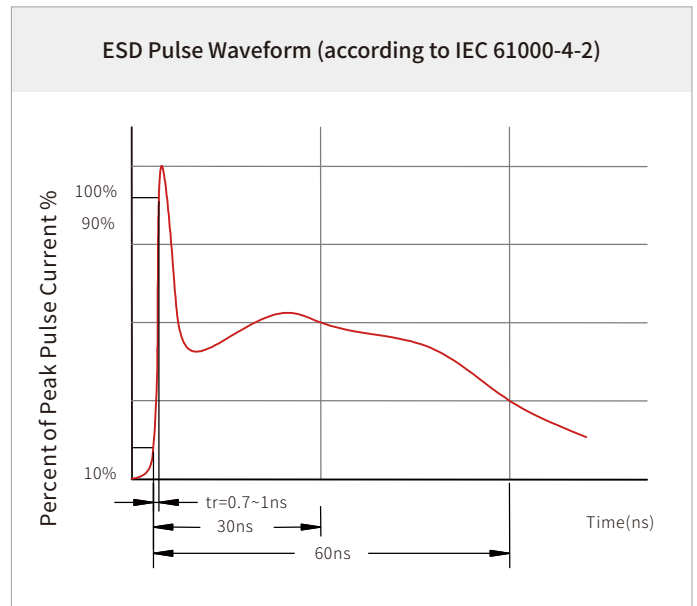
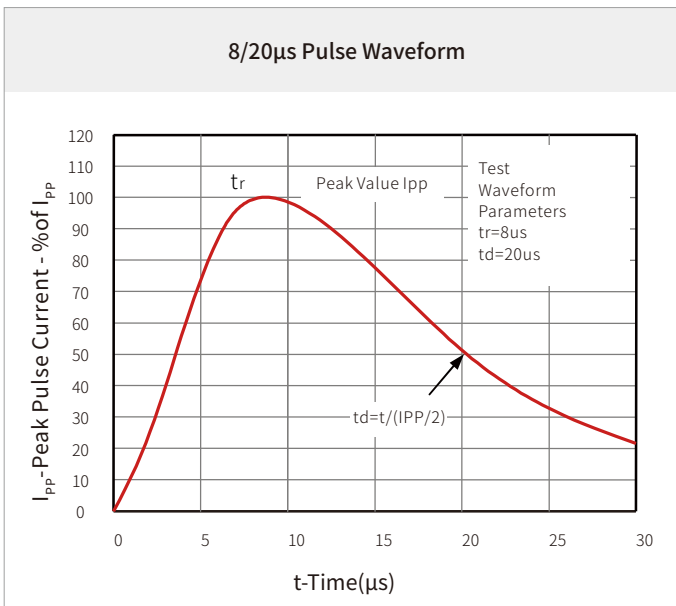
## THERMAL CONSIDERATIONS

| Symbol    | Parameter                             | Value       | Unit  |
|-----------|---------------------------------------|-------------|-------|
| $P_{PP}$  | Peak Pulse Power (tp=8/20μs waveform) | 260         | Watts |
| $T_J$     | Operating Temperature Range           | -55 to +125 | °C    |
| $T_{STG}$ | Storage Temperature Range             | -55 to +125 | °C    |

## ELECTRICAL CHARACTERISTICS

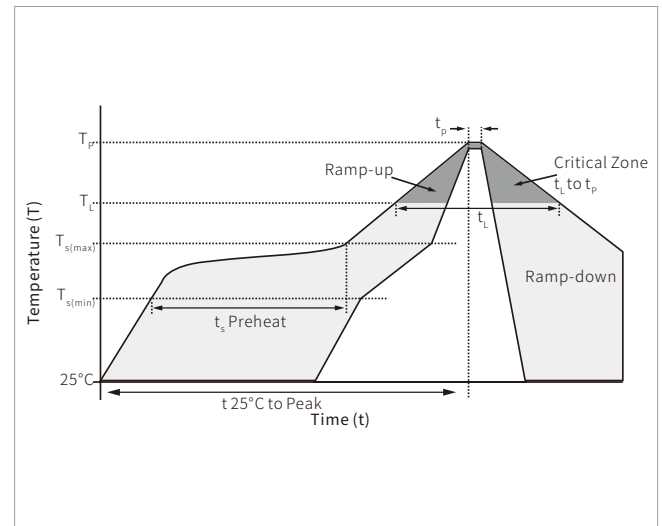
| Symbol    | Parameter                      | Condition                 | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|---------------------------|------|------|------|------|
| $V_{RWM}$ | Reverse Stand-off Voltage      |                           |      |      | 24   | V    |
| $V_{BR}$  | Reverse Breakdown Voltage      | $I_T=1mA$                 | 26.7 |      |      | V    |
| $I_R$     | Reverse Leakage Current        | $V_{RWM}=24V$             |      | 0.1  | 0.5  | μA   |
| $V_C$     | Clamping Voltage               | $I_{PP}=6A, tp=8/20\mu s$ |      | 40   | 44   | V    |
| $I_{PP}$  | Peak Pulse Current             | tp=8/20μs                 |      |      | 6    | A    |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$          |      | 14   |      | pF   |

## CHARACTERISTIC CURVES

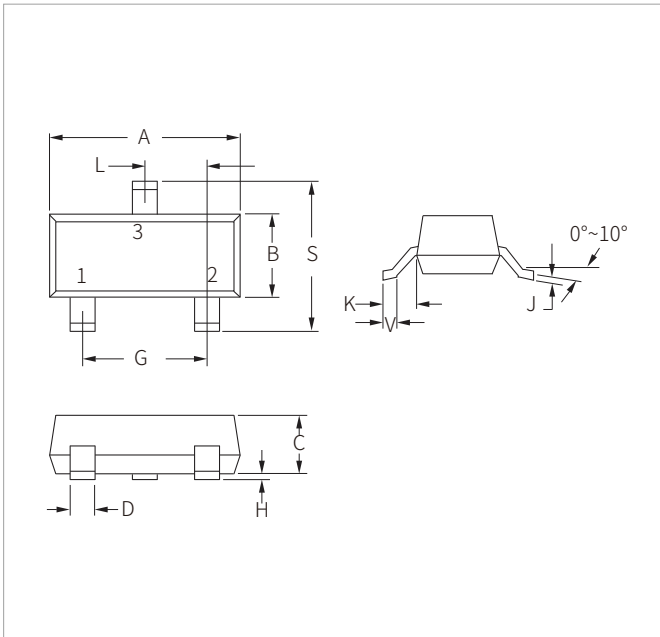


## SOLDERING PARAMETERS

| 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) ( $t_s$ )      | 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              |

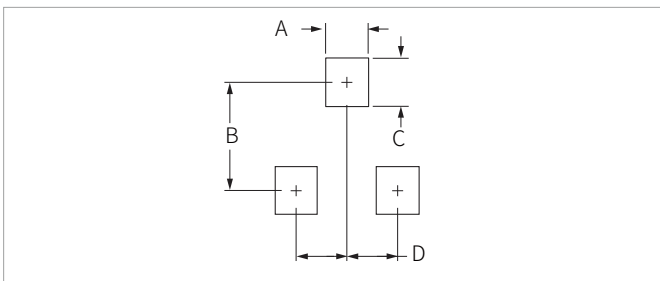


## SOT-323 PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 2.00        | 2.20 | 0.079    | 0.087 |
| B    | 1.15        | 1.35 | 0.045    | 0.053 |
| C    | 0.80        | 1.10 | 0.031    | 0.043 |
| D    | 0.20        | 0.40 | 0.008    | 0.016 |
| G    | 1.20        | 1.40 | 0.047    | 0.055 |
| H    | 0.00        | 0.10 | 0.000    | 0.004 |
| J    | 0.08        | 0.15 | 0.003    | 0.006 |
| K    | 0.525REF    |      | 0.021REF |       |
| L    | 0.650TYP    |      | 0.026TYP |       |
| S    | 2.15        | 2.45 | 0.085    | 0.096 |
| V    | 0.26        | 0.46 | 0.010    | 0.018 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
|      | NOR         | NOR    |
| A    | 0.50        | 0.020  |
| B    | 2.20        | 0.087  |
| C    | 0.80        | 0.031  |
| D    | 1.30        | 0.051  |

## ORDERING INFORMATION

| Part Number   | Component Package | QTY/Reel | Reel Size |
|---------------|-------------------|----------|-----------|
| TPSE33T25B24B | SOT-323           | 3000PCS  | 7"        |

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