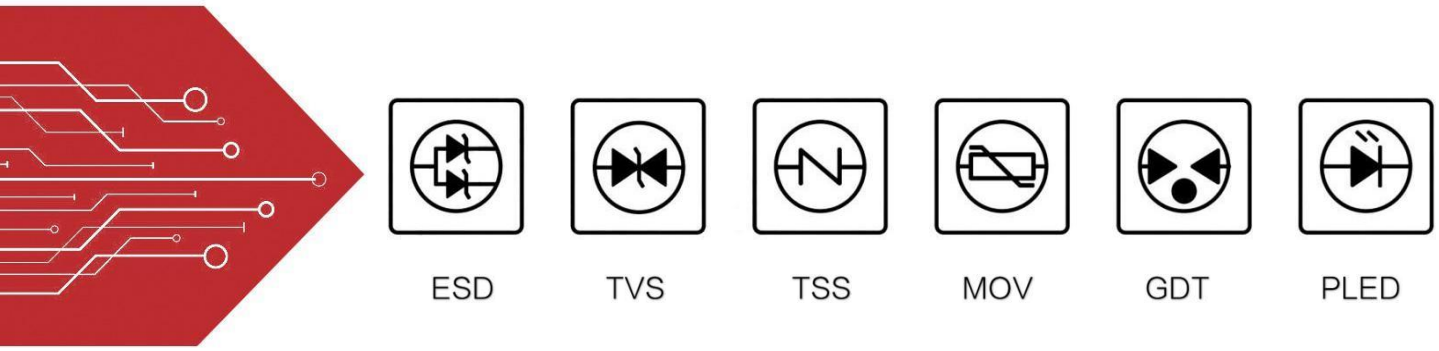
MSKSEMI
SEMICONDUCTOR




# Product data sheet

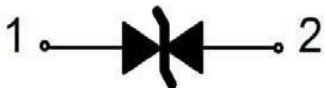
www.msksemi.com

## Features

- 60 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to

  IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)

  IEC 61000-4-4 (EFT) 40A (5/50ns)
- Working voltages : 5V
- Protects One Power or I/O Port
- Low operating and clamping voltages
- Solid-state silicon avalanche technology




0201

## Applications

- Notebooks, Desktops, Servers and Video Graphics Cards
- USB Power & Data Line Protection
- Monitors and Flat Panel Displays
- I²C Bus Protection
- Portable Instrumentation
- Set Top Box

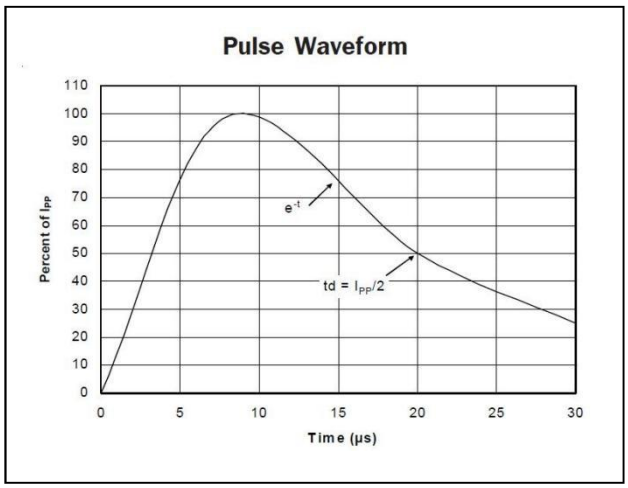
## Electrical Characteristics@ Ta=25℃ unless otherwise

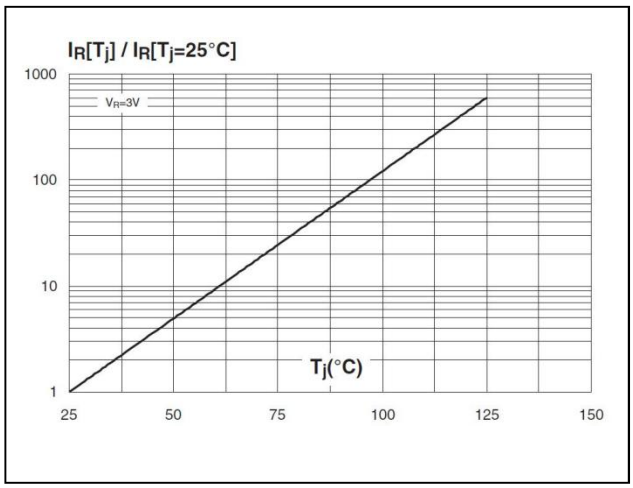
| P/N | $V_{RWM}$ @IR | | $V_{BR}$@ImA | $V_C$@1A | $V_C$@IPP | | CJ |
|---|---|---|---|---|---|---|---|
| | V | **μA** | V | V | V | A | pF |
| | | MAX | MIN | MAX | MAX | | MAX |
| ESD5V0V1BCSF-MS | 5 | 1 | 5.6 | 9.8 | 12.5 | 5 | 5 |

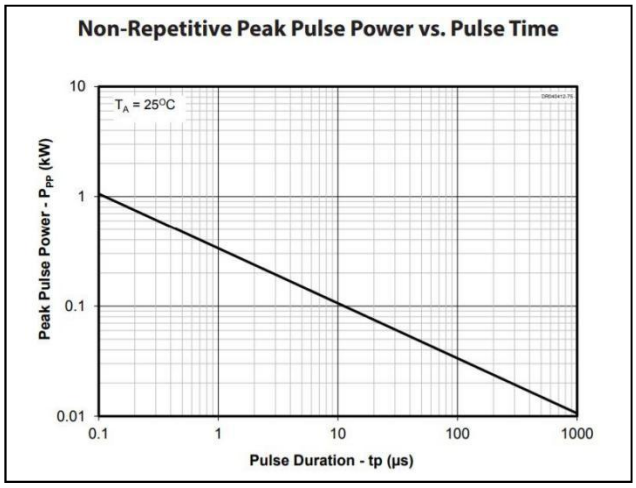
## Maximum Rating @ Ta=25℃ unless otherwise specified

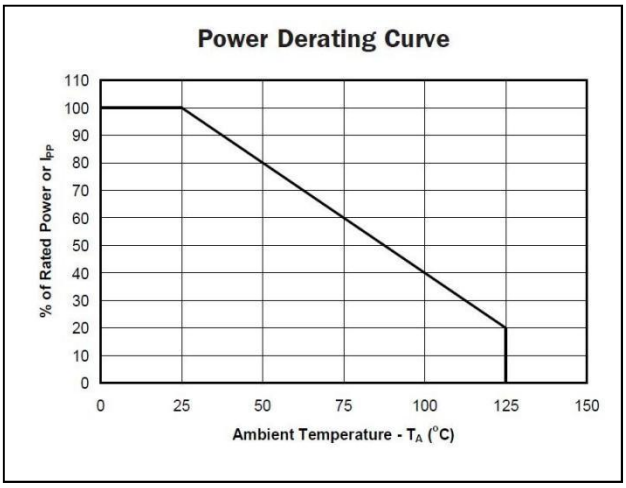
| Symbol | Parameter | Ratings | Units |
|---|---|---|---|
| $P_{PK}$ | Peak Pulse Power (tp = 8/20μs) | 60 | Watts |
| $T_L$ | Lead Soldering Temperature | 260(10sec.) | ℃ |
| $T_J$ | Operating Temperature | -55 to +150 | ℃ |
| $T_{STG}$ | Storage Temperature | -55 to +150 | ℃ |

## Typical Characteristics@ Ta=25℃ unless otherwise specified



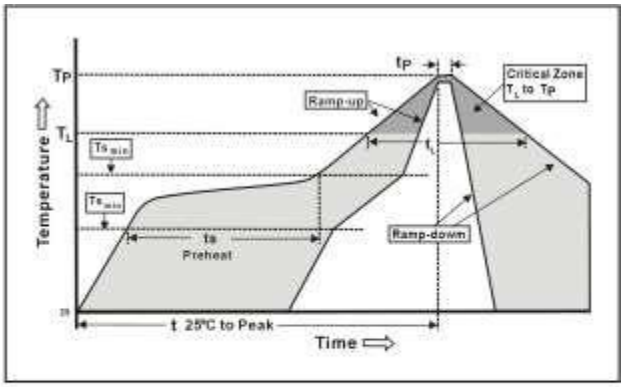



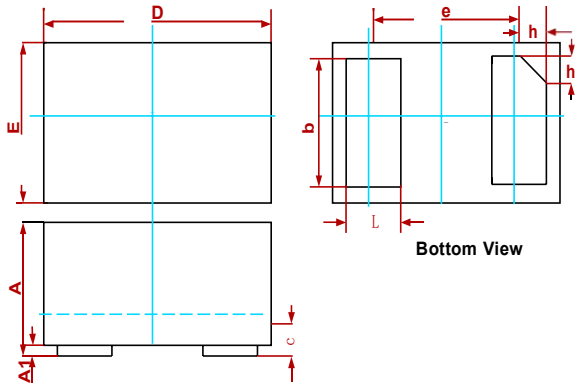




## Soldering Parameters

| Reflow Condition | | Fb – Free assembly |
|---|---|---|
| Pre Heat | -Temperature Min ($T_{s(Min)}$) | 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 |
| | -Temperature ($t_L$) | 60 – 150 seconds |
| Peak Temperature ($T_p$) | | $250^{+0/-5}$ °C |
| Time within 5°C of actual peak Temperature ($t_p$) | | 20 – 40 seconds |
| Ramp-dowm Rate | | 6°C/second Max |
| Time 25°C to peak Temperature ($T_p$) | | 8 minutes Max. |
| Do not exceed | | 260°C |

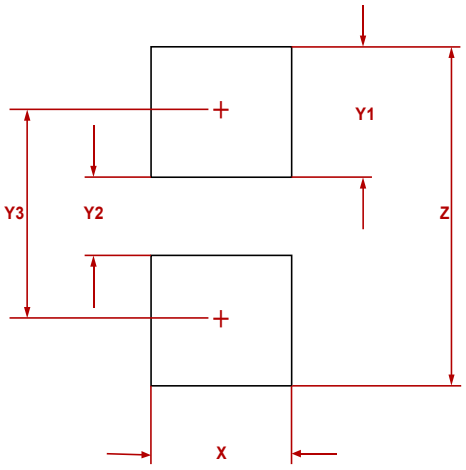


## PACKAGE MECHANICAL DATA




| SYM | DIMENSIONS | | |
|---|---|---|---|
| | MILLIMETERS | | |
| | MIN | NOM | MAX |
| A | 0.230 | | 0.330 |
| A1 | 0.000 | 0.020 | 0.050 |
| b | 0.215 | 0.245 | 0.275 |
| c | 0.120 | 0.150 | 0.180 |
| D | 0.550 | 0.600 | 0.650 |
| e | 0.355 BSC | | |
| E | 0.250 | 0.300 | 0.350 |
| L | 0.160 | 0.190 | 0.220 |
| h | 0.079 BSC | | |

## Suggested Pad Layout




| SYM | DIMENSIONS | |
|---|---|---|
| | MILLIMETERS | INCHES |
| X | 0.30 | 0.012 |
| Y1 | 0.25 | 0.010 |
| Y2 | 0.15 | 0.006 |
| Y3 | 0.40 | 0.016 |
| Z | 0.65 | 0.026 |

## REEL SPECIFICATION

| P/N | PKG | QTY |
|---|---|---|
| ESD5V0V1BCSF-MS | 0201 | 15000 |

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