

D5S9M

90V 5A

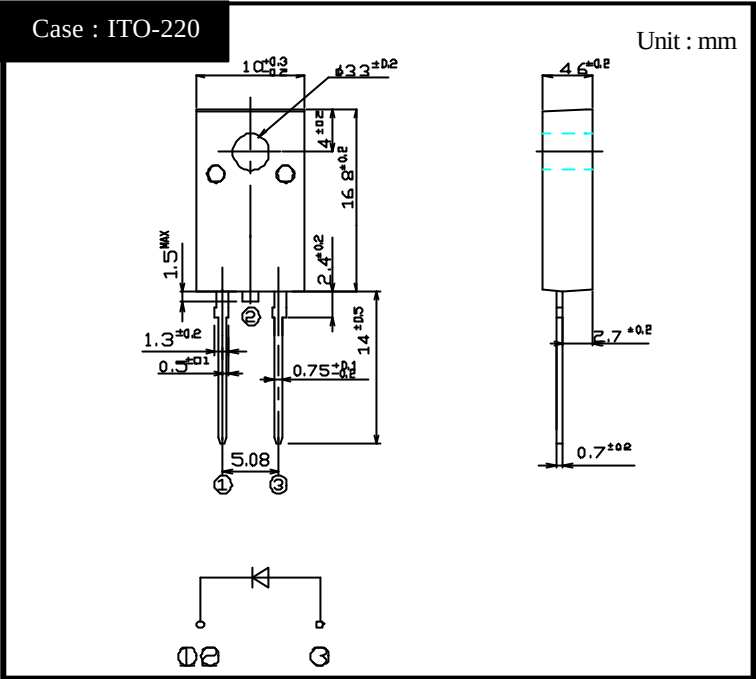
FEATURES

- 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>a</sub>≒25°C)

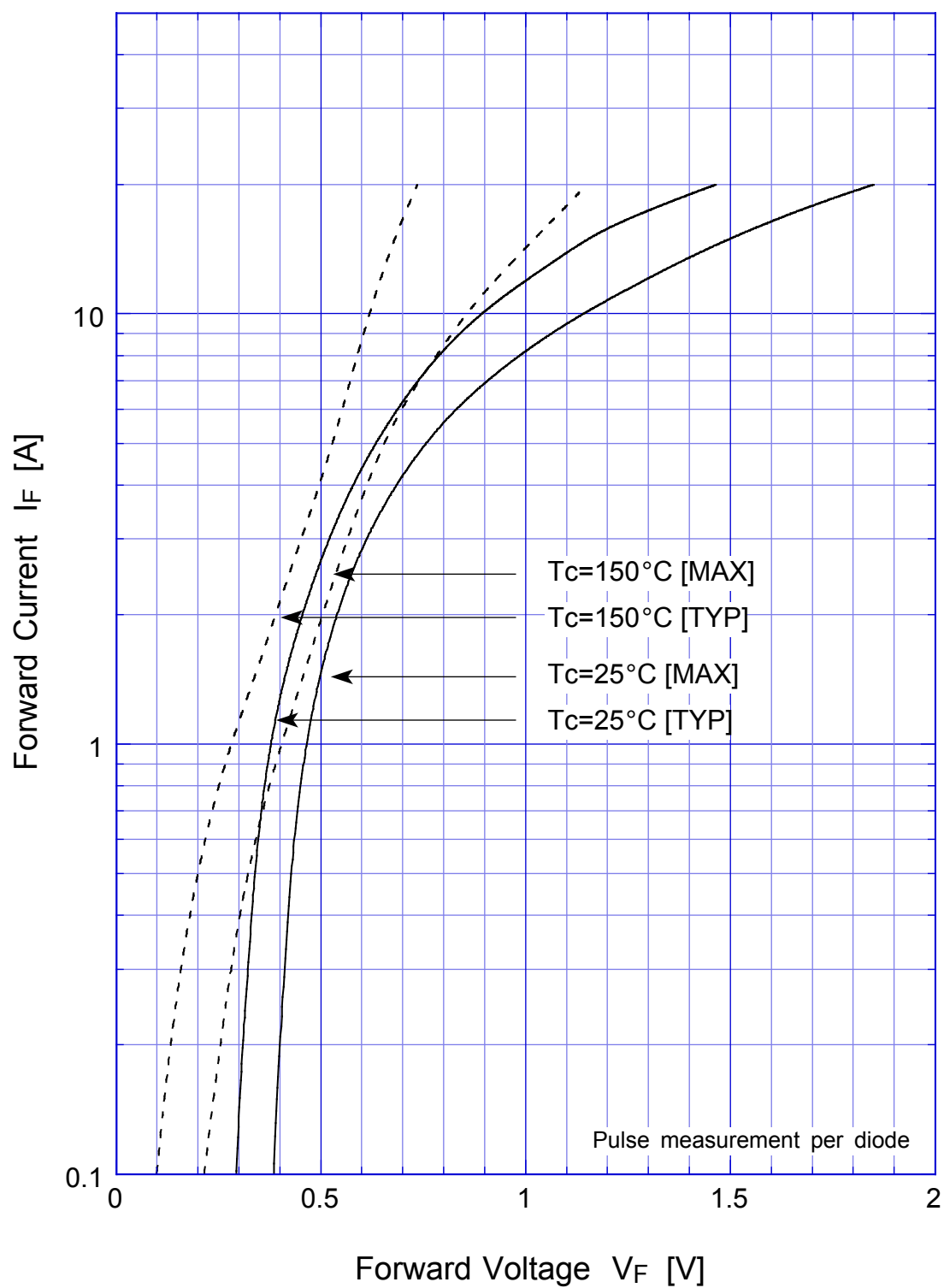
| Item                                  | Symbol            | Conditions                                                               | Ratings | Unit |
|---------------------------------------|-------------------|--------------------------------------------------------------------------|---------|------|
| 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>   |                                                                          | 90      | V    |
| Repetitive Peak Surge Reverse Voltage | V <sub>RRSM</sub> | Pulse width 0.5ms, duty 1/40                                             | 100     | V    |
| Average Rectified Forward Current     | I <sub>O</sub>    | 50Hz sine wave, R-load, T <sub>c</sub> =121°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 | 100     | A    |
| Repetitive Peak Surge Reverse Power   | P <sub>RRSM</sub> | Pulse width 10 μs, 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>a</sub>≒25°C)

| Item                 | Symbol          | Conditions                                          | Ratings  | Unit |
|----------------------|-----------------|-----------------------------------------------------|----------|------|
| Forward Voltage      | V <sub>F</sub>  | I <sub>F</sub> =5A, Pulse measurement               | Max.0.75 | V    |
| Reverse Current      | I <sub>R</sub>  | V <sub>R</sub> =V <sub>RM</sub> , Pulse measurement | Max. 3.0 | mA   |
| Junction Capacitance | C <sub>j</sub>  | f=1MHz, V <sub>R</sub> =10V                         | Typ.185  | pF   |
| Thermal Resistance   | θ <sub>jc</sub> | junction to case                                    | Max.4.5  | °C/W |

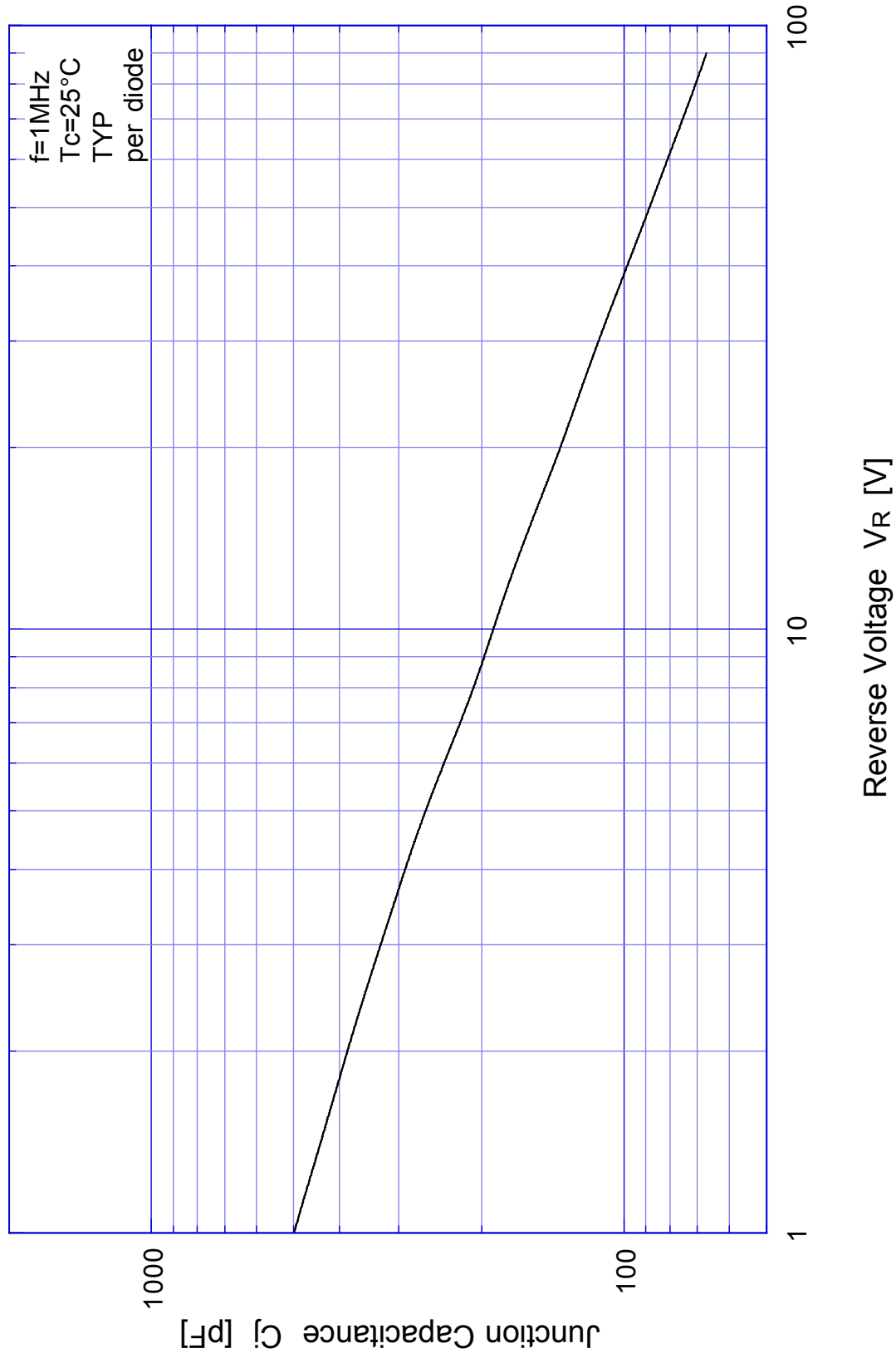
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Forward Voltage



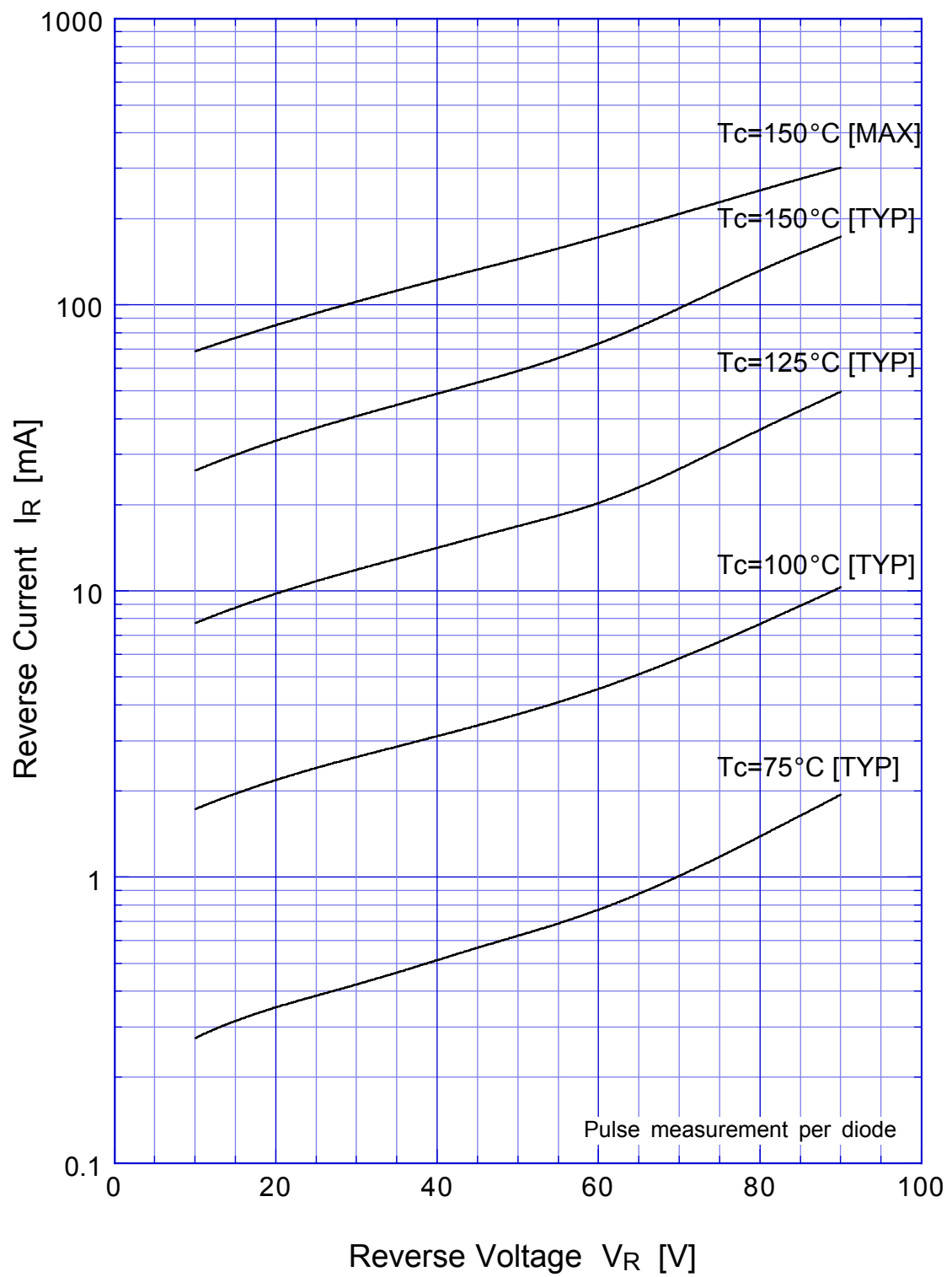
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Junction Capacitance



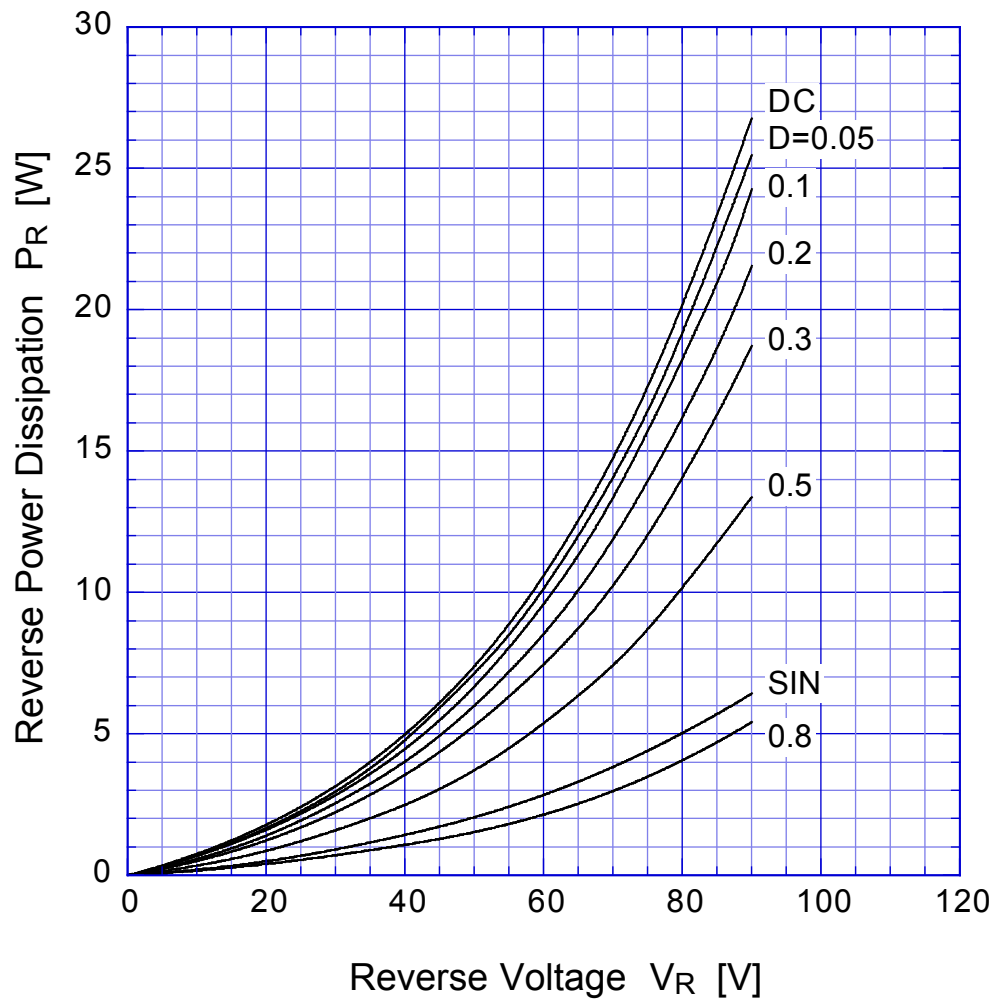
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## Reverse Current

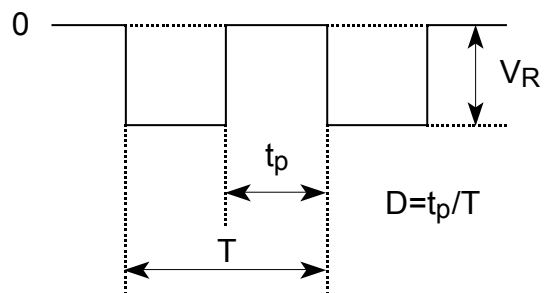


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## Reverse Power Dissipation

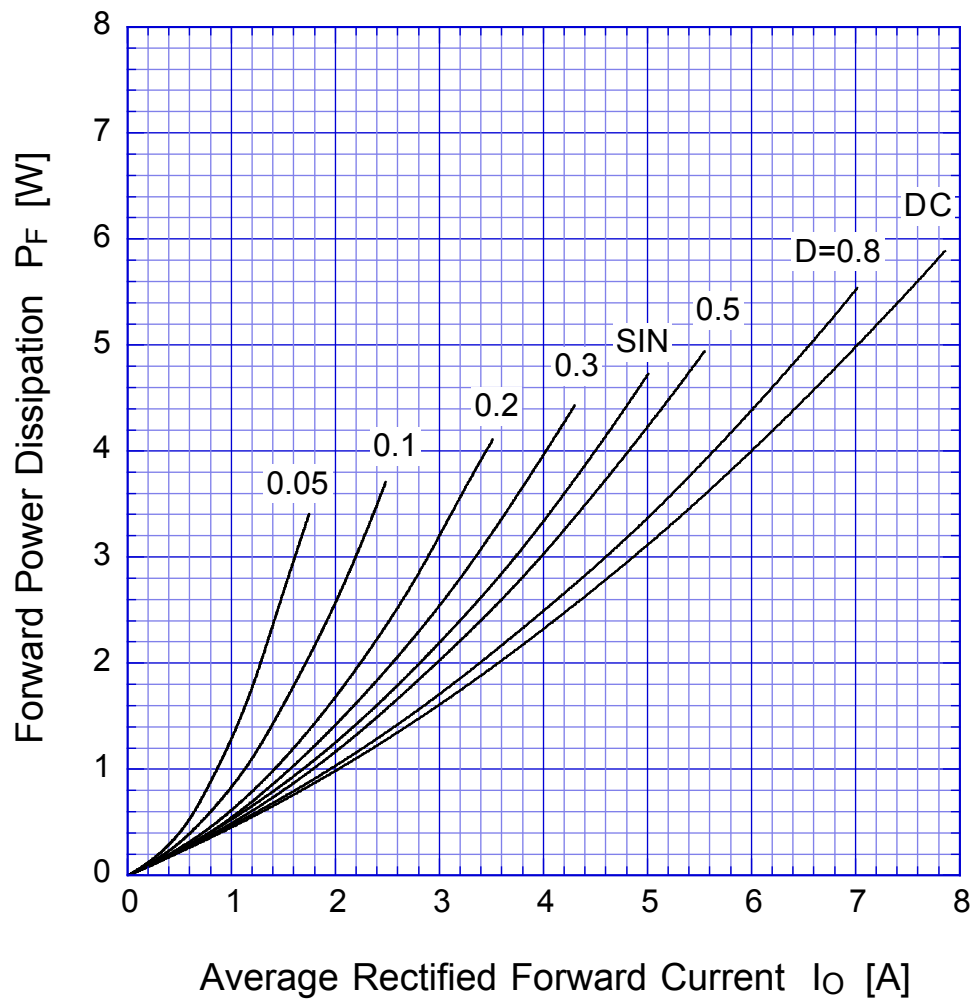


$T_j = 150^\circ\text{C}$

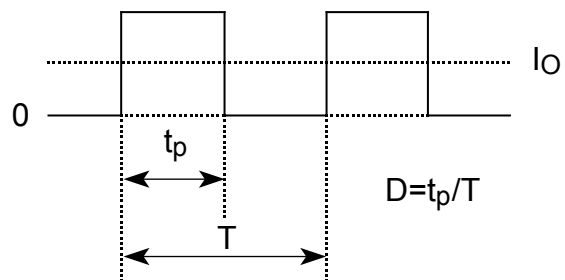


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# Forward Power Dissipation

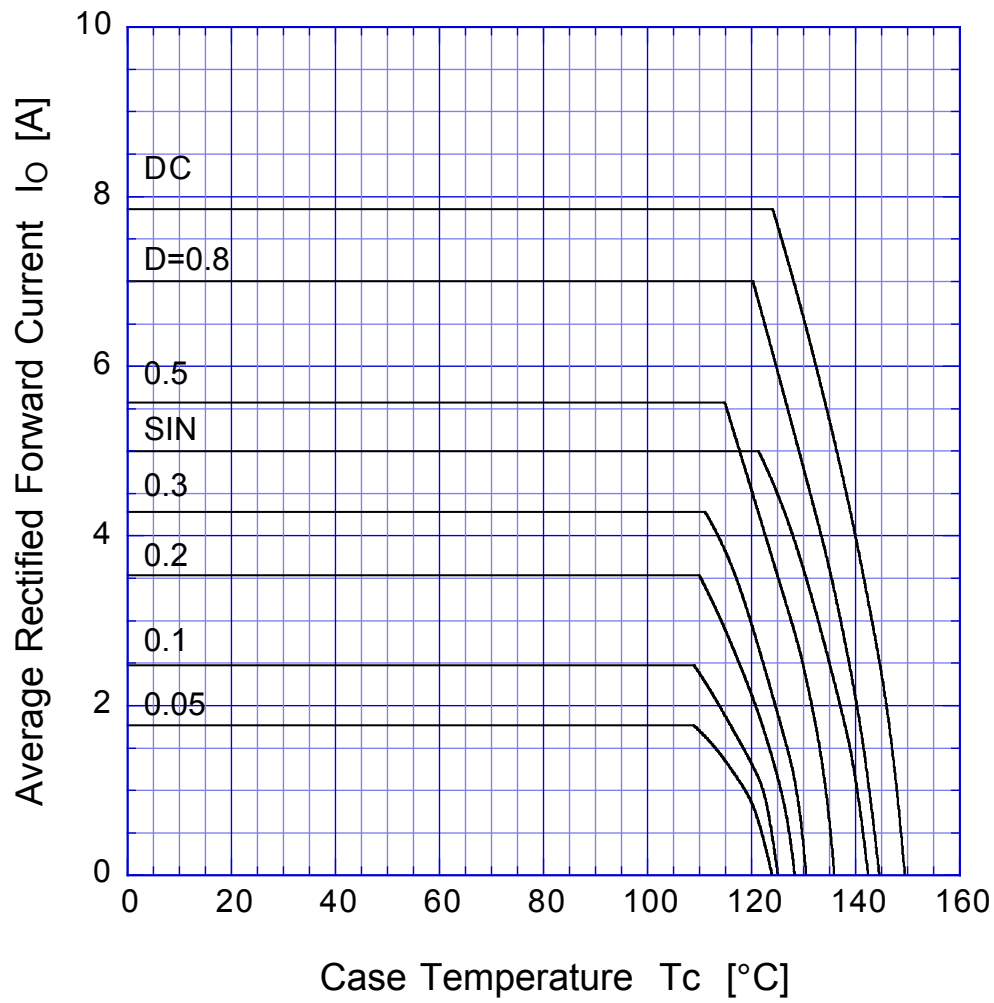


$T_j = 150^\circ\text{C}$

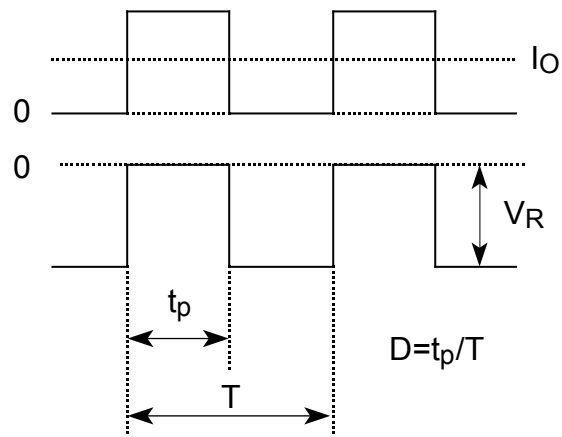


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Derating Curve

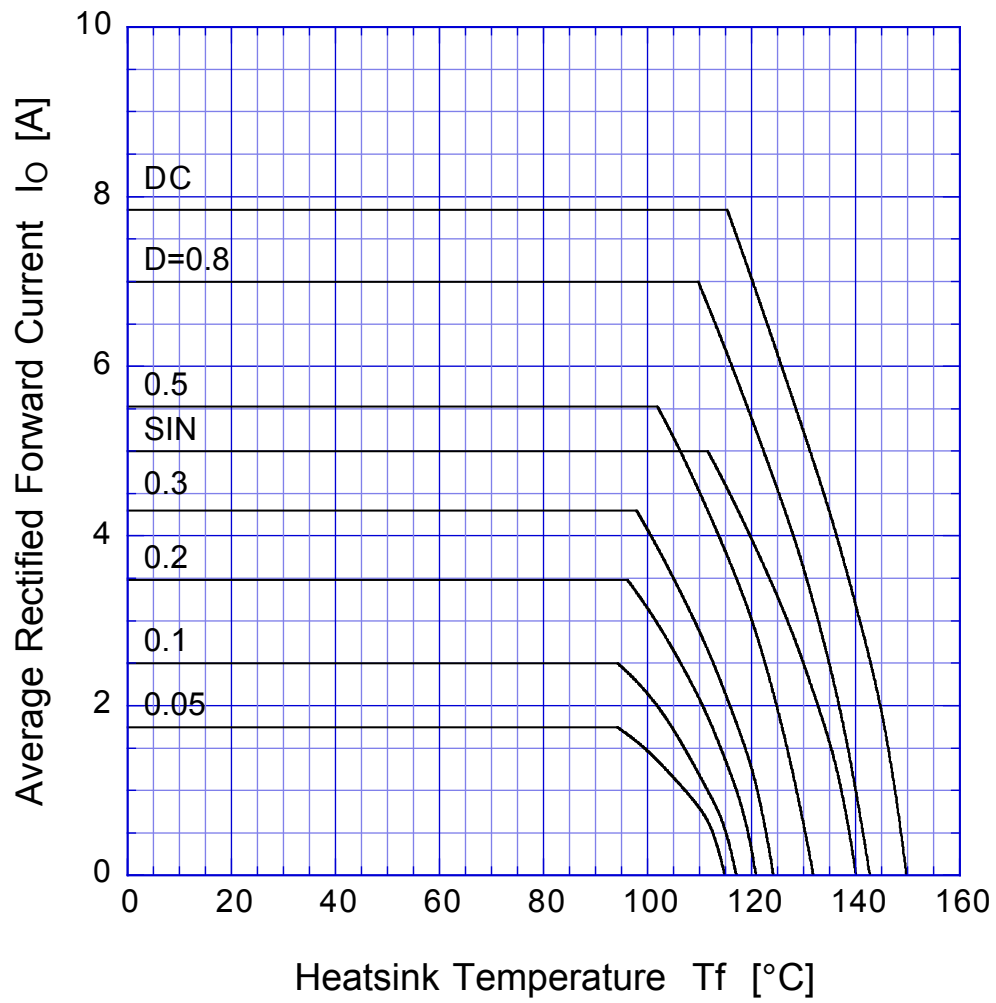


$V_R = 45V$

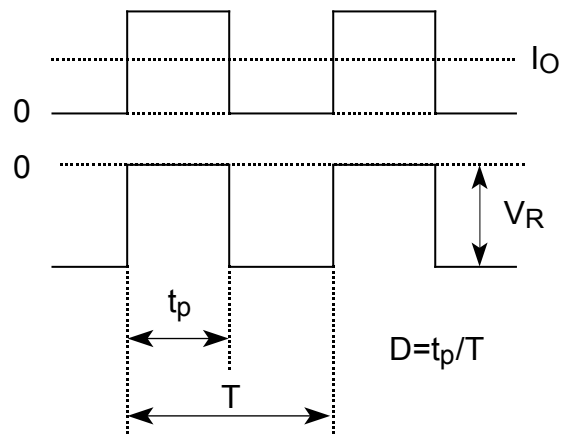


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Derating Curve

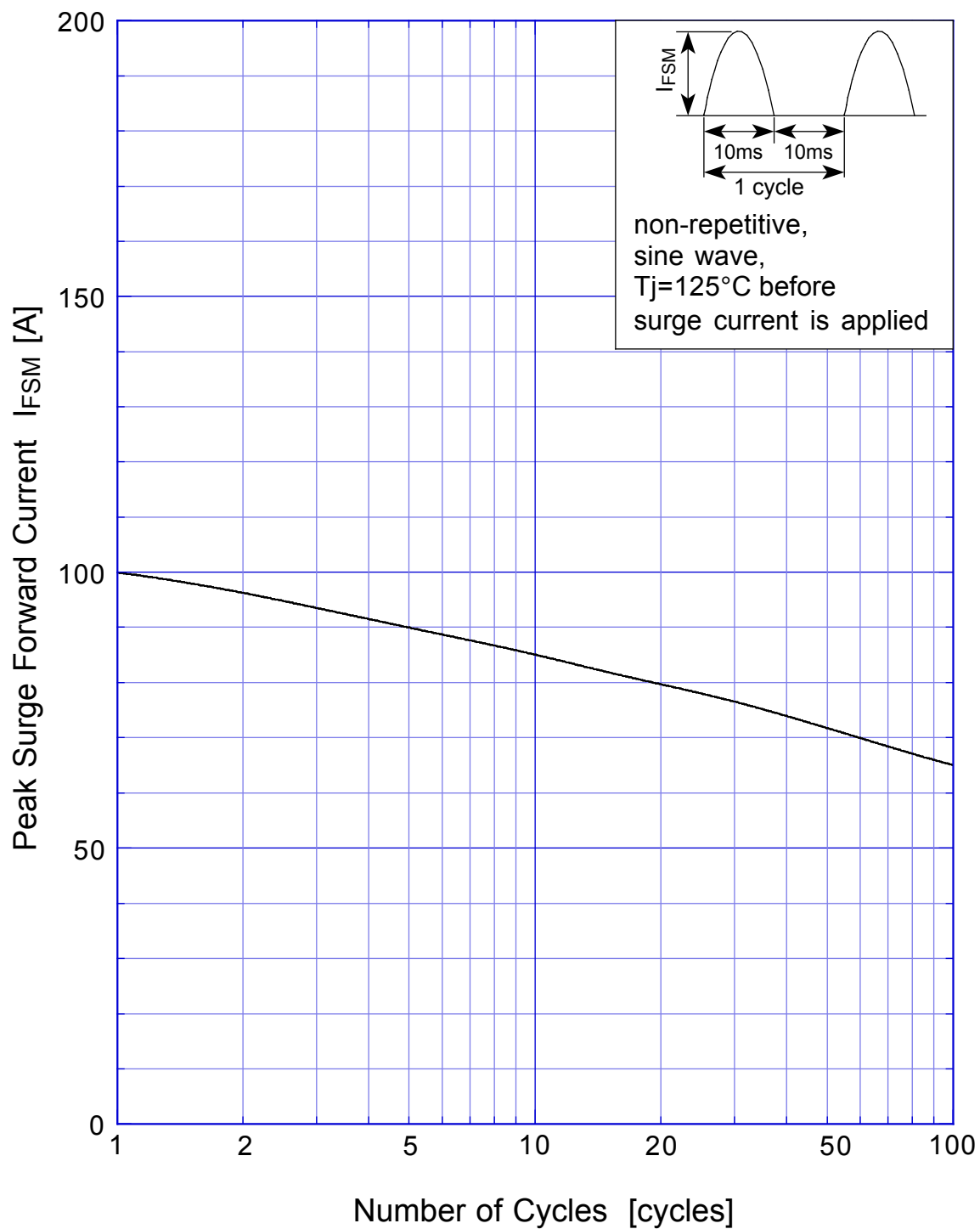


$V_R = 45V$



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Peak Surge Forward Capability



## SBD Repetitive Surge Reverse Power Derating Curve

