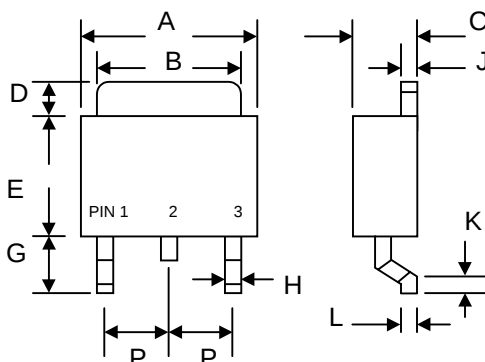


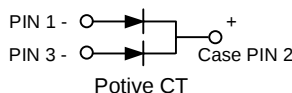
### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Weight: 0.4 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Standard Packaging: 16mm Tape (EIA-481)



| D PAK/TO-252AA       |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 6.4          | 6.8  |
| B                    | 5.0          | 5.4  |
| C                    | 2.35         | 2.75 |
| D                    | —            | 1.60 |
| E                    | 5.3          | 5.7  |
| G                    | 2.3          | 2.7  |
| H                    | 0.4          | 0.8  |
| J                    | 0.4          | 0.6  |
| K                    | 0.3          | 0.7  |
| L                    | 0.50 Typical |      |
| P                    | —            | 2.3  |
| All Dimensions in mm |              |      |

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic                                                                                                        | Symbol                                                 | SD 620CS    | SD 630CS | SD 640CS | SD 650CS | SD 660CS | SD 680CS | SD 6100CS | Unit |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|----------|----------|----------|----------|----------|-----------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 20          | 30       | 40       | 50       | 60       | 80       | 100       | V    |
| RMS Reverse Voltage                                                                                                   | V <sub>R(RMS)</sub>                                    | 14          | 21       | 28       | 35       | 42       | 56       | 70        | V    |
| Average Rectified Output Current @T <sub>L</sub> = 75°C                                                               | I <sub>O</sub>                                         | 6.0         |          |          |          |          |          |           | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single half sine-wave superimposed on rated load<br>(JEDEC Method) | I <sub>FSM</sub>                                       | 75          |          |          |          |          |          |           | A    |
| Forward Voltage (Note 1) @I <sub>F</sub> = 3.0A                                                                       | V <sub>FM</sub>                                        | 0.55        |          |          | 0.70     |          | 0.85     |           | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>                                        | 0.2<br>15   |          |          |          |          |          |           | mA   |
| Typical Junction Capacitance (Note 2)                                                                                 | C <sub>j</sub>                                         | 400         |          |          |          |          |          |           | pF   |
| Typical Thermal Resistance Junction to Ambient                                                                        | R <sub>θJA</sub>                                       | 80          |          |          |          |          |          |           | K/W  |
| Operating Temperature Range                                                                                           | T <sub>j</sub>                                         | -50 to +125 |          |          |          |          |          |           | °C   |
| Storage Temperature Range                                                                                             | T <sub>STG</sub>                                       | -50 to +150 |          |          |          |          |          |           | °C   |

Note: 1. Mounted on P.C. Board with 14mm<sup>2</sup> (0.13mm thick) copper pad.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

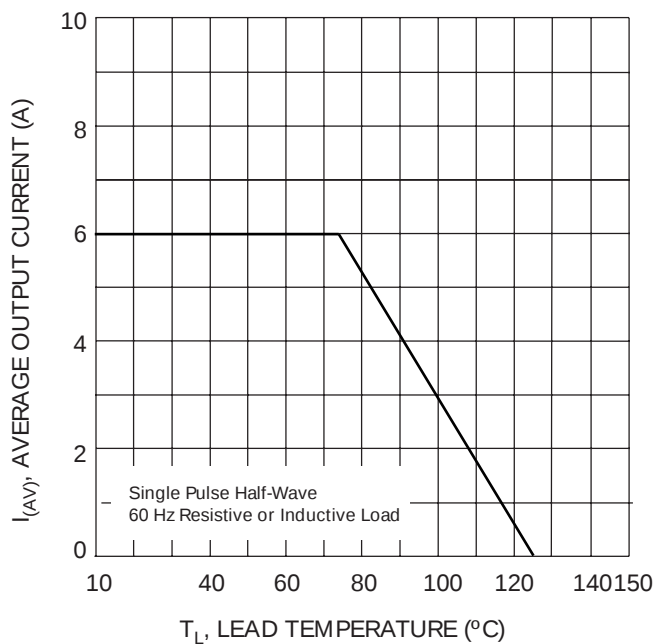


Fig. 1 Forward Current Derating Curve

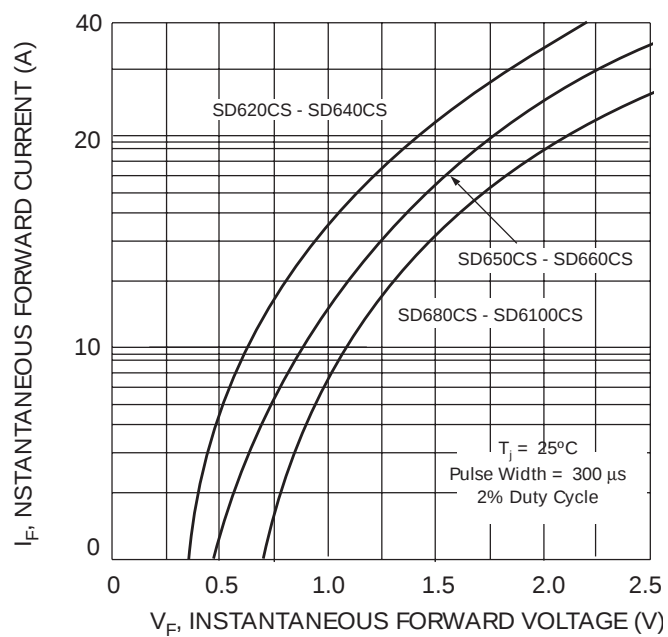


Fig. 2 Typical Forward Characteristics

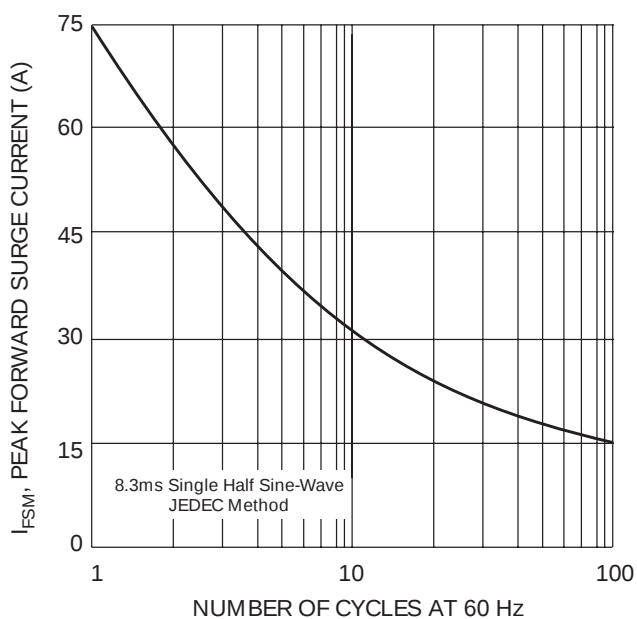


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

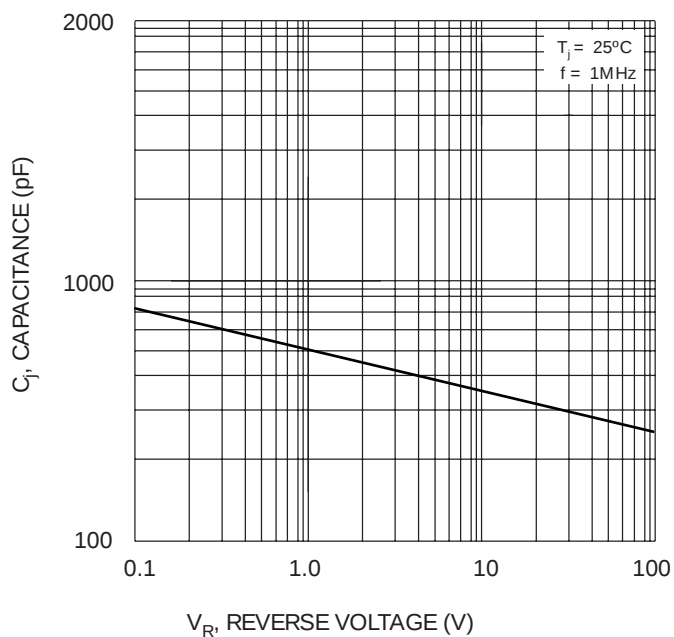


Fig. 4 Typical Junction Capacitance

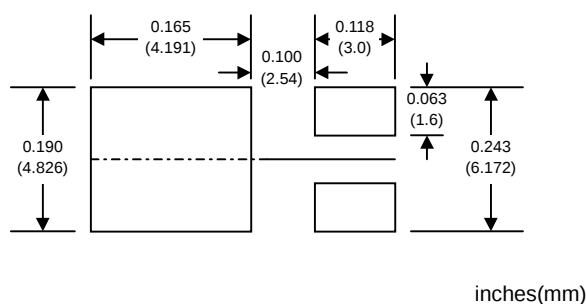
## ORDERING INFORMATION

| Product No.♦ | Package Type | Shipping Quantity |
|--------------|--------------|-------------------|
| SD620CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD630CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD640CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD650CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD660CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD680CS-T3   | DPAK         | 2500/Tape & Reel  |
| SD6100CS-T3  | DPAK         | 2500/Tape & Reel  |

♦T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

## RECOMMENDED FOOTPRINT



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**Internet:** <http://www.wontop.com>

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