



UESD1105

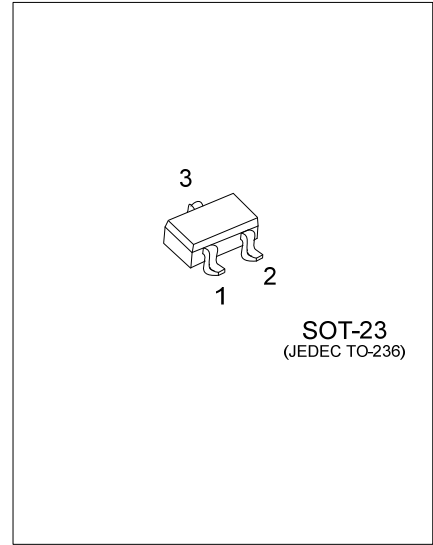
Preliminary

TVS

ESD PROTECTION DIODE SINGLE LINE CAN/LIN BUS PROTECTOR

DESCRIPTION

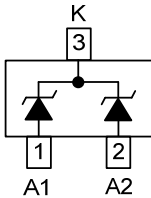
The UTC **UESD1105** has been designed to protect LIN and single line CAN transceivers from ESD and other harmful transient voltage events. This device provides bidirectional protection for the data line with a single SOT-23 package, giving the system designer a low cost option for improving system reliability and meeting stringent EMI requirements.



FEATURES

- * Unidirectional device
- * Low Reverse Leakage Current (< 100 nA)
- * 300W peak pulse power (8/20µs)

SYMBOL



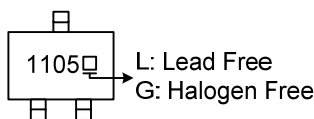
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|---------|----------------|----|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| UESD1105L-AE3-R | UESD1105G-AE3-R | SOT-23 | A1 | A2 | K | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

| | |
|--|--|
| <p>UESD1105G-AE3-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package | <ul style="list-style-type: none"> (1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free, L: Lead Free |
|--|--|

MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | | SYMBOL | RATINGS | UNIT | |
|--------------------------------|--------------|-----------------------|------------|------------------|---|
| ESD Discharge | IEC61000-4-2 | Air Discharge | ± 30 | kV | |
| | | Contact Discharge | ± 30 | kV | |
| Peak Pulse Current | IEC61000-4-5 | $t_p=8/20\mu\text{s}$ | I_{PP} | 8.0 (Note 2) | A |
| Peak Pulse Power | | | P_{PP} | 350 | W |
| Operating Junction Temperature | | T_J | -55 ~ +150 | $^\circ\text{C}$ | |
| Operating Temperature | | T_{OPR} | -40 ~ +125 | $^\circ\text{C}$ | |
| Storage Temperature | | T_{STG} | -65 ~ +150 | $^\circ\text{C}$ | |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------------|-----------|--|------|-----|------|----------|
| Reverse Stand-Off Voltage | V_{RWM} | (Note 1) | 24 | | | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1\text{mA}$ (Note 2) | 25.7 | | 28.4 | V |
| Reverse Current | I_R | $V_R=24\text{V}$ | | | 100 | nA |
| Diode capacitance | C_d | $V_R=0\text{V}$, $f=1\text{MHz}$ (Anode to GND) | | 62 | | pF |
| | | $V_R=0\text{V}$, $f=1\text{MHz}$ (Anode to Anode) | | 27 | | pF |
| Clamping Voltage | V_{CL} | $I_{PPM}=5\text{A}$, $t_p=8/20\mu\text{s}$ | | | 40 | V |
| | | $I_{PPM}=8\text{A}$, $t_p=8/20\mu\text{s}$ | | | 44 | V |
| Dynamic impedance | R_d | $I_{PPM}=8\text{A}$, $t_p=8/20\mu\text{s}$ | | 0.8 | | Ω |

Notes: 1. Surge protection devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.
 2. V_{BR} is measured at pulse test current I_T .
 3. Device stressed with $8/20\mu\text{s}$ exponential decay waveform according to IEC 61000-4-5.

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