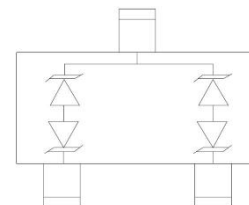


Features

- ◆ 150 Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 5V
- ◆ Protects two bidirectional line
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology



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

SOT-23

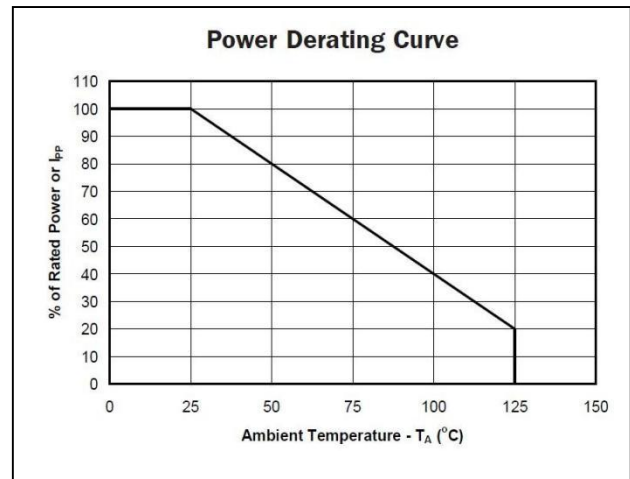
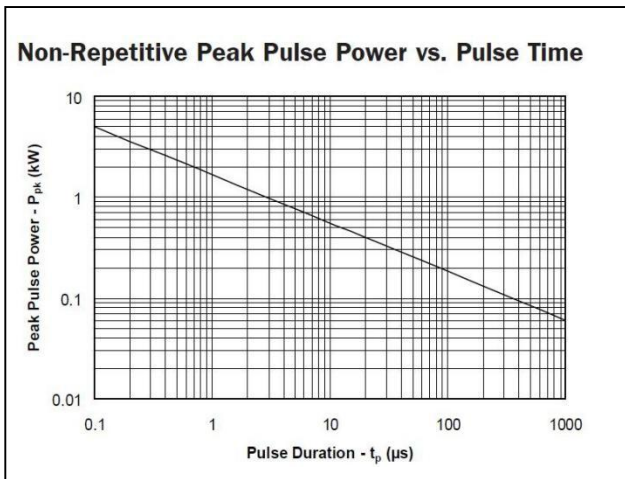
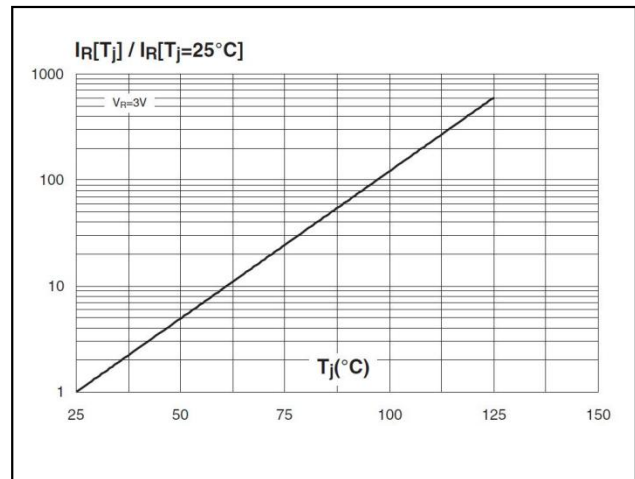
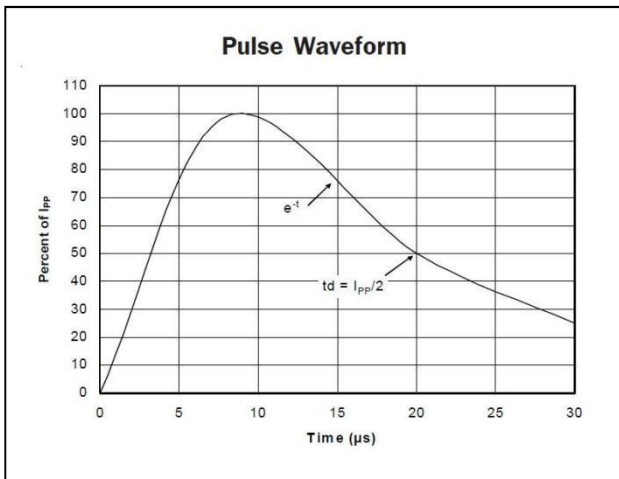
Electrical Characteristics @ $T_a = 25^\circ C$ unless otherwise

| P/N | V _{DRM} | I _{DRM} | V _{BR} | I _R | V _c | I _{pp} | V _c | I _{pp} | CO |
|--------------|------------------|------------------|-----------------|----------------|----------------|-----------------|----------------|-----------------|-----|
| | V | μA | V | mA | V | A | V | A | pF |
| | | MAX | MIN | | MAX | | MAX | | TYP |
| KNESD5V0S2BT | 5 | 1 | 5.5 | 1 | 9.8 | 1 | 15 | 12 | 50 |

Maximum Rating @ $T_a = 25^\circ C$ unless otherwise specified

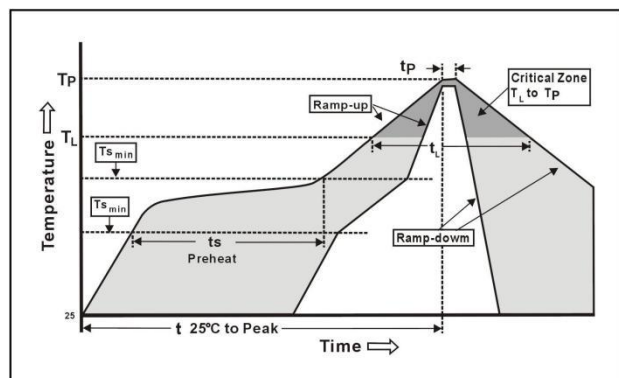
| Symbol | Parameter | Ratings | Units |
|------------------|--|-------------|------------|
| P _{PK} | Peak Pulse Power ($t_p = 8/20\mu s$) | 150 | Watts |
| T _L | Lead Soldering Temperature | 260(10sec.) | $^\circ C$ |
| T _J | Operating Temperature | -55 to +125 | $^\circ C$ |
| T _{STG} | Storage Temperature | -55 to +150 | $^\circ C$ |

Typical Characteristics@ Ta=25°C unless otherwise specified

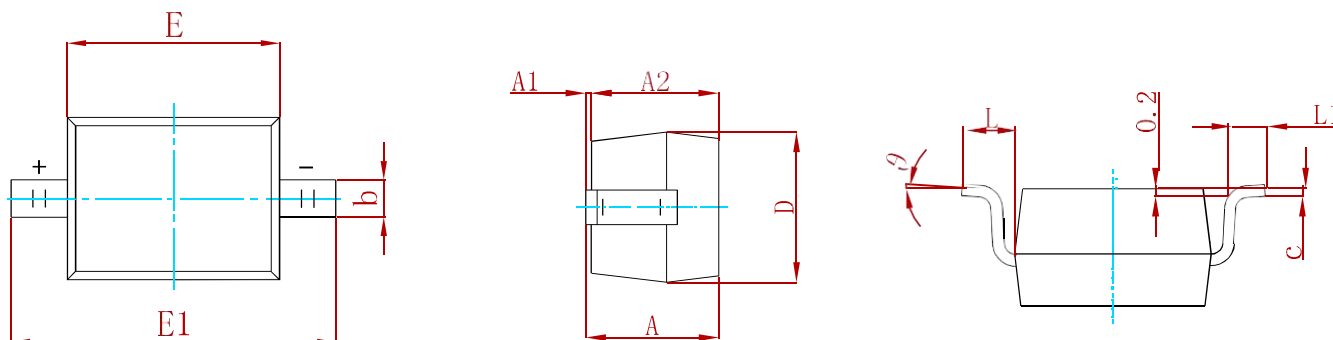


Soldering Parameters

| 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-down Rate | | 6°C/second Max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes Max. |
| Do not exceed | | 260°C |

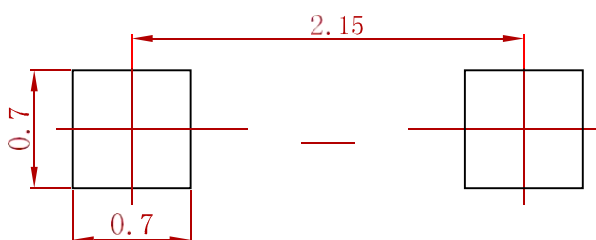


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | | 1.000 | | 0.039 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.800 | 0.900 | 0.031 | 0.035 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.200 | 1.400 | 0.047 | 0.055 |
| E | 1.600 | 1.800 | 0.063 | 0.071 |
| E1 | 2.550 | 2.750 | 0.100 | 0.108 |
| L | 0.475 REF. | | 0.019 REF. | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| θ | 0° | 8° | 0° | 8° |

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|--------------|--------|------|
| KNESD5V0S2BT | SOT-23 | 3000 |