

# SHINDENGEN

## Schottky Rectifiers (SBD)

Dual

# D5SC4M

**40V 5A**

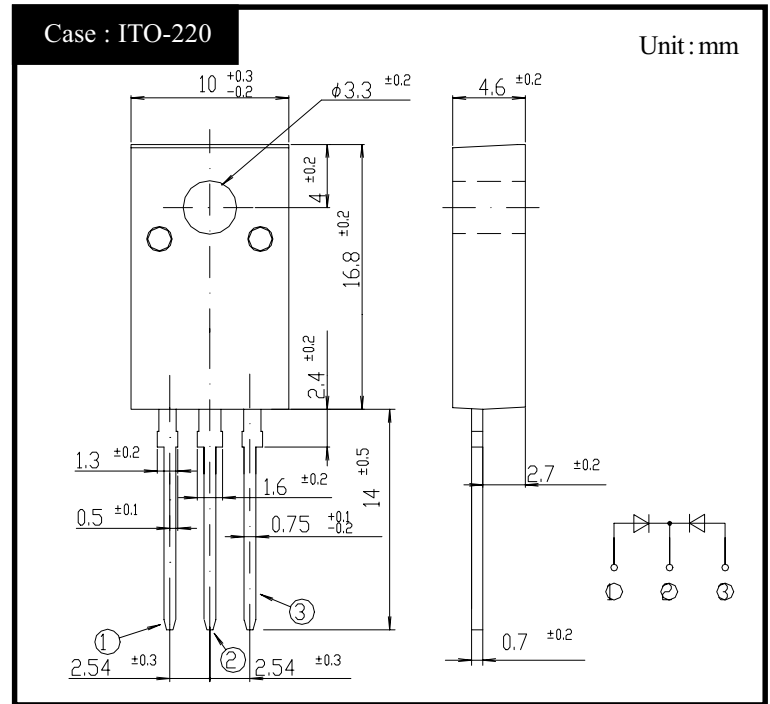
### FEATURES

- Tj150°C
- P<sub>RRSM</sub> avalanche guaranteed
- Fully Isolated Molding

### APPLICATION

- Switching power supply
- DC/DC converter
- Home Appliances, Office Equipment
- Telecommunication

## OUTLINE DIMENSIONS



## RATINGS

- Absolute Maximum Ratings (If not specified T<sub>c</sub>=25°C)

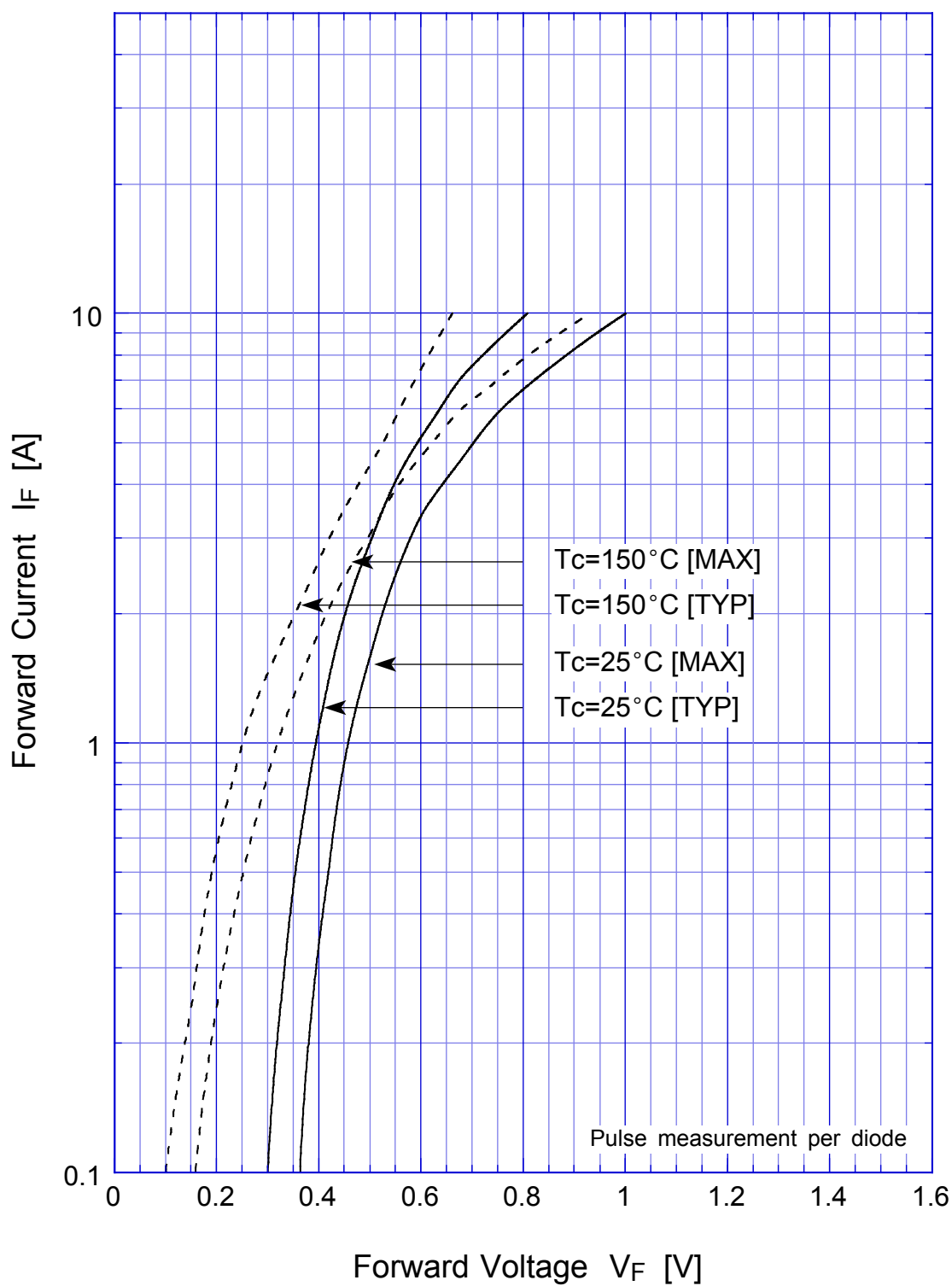
| Item                                  | Symbol            | Conditions   | Ratings | Unit |
|---------------------------------------|-------------------|--|---------|------|
| Storage Temperature                   | T <sub>stg</sub>  |  | -40~150 | °C   |
| Operating Junction Temperature        | T <sub>j</sub>    |  | 150     | °C   |
| Maximum Reverse Voltage               | V <sub>RM</sub>   |  | 40      | V    |
| Repetitive Peak Surge Reverse Voltage | V <sub>RRSM</sub> | Pulse width 0.5ms, duty 1/40   | 45      | V    |
| Average Rectified Forward Current     | I <sub>O</sub>    | 50Hz sine wave, R-load, Rating for each diode I <sub>O</sub> /2, T <sub>c</sub> =136°C | 5       | A    |
| Peak Surge Forward Current            | I <sub>FSM</sub>  | 50Hz sine wave, Non-repetitive 1 cycle peak value, T <sub>j</sub> =125°C               | 50      | A    |
| Repetitive Peak Surge Reverse Power   | P <sub>RRSM</sub> | Pulse width 10 μs, Rating of per diode, T <sub>j</sub> =25°C                           | 330     | W    |
| Dielectric Strength                   | V <sub>dis</sub>  | Terminals to case, AC 1 minute   | 1.5     | kV   |
| Mounting Torque                       | TOR               | (Recommended torque: 0.3N·m)   | 0.5     | N·m  |

- Electrical Characteristics (If not specified T<sub>c</sub>=25°C)

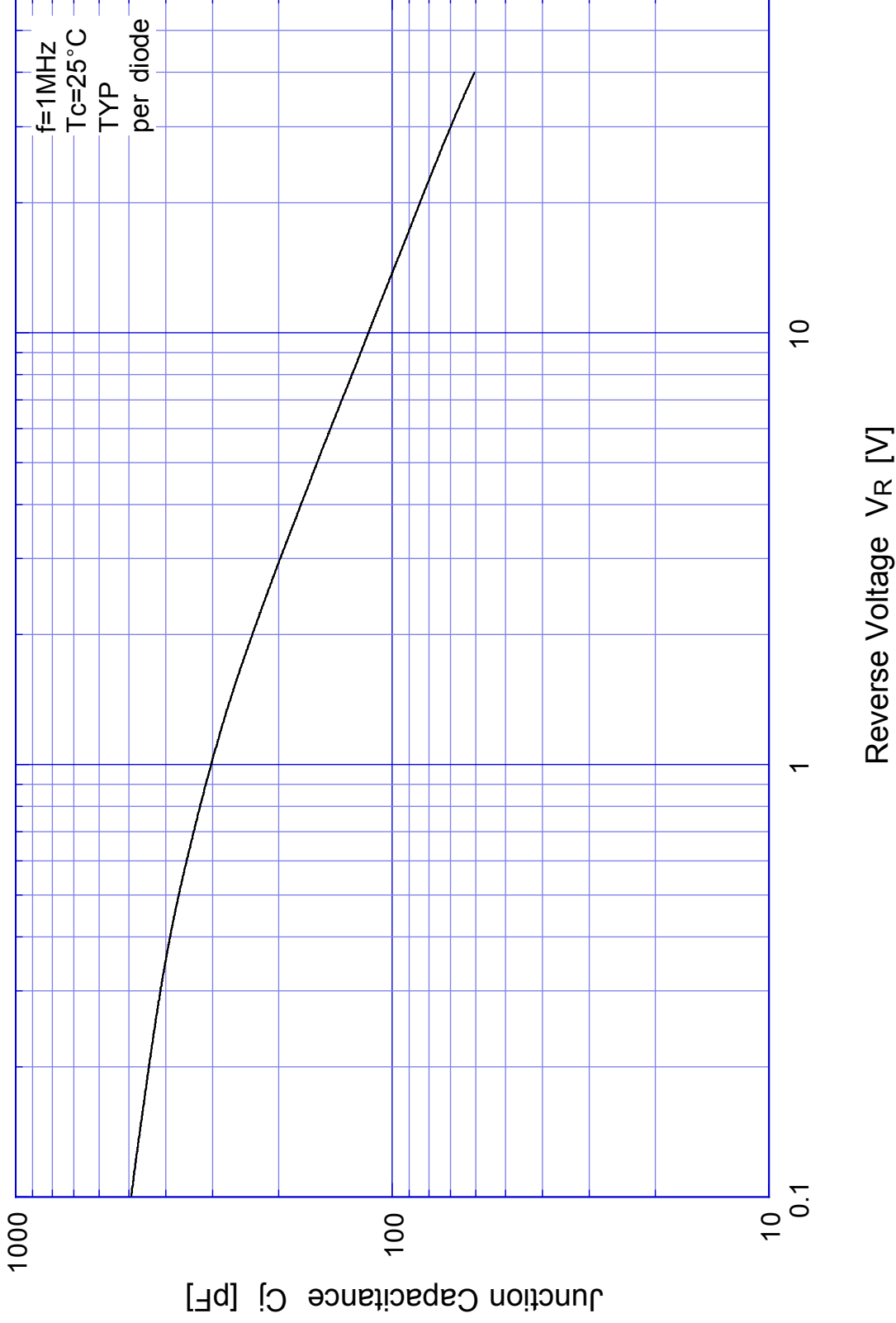
| Item                 | Symbol          | Conditions   | Ratings  | Unit |
|----------------------|-----------------|--|----------|------|
| Forward Voltage      | V <sub>F</sub>  | I <sub>F</sub> =2.5A, Pulse measurement, Rating of per diode             | Max 0.55 | V    |
| Reverse Current      | I <sub>R</sub>  | V <sub>R</sub> =V <sub>RM</sub> , Pulse measurement, Rating of per diode | Max 2.5  | mA   |
| Junction Capacitance | C <sub>j</sub>  | f=1MHz, V <sub>R</sub> =10V, Rating of per diode                         | Typ 116  | pF   |
| Thermal Resistance   | θ <sub>jc</sub> | junction to case   | Max 3.3  | °C/W |
|                      | θ <sub>jf</sub> | junction to heatsink (reference value)                                   | Max 4.8  |      |

# D5SC4M

## Forward Voltage

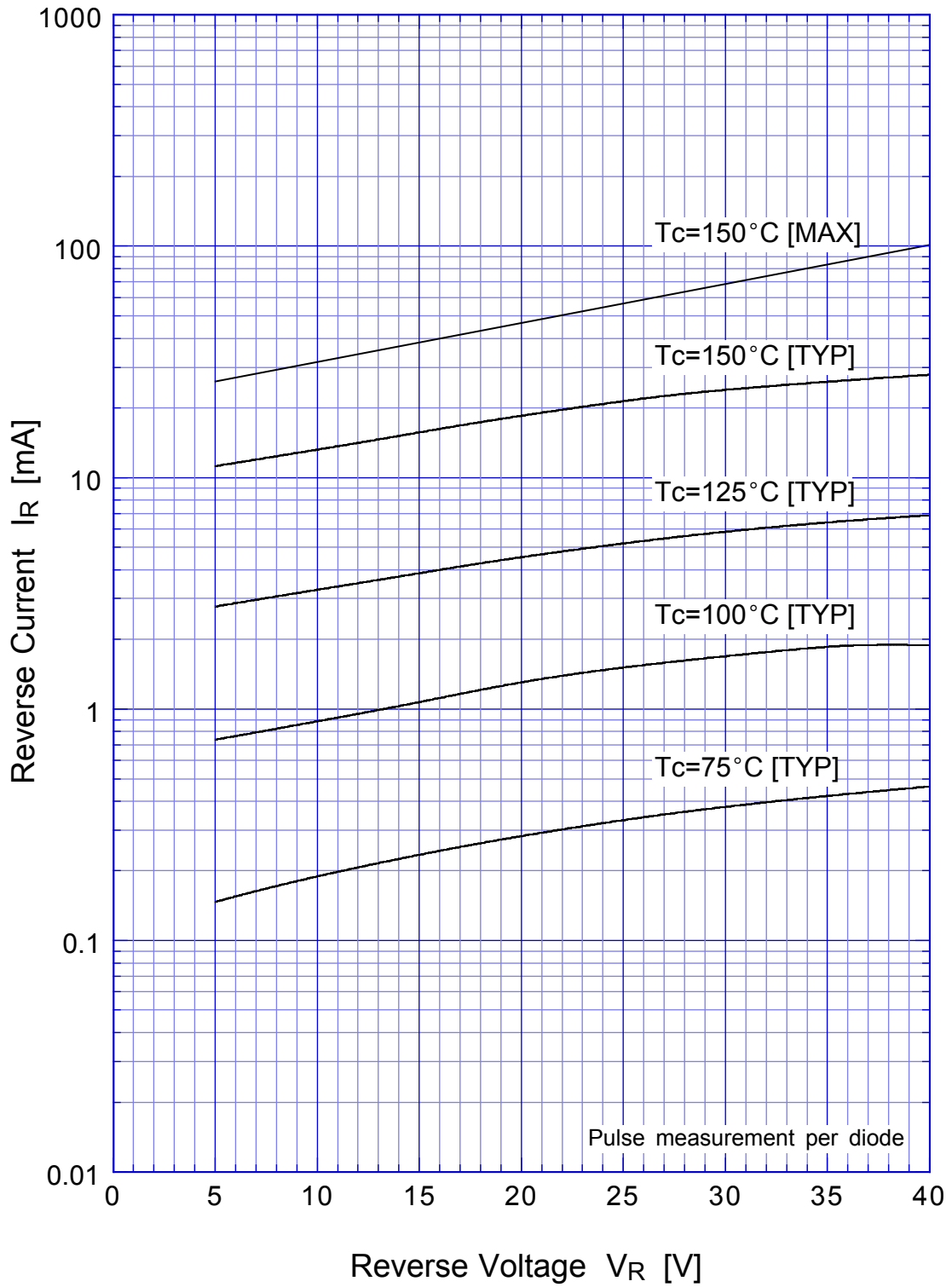


# D5SC4M Junction Capacitance

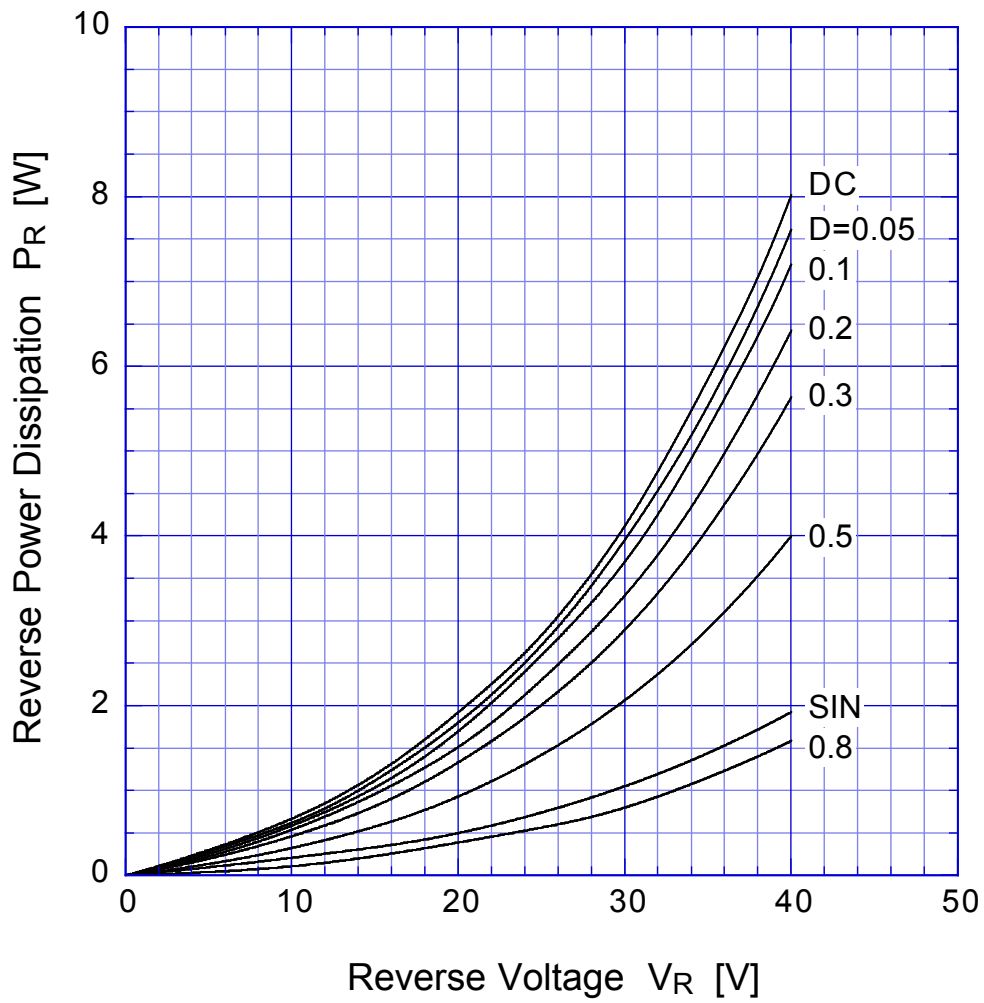


# D5SC4M

## Reverse Current



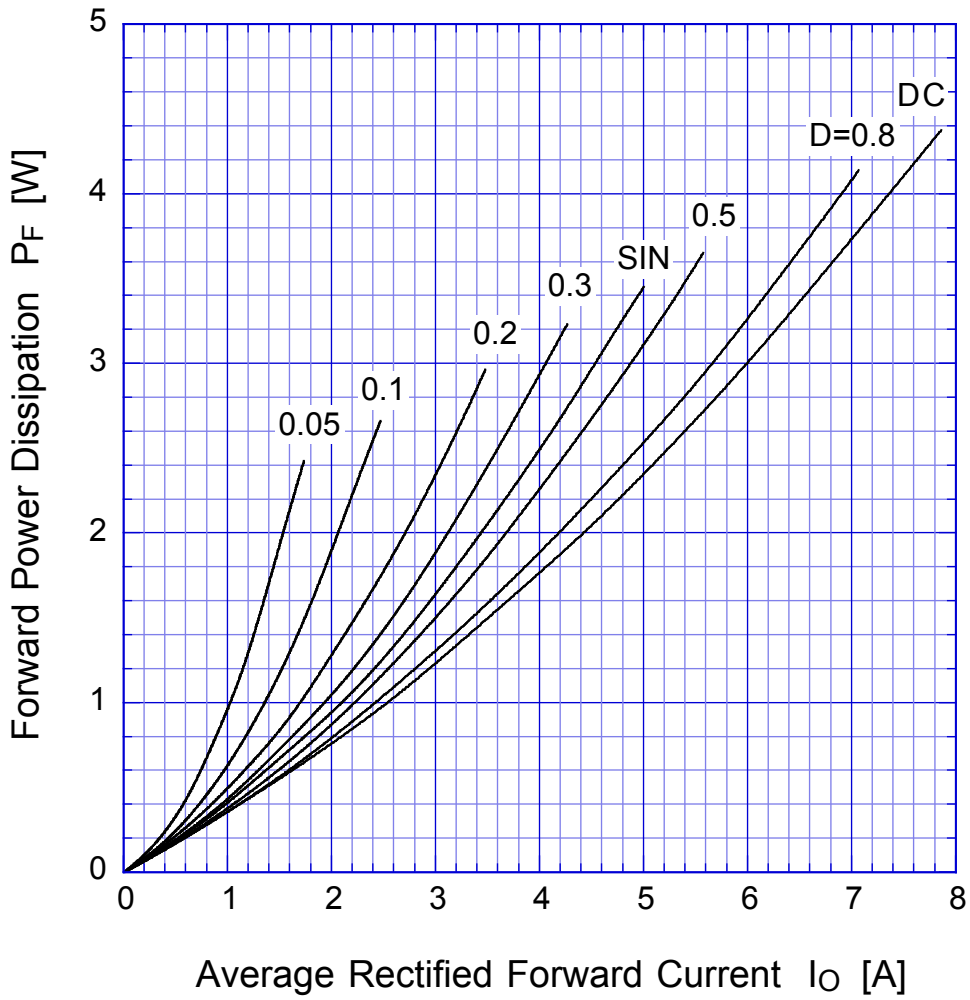
# D5SC4M Reverse Power Dissipation



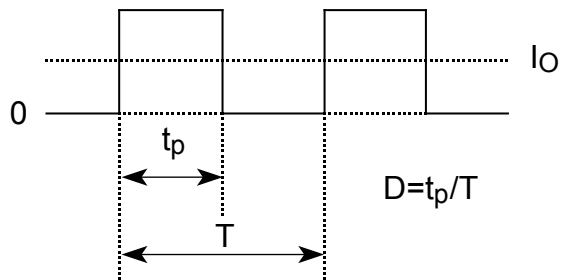
$T_j = T_{jmax}$



# D5SC4M Forward Power Dissipation

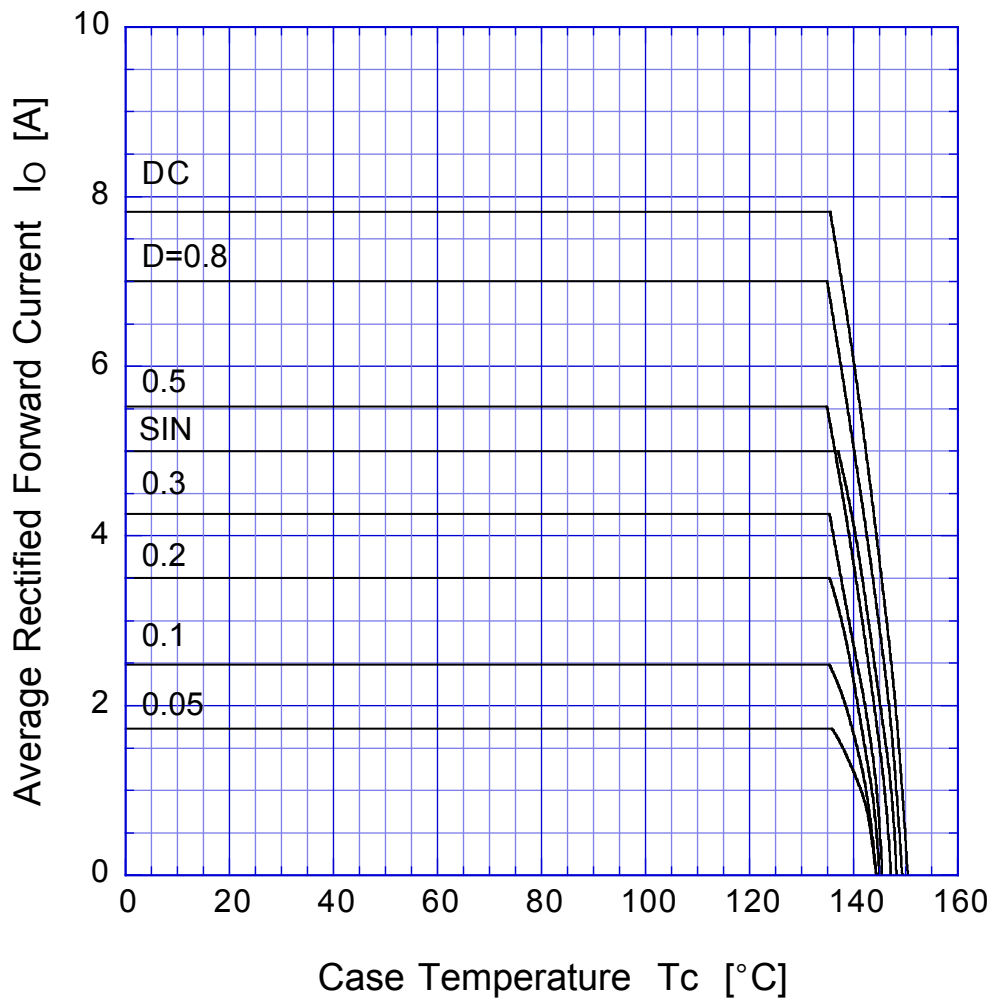


$T_j = T_{jmax}$

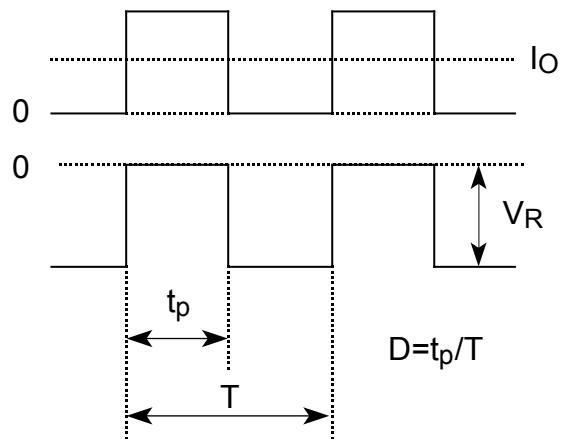


# D5SC4M

# Derating Curve

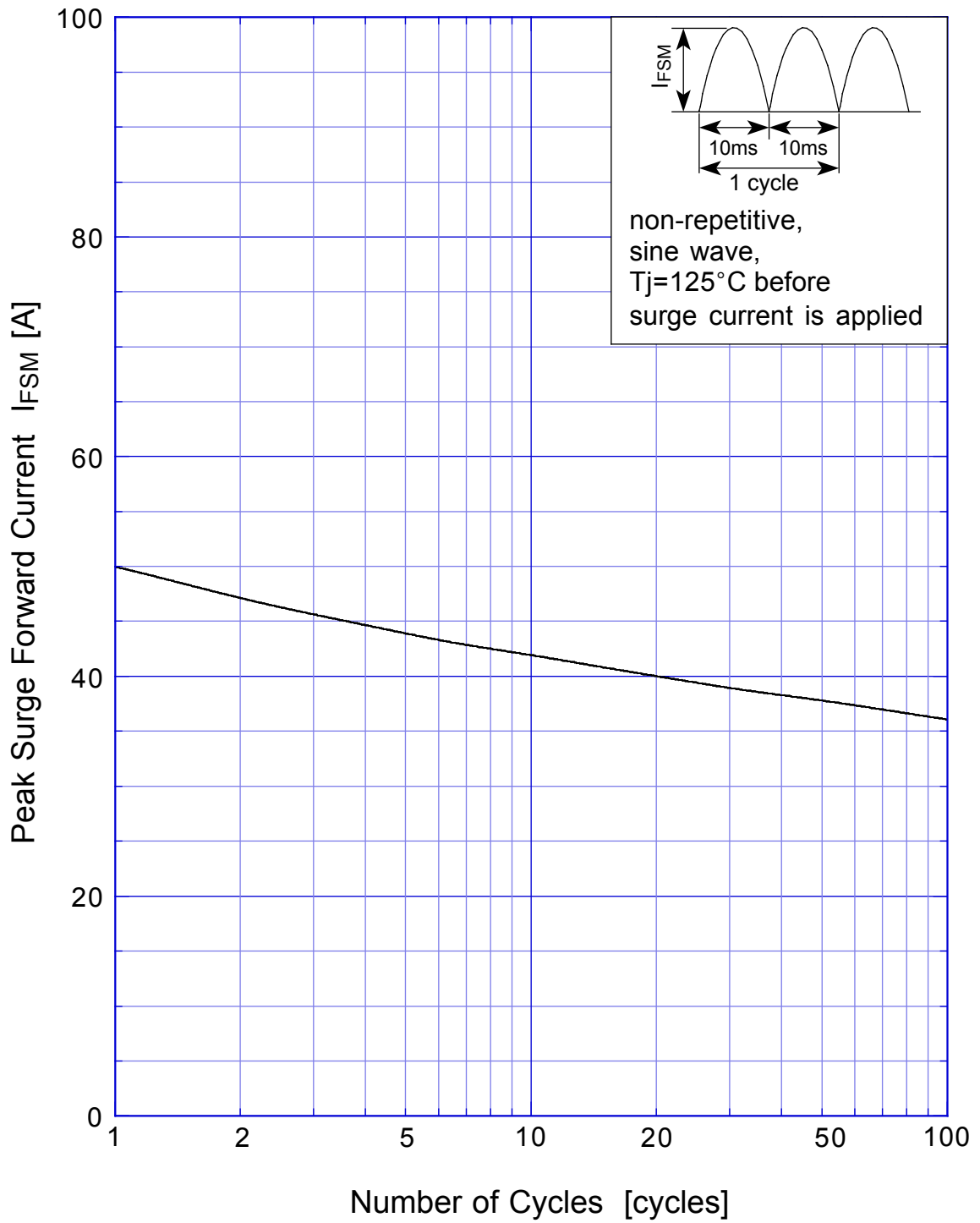


$$V_R = V_{RM}/2$$



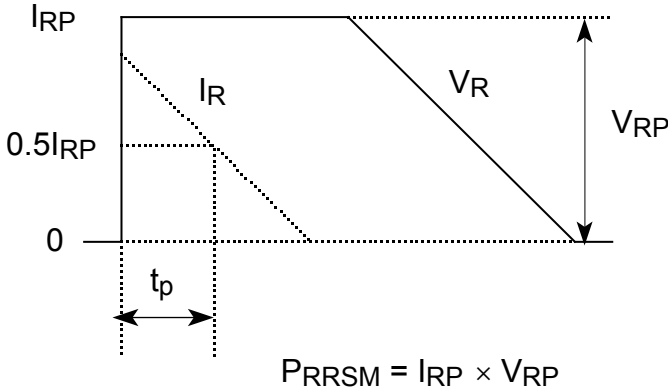
# D5SC4M

# Peak Surge Forward Capability





# SBD Repetitive Surge Reverse Power Derating Curve



# SBD

## Repetitive Surge Reverse Power Capability

