

Small Signal Product

500mW High Speed SMD Switching Diode

FEATURES

- Designed for mounting on small surface
- Extremely thin/leadless package
- High mounting capability, strong surge with stand, high reliability
- Pb free and RoHS compliant
- Halogen free



1206 (Ceramics)

MECHANICAL DATA

- Case: 1206 (Ceramics) standard package
- High temperature soldering guaranteed: 260°C/10s
- Polarity: Indicated by white cathode band
- Weight: 0.010 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | |
|--|-----------------------------------|--------------|------|
| PARAMETER | SYMBOL | VALUE | UNIT |
| Power dissipation | P _D | 500 | mW |
| Non-repetitive peak reverse voltage | V _{RSM} | 100 | V |
| Repetitive peak reverse voltage | V _{RRM} | 75 | V |
| Repetitive peak forward current | I _{FRM} | 300 | mA |
| Mean forward current | I _O | 150 | mA |
| Non-repetitive peak forward surge current Tp = 1sec square waveform Tp = 8.3ms single half sine waveform | I _{FSM} | 0.5 2.0 | A |
| Thermal resistance form junction ambient (Note 1) | R _{θJA} | 375 | °C/W |
| Junction and storage temperature range | T _J , T _{STG} | - 55 to +150 | °C |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|---|-------------------|-----|-----|------|
| Reverse breakdown voltage (Note 2) | V _(BR) | 75 | - | V |
| Forward voltage I _F =100mA | V _F | - | 1 | V |
| Reverse leakage current V _R =20V V _R =75V | I _R | - | 25 | nA |
| | | - | 5 | μA |
| Junction capacitance V _R =0, f=1.0MHz | C _J | | 4.0 | pF |
| Reverse recovery time (Note 3) | t _{rr} | | 4 | ns |

Note: 1 Valid provided that electrodes are kept at ambient temperature

Note: 2 Test Condition : I_R=100μA

Note: 3 Test Condition : I_F=10mA, I_R=1mA, R_L=100Ω

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RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig. 1 Typical Forward Characteristics

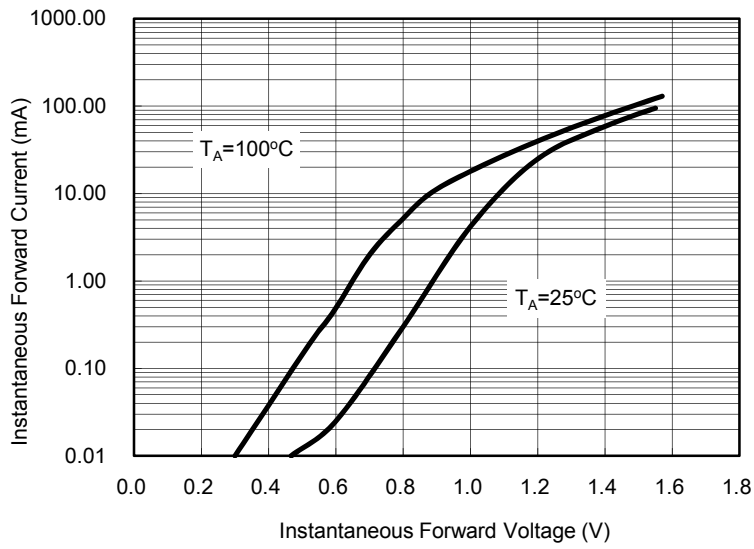


Fig. 2 Reverse Current VS. Reverse Voltage

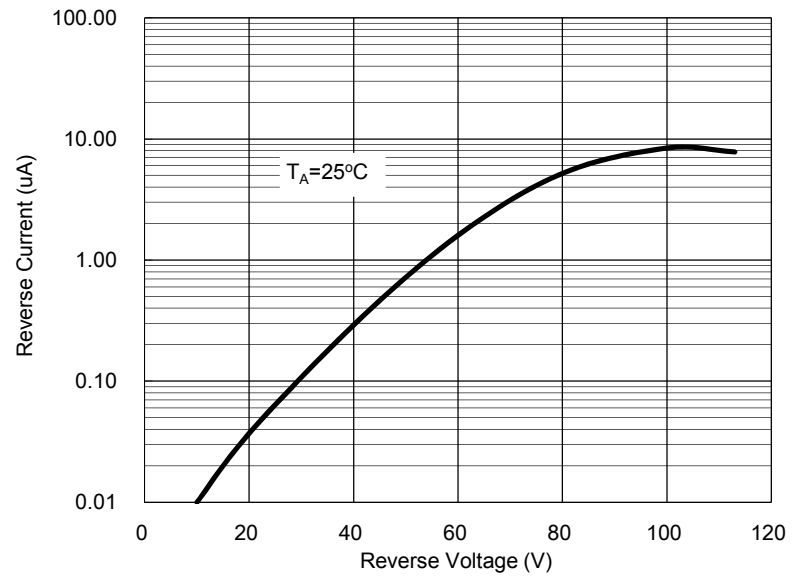


Fig. 3 Admissible Power Dissipation Curve

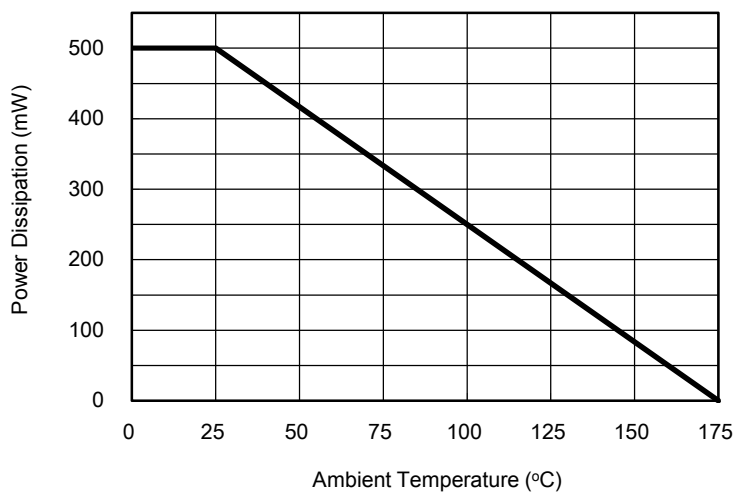


Fig. 4 Typical Junction Capacitance

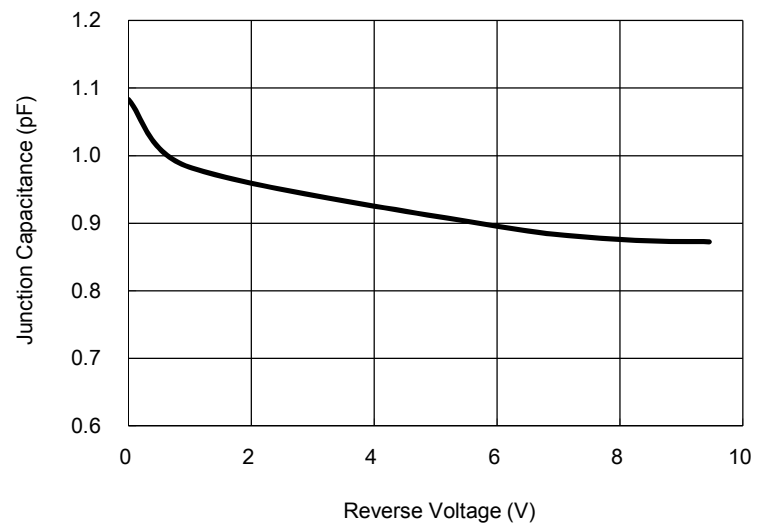
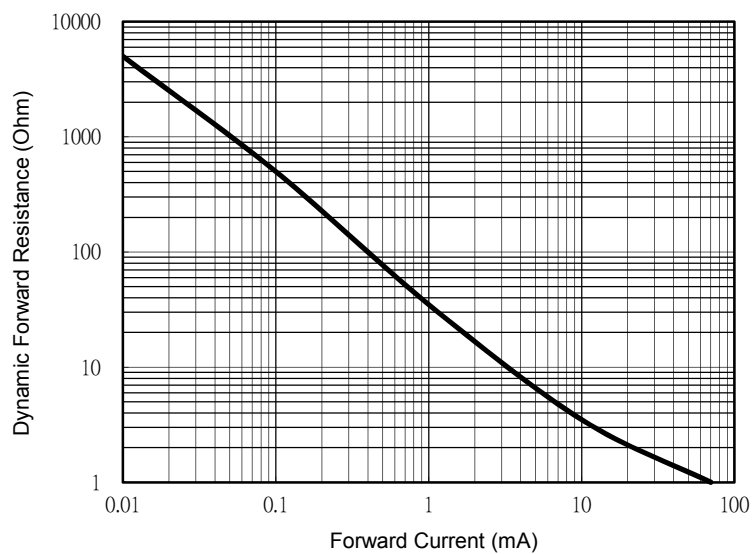


Fig. 5 Forward Resistance VS. Forward Current



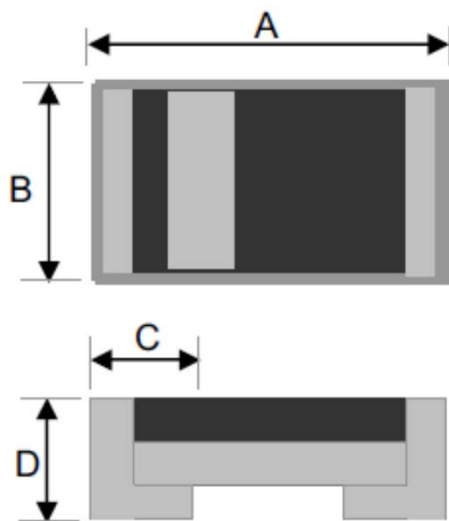
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| ORDERING INFORMATION | | | | | |
|----------------------|--------------------------|--------------|---------------------|-----------------|----------------|
| PART NO. | PART NO. SUFFIX (Note 1) | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| TS4148 | -xx | RX | G | 1206 (Ceramics) | 5K / 7" Reel |
| | | RA | | | 10K / 13" Reel |

Note 1: Part No. Suffix „-xx “ would be used for special requirement

| EXAMPLE | | | | | |
|--------------------|----------|-----------------|--------------|---------------------|---|
| PREFERRED PART NO. | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| TS4148 RXG | TS4148 | | RX | G | Multiple manufacture source Green compound |
| TS4148-C0 RXG | TS4148 | -C0 | RX | G | Defined manufacture source Green compound |

PACKAGE OUTLINE DIMENSIONS
1206 (Ceramics)



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 3.00 | 3.40 | 0.118 | 0.134 |
| B | 1.30 | 1.70 | 0.051 | 0.067 |
| C | 0.35 | 0.75 | 0.014 | 0.030 |
| D | 0.75 | 0.95 | 0.030 | 0.037 |

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