



ZD2.4 THRU ZD36

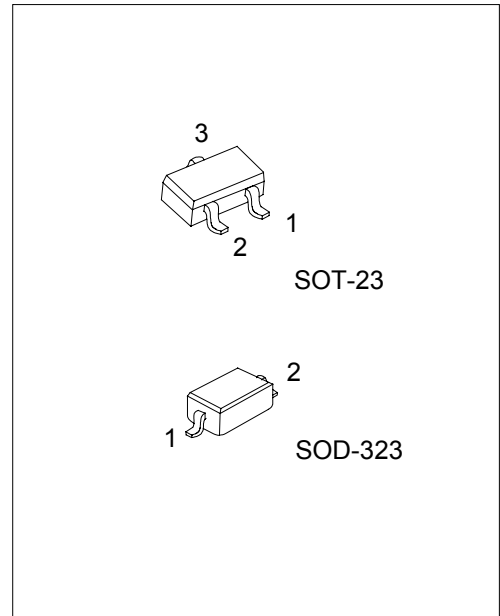
ZENER DIODE

ZD2.4 THRU ZD36 ZENER DIODES

■ **FEATURES**

*Compact, 2-pin(SOD-323) and 3-pin(SOT-23) mini-mold types for high-density mounting.

*High demand voltage range (2.4V~36V) is manufactured on high-efficient non-wire bonding production line.



*Pb-free plating product number: ZDxxL

■ **ORDERING INFORMATION**

| Order Number | | Package | Pin | | | Packing |
|--------------|-------------------|---------|-----|---|---|-----------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| ZDxx-AE3-R | ZDxxL-AE3-R | SOT-23 | + | - | N | Tape Reel |
| ZDxx-CL2-R | ZDxxL-CL2-R | SOD-323 | + | - | | Tape Reel |

Note:1.Pin assignment: +: Anode -: Cathode N: No Connection
2.xx: Zener Voltage, refer to Marking Information.

| | | |
|--------------------|---|---|
| <p>ZDxxL-AE3-R</p> | <p>(1) Packing Type (2) Package Type (3) Lead Plating (4) Zener Voltage</p> | <p>(1) R: Tape Reel (2) AE3: SOT-23, CL2: SOD-323 (3) L: Lead Free Plating, Blank: Pb/Sn (4) refer to Marking Information</p> |
|--------------------|---|---|

■ **MARKING INFORMATION**

| PACKAGE | VOLTAGE CODE | | | | MARKING |
|---------|--------------|-----|----|----|---------|
| SOT-23 | 2.4 | 6.0 | 10 | 20 | |
| | 2.5 | 6.2 | 11 | 22 | |
| | 3.3 | 6.8 | 12 | 24 | |
| | 3.9 | 7.5 | 13 | 25 | |
| | 4.3 | 8.2 | 15 | 27 | |
| SOD-323 | 4.7 | 9.1 | 16 | 30 | |
| | 5.1 | | 18 | 33 | |
| | 5.6 | | | 36 | |
| | | | | | |

ZD2.4 THRU ZD36

ZENER DIODE

■ ABSOLUTE MAXIMUM RATING (Ta=25°C , unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-------------------------------------|------------------|------------|------|
| Total Power Dissipation (Ta=25) | P _D | 225 | mW |
| Derating above 25 | | 1.8 | mW/ |
| Thermal Resistance Junction-Ambient | θ _{JA} | 417 | /W |
| Junction Temperature | T _J | +150 | |
| Storage Temperature | T _{STG} | -40 ~ +150 | |

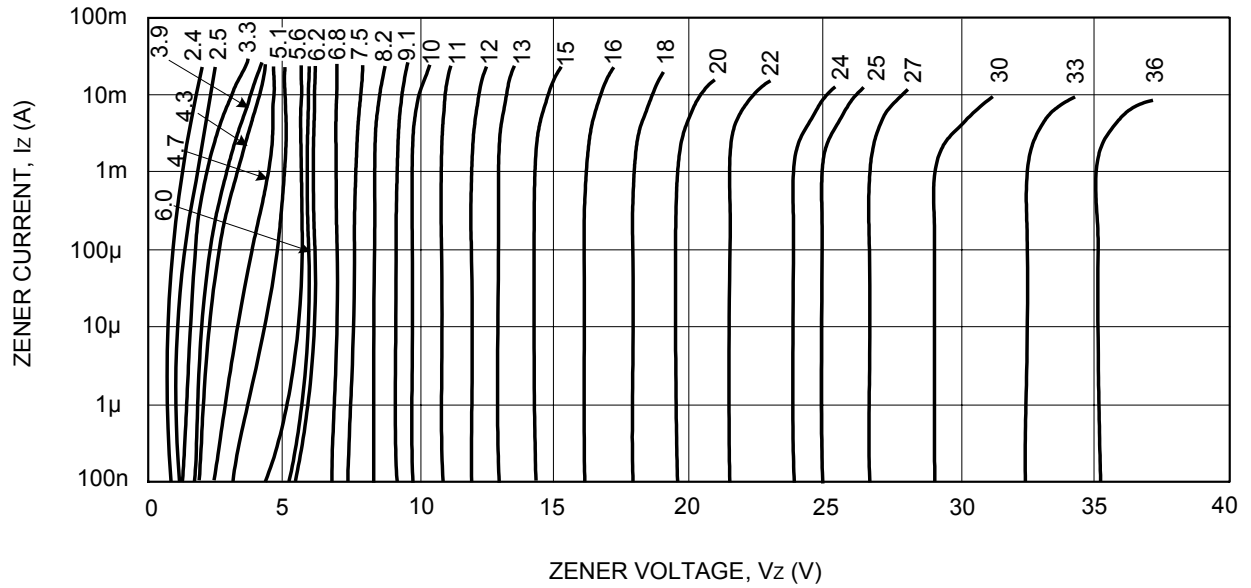
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

(V_F = 0.9V Max @ I_F = 10mA for all types.)

| Device | Marking Code | Test Current | Zener Voltage | Z _{ZK} (Ω) | | Z _{ZT} (Ω) | | I _R (μA) | |
|--------|--------------|----------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | I _{ZT} (mA) | V _Z (V) | Max | I _Z (mA) | Max | I _Z (mA) | Max | @V _R (V) |
| ZD2.4 | 2.4 | 5 | 2.4±2.5% | 2000 | 1.0 | 100 | 5 | 20.0 | 1.0 |
| ZD2.5 | 2.5 | 5 | 2.5±2.5% | 2000 | 1.0 | 100 | 5 | 20.0 | 1.0 |
| ZD3.3 | 3.3 | 5 | 3.3±2.5% | 1000 | 1.0 | 100 | 5 | 10.0 | 1.0 |
| ZD3.9 | 3.9 | 5 | 3.9±2.5% | 1000 | 1.0 | 100 | 5 | 5.0 | 1.0 |
| ZD4.3 | 4.3 | 5 | 4.3±2.5% | 1000 | 1.0 | 100 | 5 | 5.0 | 1.0 |
| ZD4.7 | 4.7 | 5 | 4.7±2.5% | 800 | 0.5 | 100 | 5 | 2.0 | 1.0 |
| ZD5.1 | 5.1 | 5 | 5.1±2.5% | 500 | 0.5 | 80 | 5 | 2.0 | 1.5 |
| ZD5.6 | 5.6 | 5 | 5.6±2.5% | 200 | 0.5 | 60 | 5 | 1.0 | 2.5 |
| ZD6.0 | 6.0 | 5 | 6.0±2.5% | 100 | 0.5 | 60 | 5 | 1.0 | 2.5 |
| ZD6.2 | 6.2 | 5 | 6.2±2.5% | 100 | 0.5 | 60 | 5 | 1.0 | 3.0 |
| ZD6.8 | 6.8 | 5 | 6.8±2.5% | 60 | 0.5 | 40 | 5 | 0.5 | 3.5 |
| ZD7.5 | 7.5 | 5 | 7.5±2.5% | 60 | 0.5 | 30 | 5 | 0.5 | 4.0 |
| ZD8.2 | 8.2 | 5 | 8.2±2.5% | 60 | 0.5 | 30 | 5 | 0.5 | 5.0 |
| ZD9.1 | 9.1 | 5 | 9.1±2.5% | 60 | 0.5 | 30 | 5 | 0.5 | 6.0 |
| ZD10 | 10 | 5 | 10±2.5% | 60 | 0.5 | 30 | 5 | 0.1 | 7.0 |
| ZD11 | 11 | 5 | 11±2.5% | 60 | 0.5 | 30 | 5 | 0.1 | 8.0 |
| ZD12 | 12 | 5 | 12±2.5% | 80 | 0.5 | 30 | 5 | 0.1 | 9.0 |
| ZD13 | 13 | 5 | 13±2.5% | 80 | 0.5 | 37 | 5 | 0.1 | 10.0 |
| ZD15 | 15 | 5 | 15±2.5% | 80 | 0.5 | 42 | 5 | 0.1 | 11.0 |
| ZD16 | 16 | 5 | 16±2.5% | 80 | 0.5 | 50 | 5 | 0.1 | 12.0 |
| ZD18 | 18 | 5 | 18±2.5% | 80 | 0.5 | 65 | 5 | 0.1 | 13.0 |
| ZD20 | 20 | 5 | 20±2.5% | 100 | 0.5 | 85 | 5 | 0.1 | 15.0 |
| ZD22 | 22 | 5 | 22±2.5% | 100 | 0.5 | 100 | 5 | 0.1 | 17.0 |
| ZD24 | 24 | 5 | 24±2.5% | 120 | 0.5 | 120 | 5 | 0.1 | 19.0 |
| ZD25 | 25 | 5 | 25±2.5% | 130 | 0.5 | 130 | 5 | 0.1 | 19.0 |
| ZD27 | 27 | 5 | 27±2.5% | 150 | 0.5 | 150 | 5 | 0.1 | 21.0 |
| ZD30 | 30 | 5 | 30±2.5% | 200 | 0.5 | 200 | 5 | 0.1 | 23.0 |
| ZD33 | 33 | 5 | 33±2.5% | 250 | 0.5 | 250 | 5 | 0.1 | 25.0 |
| ZD36 | 36 | 5 | 36±2.5% | 300 | 0.5 | 300 | 5 | 0.1 | 27.0 |

■ TYPICAL CHARACTERISTIC CURVES



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.