



ZD1.8 THRU ZD36

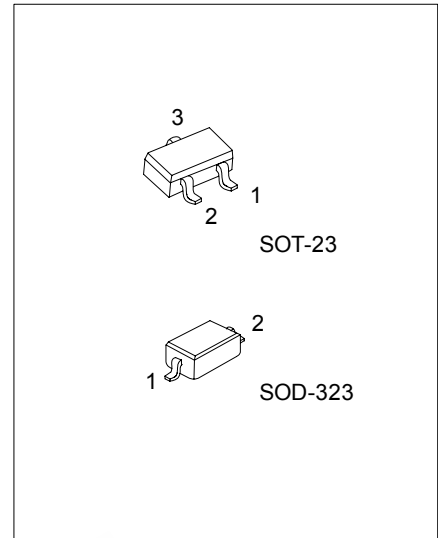
ZENER DIODE

ZD1.8 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 (1.8V~36V) is manufactured on high-efficient non-wire bonding production line.



*Pb-free plating product number: ZDxxL

ORDERING INFORMATION

| Order Number | | Package | Pin Assignment | | | Packing |
|--------------|-------------------|---------|----------------|---|---|-----------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| ZDxx-AE3-R | ZDxxL-AE3-R | SOT-23 | NC | A | C | Tape Reel |
| ZDxx-CB2-R | ZDxxL-CB2-R | SOD-323 | A | C | - | Tape Reel |

Note:1. Pin assignment: A: Anode C: Cathode NC: No Connection
2. xx: Zener Voltage, refer to Marking Information.

| | |
|--------------------|--|
| <p>ZDxxL-AE3-R</p> | <p>(1) R: Tape Reel (2) AE3: SOT-23, CB2: SOD-323 (3) L: Lead Free Plating Blank: Pb/Sn (4) refer to Marking Information</p> |
|--------------------|--|

MARKING INFORMATION

| PACKAGE | VOLTAGE CODE | | | | MARKING |
|---------|--------------|-----|----|----|---------|
| SOT-23 | 1.8 | 5.1 | 10 | 20 | |
| | 2.4 | 5.6 | 11 | 22 | |
| | 2.5 | 6.0 | 12 | 24 | |
| | 3.3 | 6.2 | 13 | 25 | |
| | 3.9 | 6.8 | 15 | 27 | |
| SOD-323 | 4.3 | 7.5 | 16 | 30 | |
| | 4.7 | 8.2 | 18 | 33 | |
| | | 9.1 | 18 | 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°C) | P _D | 225 | mW |
| Derating above 25°C | | 1.8 | mW/°C |
| Thermal Resistance Junction-Ambient | θ _{JA} | 417 | °C/W |
| Junction Temperature | T _J | +150 | °C |
| Storage Temperature | T _{STG} | -40 ~ +150 | °C |

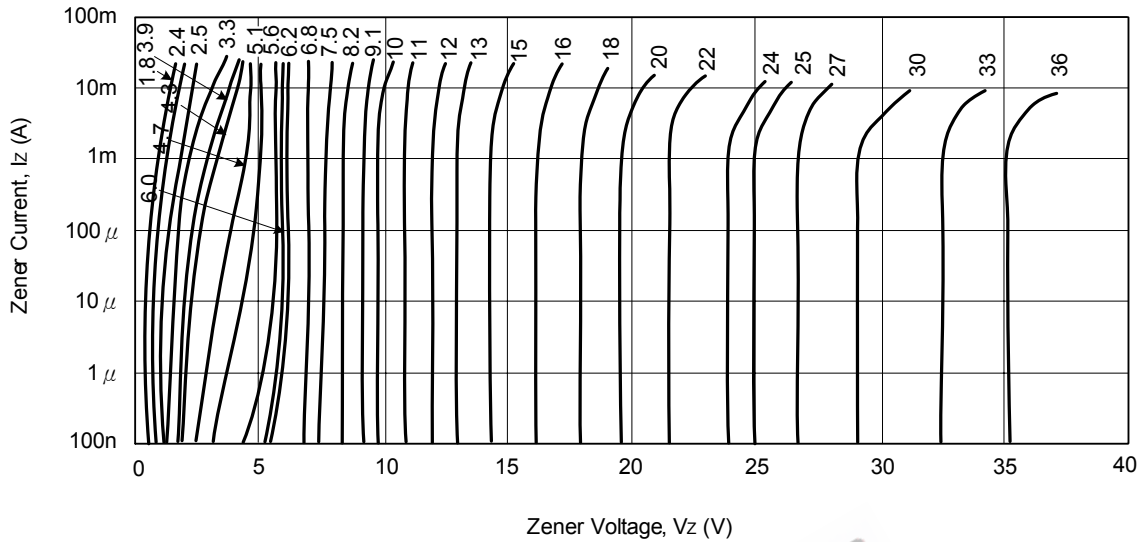
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (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) |
| ZD1.8 | 1.8 | 5 | 1.8±2.5% | 2000 | 1.0 | 100 | 5 | 20.0 | 1.0 |
| 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



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