

## GENERAL PURPOSE RECTIFIER DIODE

### FEATURES

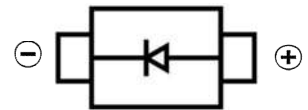
- Glass passivated junction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- Surface mount device



### MECHANICAL DATA

- Case: SMC(DO-214AB)
- Case material: Molded plastic. UL flammability
- Classification rating: 94V-0
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Weight: 0.21 grams (approximate)

SMC



### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter   | Symbol                           | S5A        | S5B | S5D | S5G | S5J | S5K | S5M  | Unit |
|---|----------------------------------|------------|-----|-----|-----|-----|-----|------|------|
| Marking   |                                  | S5A        | S5B | S5D | S5G | S5J | S5K | S5M  |      |
| Maximum recurrent peak reverse voltage  | V <sub>RRM</sub>                 | 50         | 100 | 200 | 400 | 600 | 800 | 1000 | V    |
| Maximum RMS voltage   | V <sub>RMS</sub>                 | 35         | 70  | 140 | 280 | 420 | 560 | 700  |      |
| Maximum DC blocking voltage   | V <sub>DC</sub>                  | 50         | 100 | 200 | 400 | 600 | 800 | 1000 |      |
| Maximum average forward rectified current @T <sub>J</sub> =75°C                     | I <sub>(AV)</sub>                | 5.0        |     |     |     |     |     |      | A    |
| Peak forward surge current, 8.3 ms single Half sine-wave superimposed on rated load | I <sub>FSM</sub>                 | 200        |     |     |     |     |     |      |      |
| Typical junction capacitance  | C <sub>J</sub>                   | 100        |     |     |     |     |     |      | pF   |
| Operating and storage temperature range   | T <sub>J</sub> ,T <sub>STG</sub> | -55 ~ +150 |     |     |     |     |     |      | °C   |

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter                                      | Symbol         | Max  | Unit | Conditions   |
|--|----------------|------|------|--|
| Maximum Instantaneous Forward Voltage (note 1) | V <sub>F</sub> | 1.20 | V    | I <sub>F</sub> =5.0A, T <sub>J</sub> =25°C               |
| Maximum DC Reverse Current                     | I <sub>R</sub> | 10   | μA   | V <sub>R</sub> =V <sub>RRM</sub> , T <sub>J</sub> =25°C  |
|  |                | 250  |      | V <sub>R</sub> =V <sub>RRM</sub> , T <sub>J</sub> =125°C |

Notes:

1. Pulse test: Pulse width 200μs , duty cycle 2%

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**TYPICAL CHARACTERISTICS**

Figure 1  
Forward Derating Curve

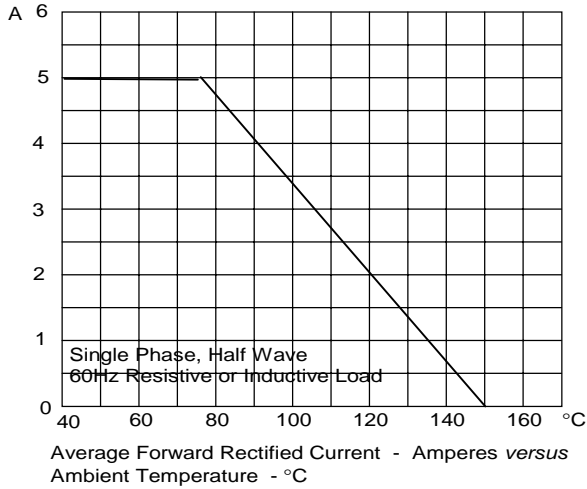


Figure 2  
Peak Forward Surge Current

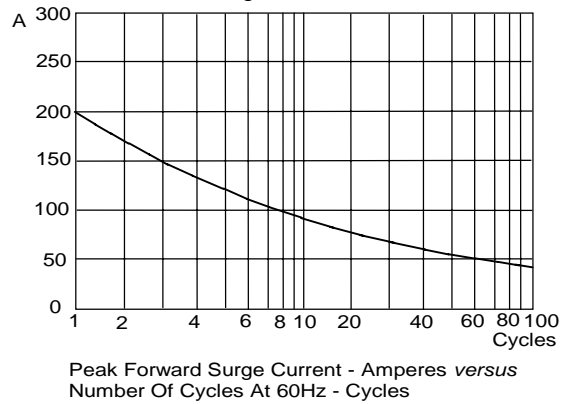


Figure 3  
Typical Reverse Characteristics

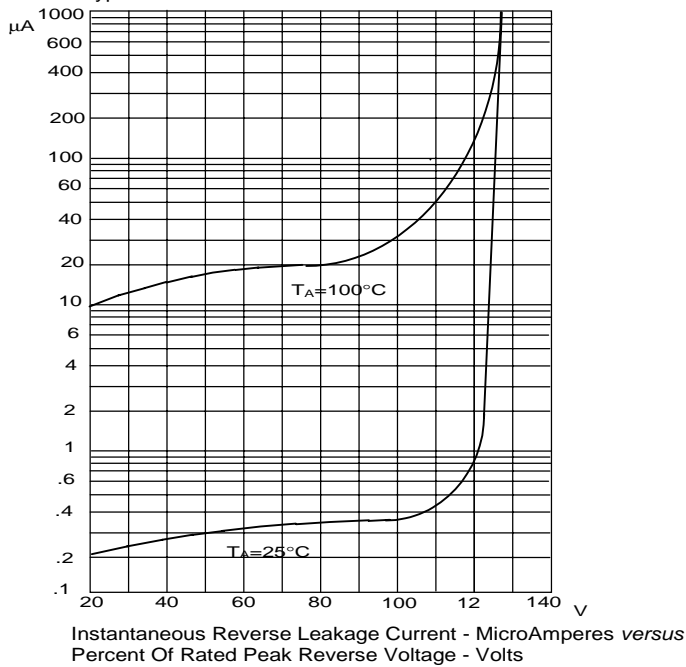


Figure 4  
Typical Forward Characteristics

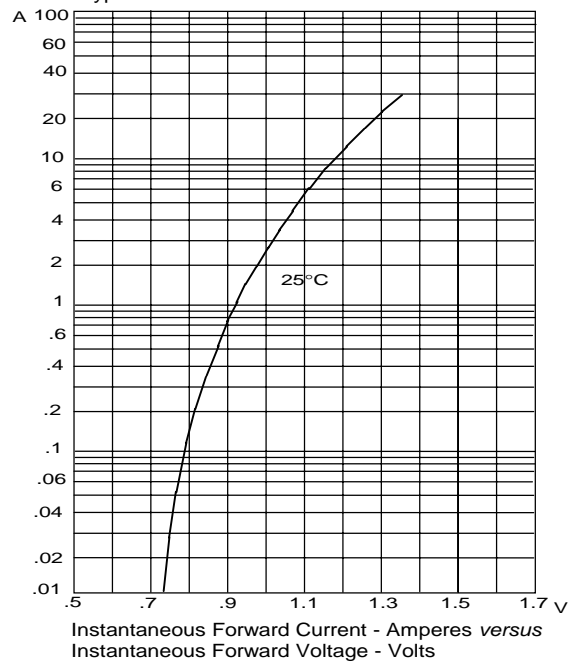
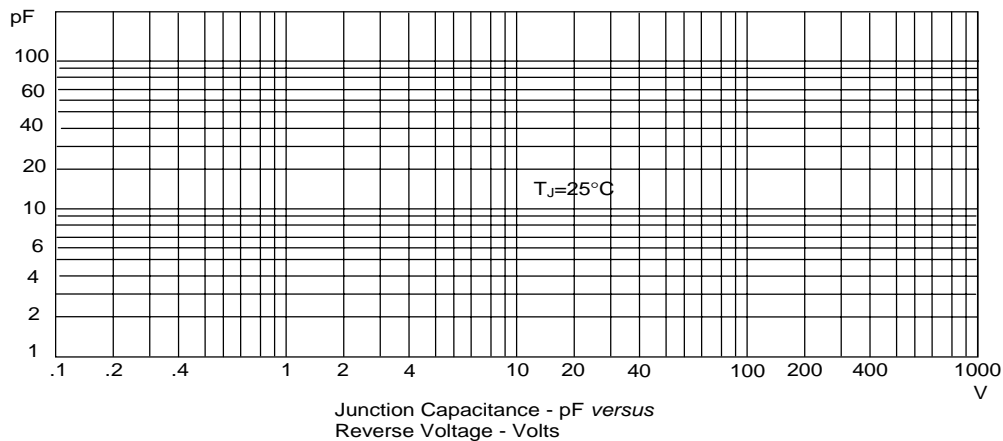
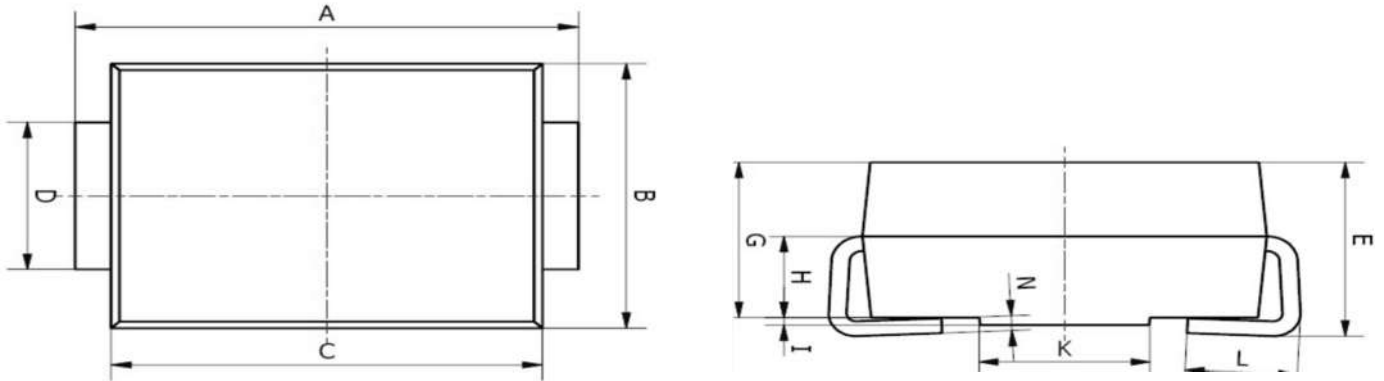


Figure 5  
Junction Capacitance



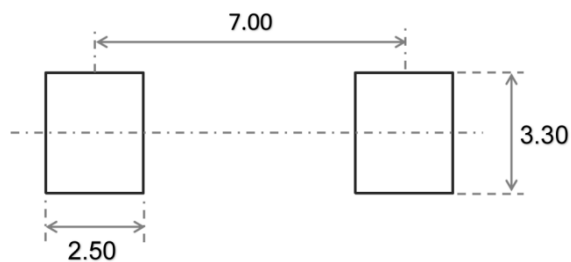
**GENERAL PURPOSE RECTIFIER DIODE**

**SMC Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |      | Dimensions In Inches |       |
|--------|---------------------------|------|----------------------|-------|
|        | Min.                      | Max. | Min.                 | Max.  |
| A      | 7.75                      | 8.13 | 0.305                | 0.320 |
| B      | 5.59                      | 6.22 | 0.220                | 0.245 |
| C      | 6.60                      | 7.11 | 0.260                | 0.280 |
| D      | 2.75                      | 3.25 | 0.108                | 0.128 |
| E      | 2.25                      | 2.82 | 0.089                | 0.111 |
| G      | 2.00                      | 2.62 | 0.079                | 0.103 |
| H      | 1.26                      | 1.56 | 0.050                | 0.061 |
| I      | 0.05                      | 0.15 | 0.002                | 0.006 |
| K      | 4.30                      | 6.00 | 0.169                | 0.236 |
| L      | 1.25                      | 1.75 | 0.049                | 0.069 |
| N      | 0.10                      | 0.30 | 0.004                | 0.012 |

**SMC Suggested Pad Layout**



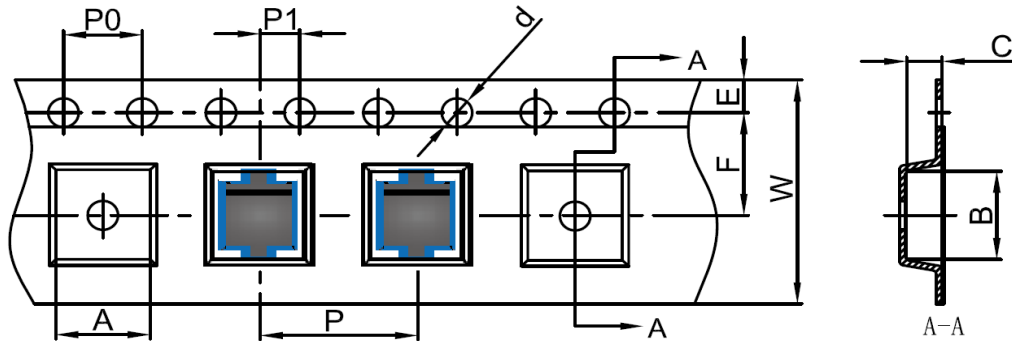
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

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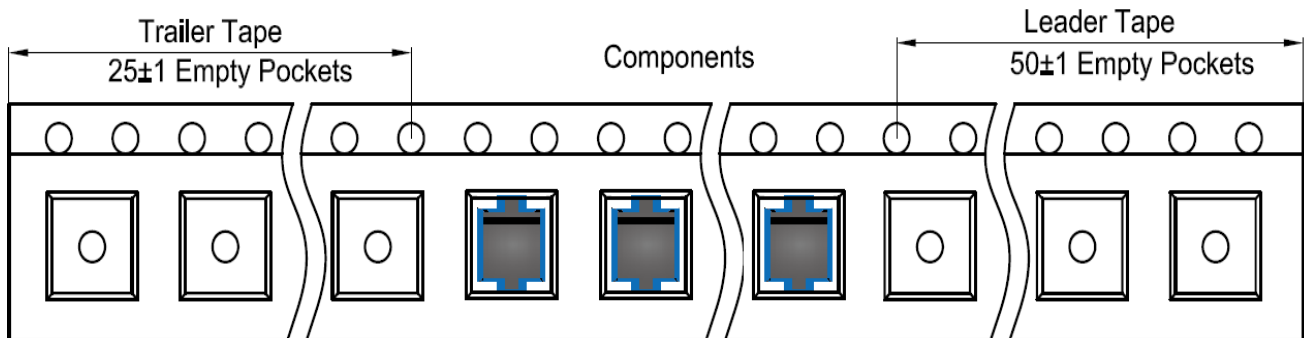
**SMC Tape and Reel**

**SMC Embossed Carrier Tape**

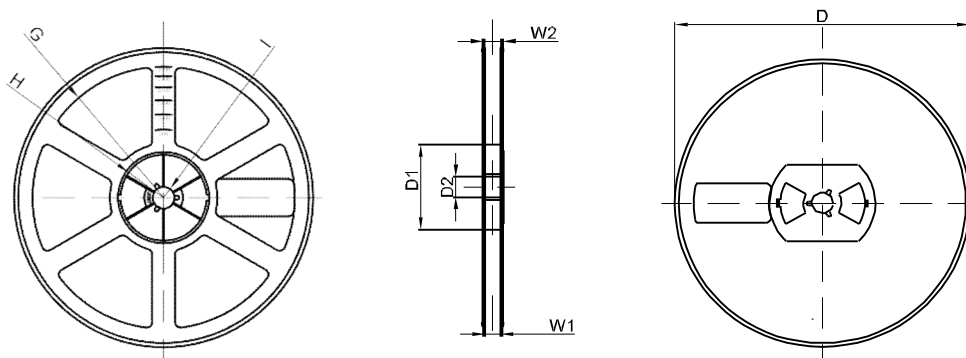


| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |       |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| TYPE                         | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W     |
| SMC                          | 6.3  | 8.25 | 2.90 | Ø1.55 | 1.75 | 7.50 | 4.00 | 8.00 | 2.00 | 16.00 |
| TOLERANCE                    | ±0.1 | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1  |

**SMC Tape Leader and Trailer**



**SMC Reel**



| DIMENSIONS ARE IN MILLIMETER |      |     |    |      |     |       |      |       |
|------------------------------|------|-----|----|------|-----|-------|------|-------|
| REEL OPTION                  | D    | D1  | D2 | G    | H   | I     | W1   | W2    |
| 13" DIA                      | Ø330 | 100 | 21 | R165 | R50 | R6.50 | 16.4 | 21.00 |
| TOLERANCE                    | ±2   | ±1  | ±1 | ±1   | ±1  | ±1    | ±1   | ±1    |