

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



**0805 (Ceramics)**



MECHANICAL DATA

- Case: 0805 (Ceramics)
- High temperature soldering guaranteed: 260°C/10s
- Polarity: Indicated by white cathode band
- Weight: 0.006g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                 |                                   |              |      |
|--|-----------------------------------|--------------|------|
| PARAMETER  | SYMBOL                            | VALUE        | UNIT |
| Power dissipation  | P <sub>D</sub>                    | 500          | mW   |
| Non-repetitive peak reverse voltage  | V <sub>RSM</sub>                  | 100          | V    |
| Repetitive peak reverse voltage  | V <sub>RRM</sub>                  | 75           | V    |
| Repetitive peak forward current  | I <sub>FRM</sub>                  | 300          | mA   |
| Mean forward current   | I <sub>O</sub>                    | 150          | mA   |
| Non-repetitive peak forward surge current<br>Tp = 1s square waveform<br>Tp = 8.3ms single half sine waveform | I <sub>FSM</sub>                  | 0.5<br>2.0   | A    |
| Thermal resistance form junction ambient (Note 1)  | R <sub>θJA</sub>                  | 375          | °C/W |
| Junction and storage temperature range   | T <sub>J</sub> , T <sub>STG</sub> | - 55 to +175 | °C   |

| PARAMETER   | SYMBOL            | MIN | MAX | UNIT |
|---|-------------------|-----|-----|------|
| Reverse breakdown voltage (Note 2)                                    | V <sub>(BR)</sub> | -   | 75  | V    |
| Forward voltage I <sub>F</sub> =100mA                                 | V <sub>F</sub>    | -   | 1   | V    |
| Reverse leakage current<br>V <sub>R</sub> =20V<br>V <sub>R</sub> =75V | I <sub>R</sub>    | -   | 25  | nA   |
|   |                   | -   | 5   | μA   |
| Junction capacitance V <sub>R</sub> =0, f=1.0MHz                      | C <sub>J</sub>    |     | 4   | pF   |
| Reverse recovery time (Note 3)  | t <sub>rr</sub>   |     | 4   | ns   |

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

Note: 2 Test Condition: I<sub>R</sub>=100μA

Note: 3 Test Condition: I<sub>F</sub>=10mA, I<sub>R</sub>=1mA, R<sub>L</sub>=100Ω

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RATINGS AND CHARACTERISTICS CURVES

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

Fig. 1 Typical Forward Characteristics

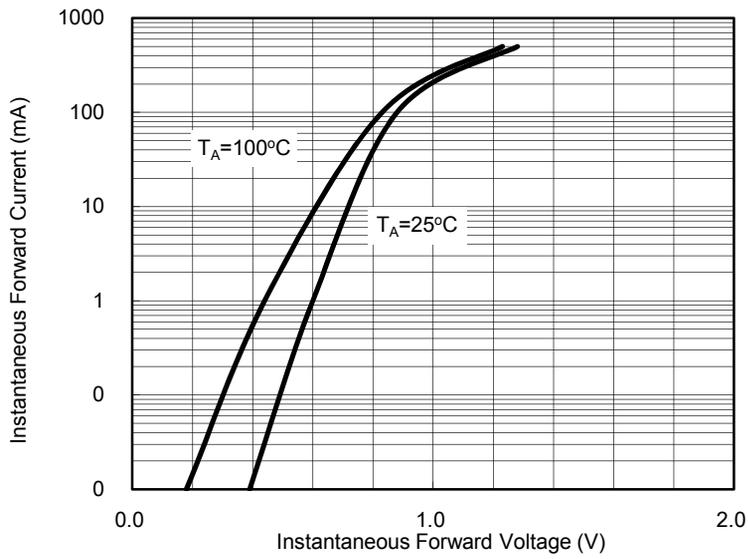


Fig. 2 Reverse Current VS. Reverse Voltage

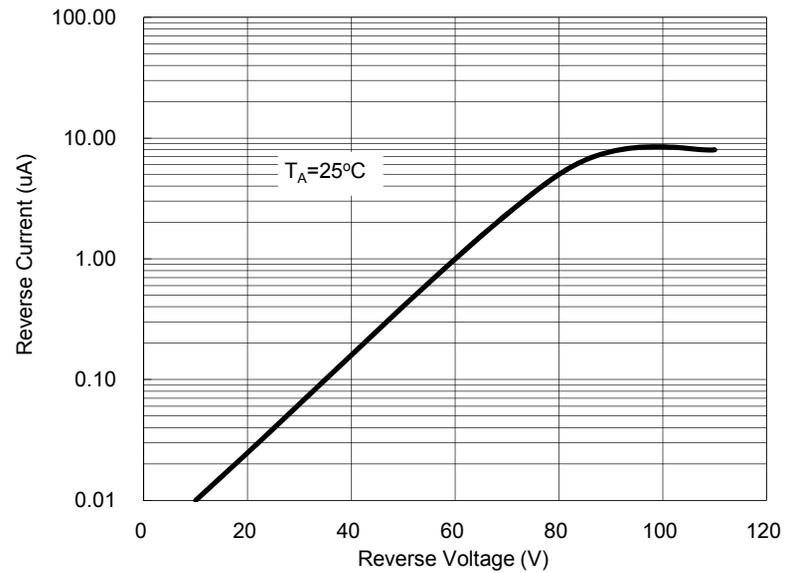


Fig. 3 Admissible Power Dissipation Curve

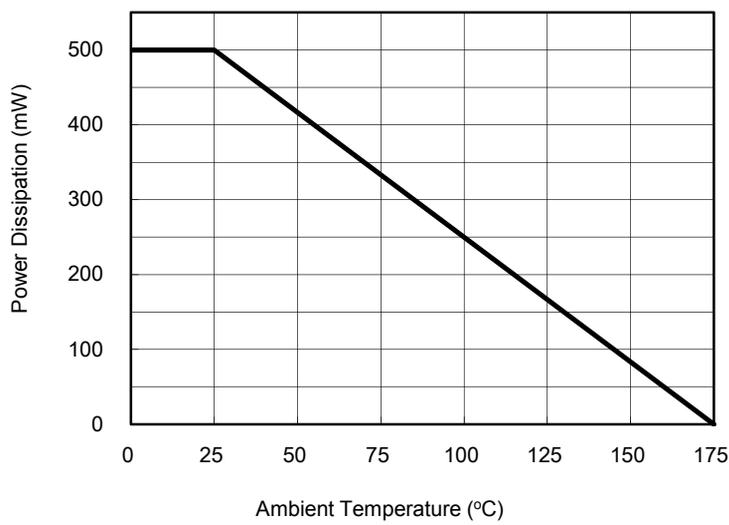


Fig. 4 Typical Junction Capacitance

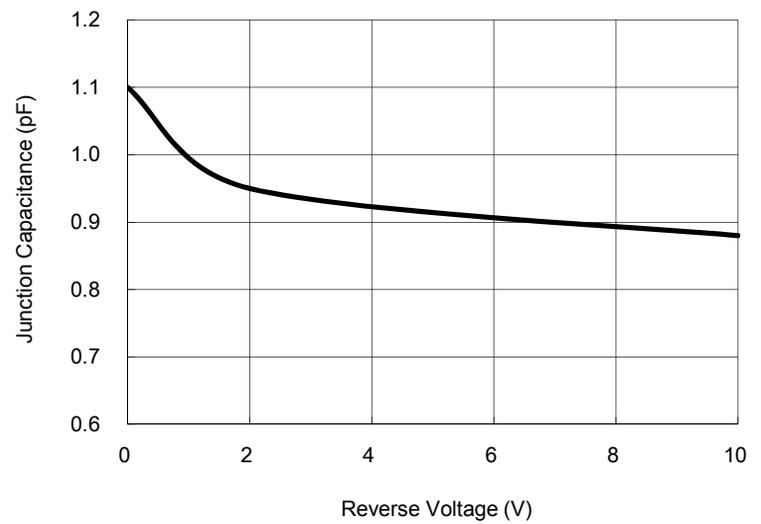
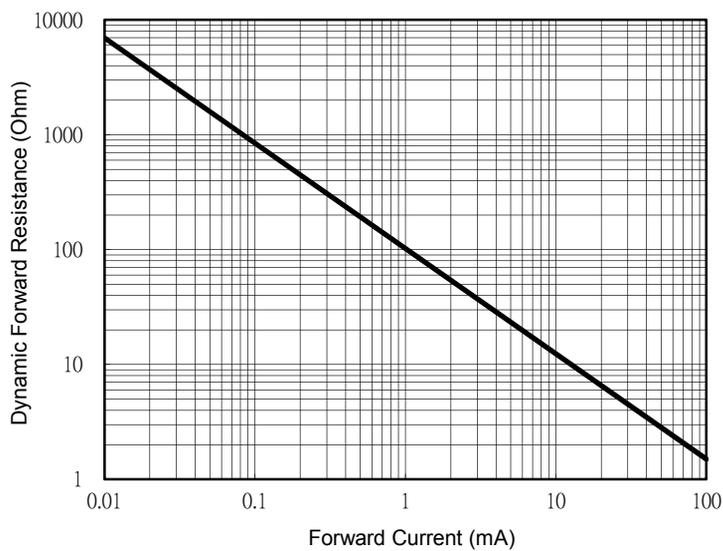


Fig. 5 Forward Resistance VS. Forward Current



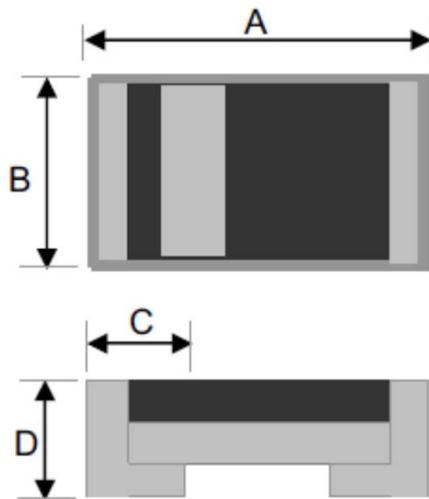
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| ORDERING INFORMATION |                 |              |                     |                    |                |
|----------------------|-----------------|--------------|---------------------|--------------------|----------------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE            | PACKING        |
| TS4148 RYG           | -xx<br>(Note1)  | RY           | G                   | 0805<br>(Ceramics) | 5K / 7" Reel   |
|                      |                 | RB           |                     |                    | 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 RYG         | TS4148   |                 | RY           | G                   | Multiple manufacture source<br>Green compound |
| TS4148-C0 RYG      | TS4148   | -C0             | RY           | G                   | Defined manufacture source<br>Green compound  |

PACKAGE OUTLINE DIMENSIONS  
**0805 (Ceramics)**



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 1.80      | 2.20 | 0.071       | 0.087 |
| B    | 1.05      | 1.45 | 0.041       | 0.057 |
| C    | 0.25      | 0.65 | 0.010       | 0.026 |
| D    | 0.75      | 0.95 | 0.030       | 0.037 |

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