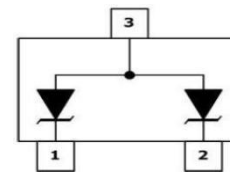


Features

- ◆ 80Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages :3V,5V,12V,15V,24V
- ◆ Protects two bidirectional line
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology



SOT-23

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

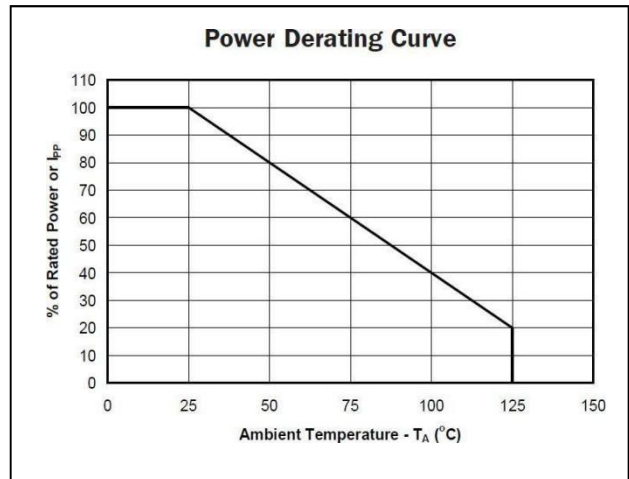
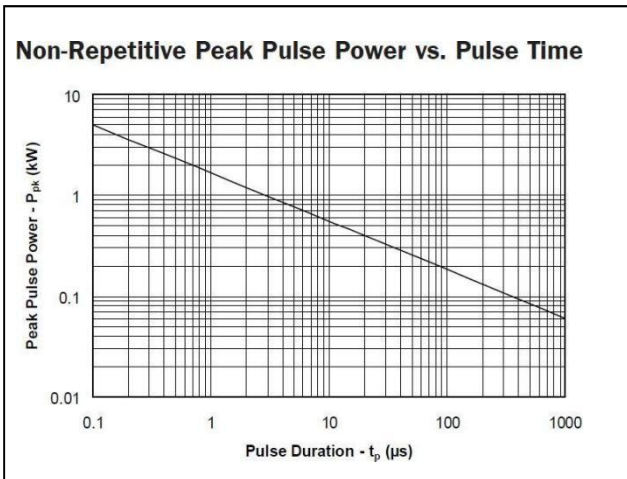
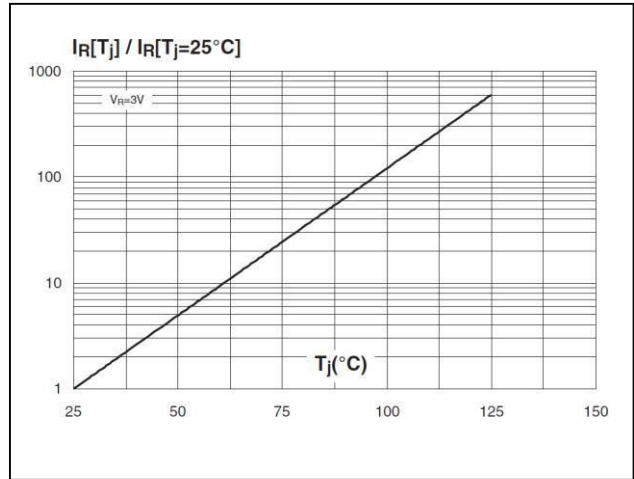
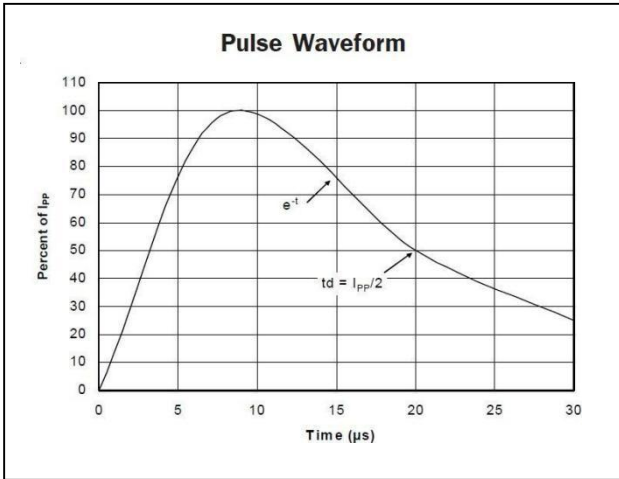
Electrical Characteristics@ Ta=25°C unless otherwise

| P/N | V _{RWM} (V) (max.) | V _B (V) (min.) | I _T (mA) | V _{C@1A} (V) (max.) | V _C (V) (max.) (@A) | | I _R (μ A) (max.) | C _T (pF) (max.) |
|--------------|-----------------------------------|---------------------------------|------------------------|------------------------------------|--------------------------------------|---|--|----------------------------------|
| KNESD3V3U1UT | 3.3 | 4 | 1 | 7.0 | 14 | 5 | 40 | 1.5 |
| KNESD5V0U1UT | 5 | 6 | 1 | 9.8 | 18 | 5 | 10 | 1.5 |
| KNESD12VU1UT | 12 | 13.3 | 1 | 19 | 32 | 5 | 1 | 1.5 |
| KNESD15VU1UT | 15 | 16.7 | 1 | 24 | 38 | 5 | 1 | 1.5 |
| KNESD24VU1UT | 24 | 26.7 | 1 | 43 | 52 | 3 | 1 | 1.5 |

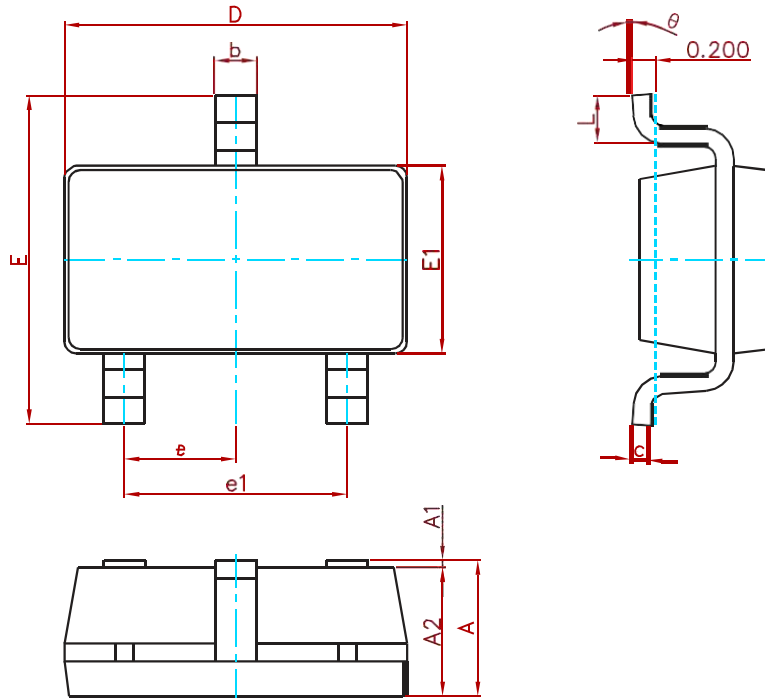
Maximum Rating @ Ta=25 °C unless otherwise specified

| Symbol | Parameter | Ratings | Units |
|------------------|--|-------------|-------|
| P _{PK} | Peak Pulse Power ($t_p = 8/20\mu s$) | 80 | Watts |
| T _L | Lead Soldering Temperature | 260(10sec.) | °C |
| T _J | Operating Temperature | -55 to +125 | °C |
| T _{STG} | Storage Temperature | -55 to +150 | °C |

Typical Characteristics@ Ta=25°C unless otherwise specified

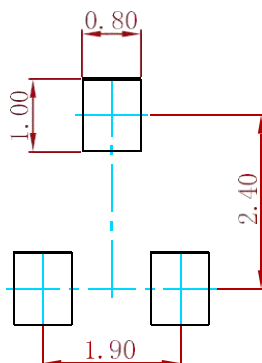


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950(BSC) | | 0.037(BSC) | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.300 | 0.600 | 0.012 | 0.024 |
| 0 | 0° | 8° | 0° | 8° |

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|--------------|--------|------|
| KNESDXXXU1UT | SOT-23 | 3000 |