

SHINDENGEN

Schottky Rectifiers (SBD)

Single

DE10S3L

30V 10A

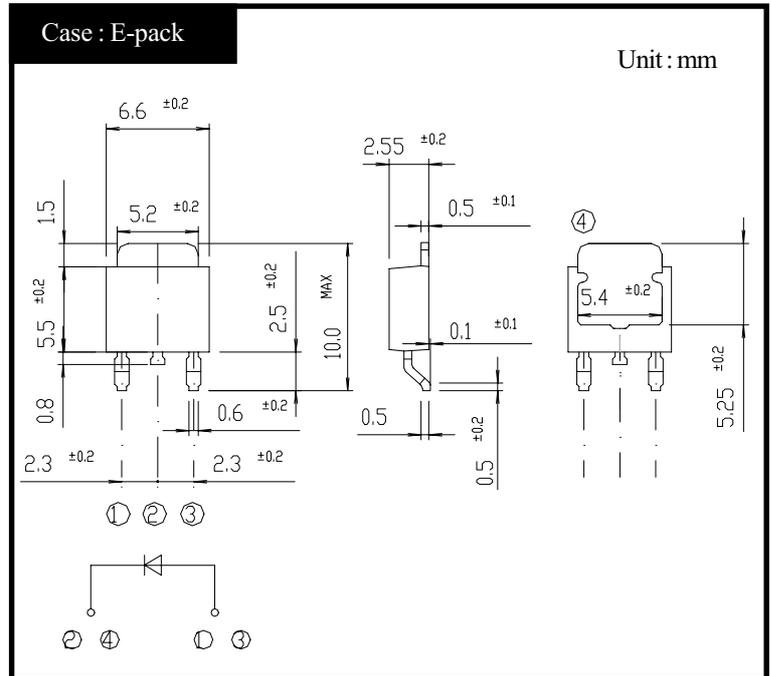
FEATURES

- SMT
- $T_j 150^{\circ}\text{C}$
- Low $V_F=0.45\text{V}$
- P_{RRSM} avalanche guaranteed
- High current capacity with Small Package

APPLICATION

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

OUTLINE DIMENSIONS



RATINGS

- Absolute Maximum Ratings (If not specified $T_c=25^{\circ}\text{C}$)

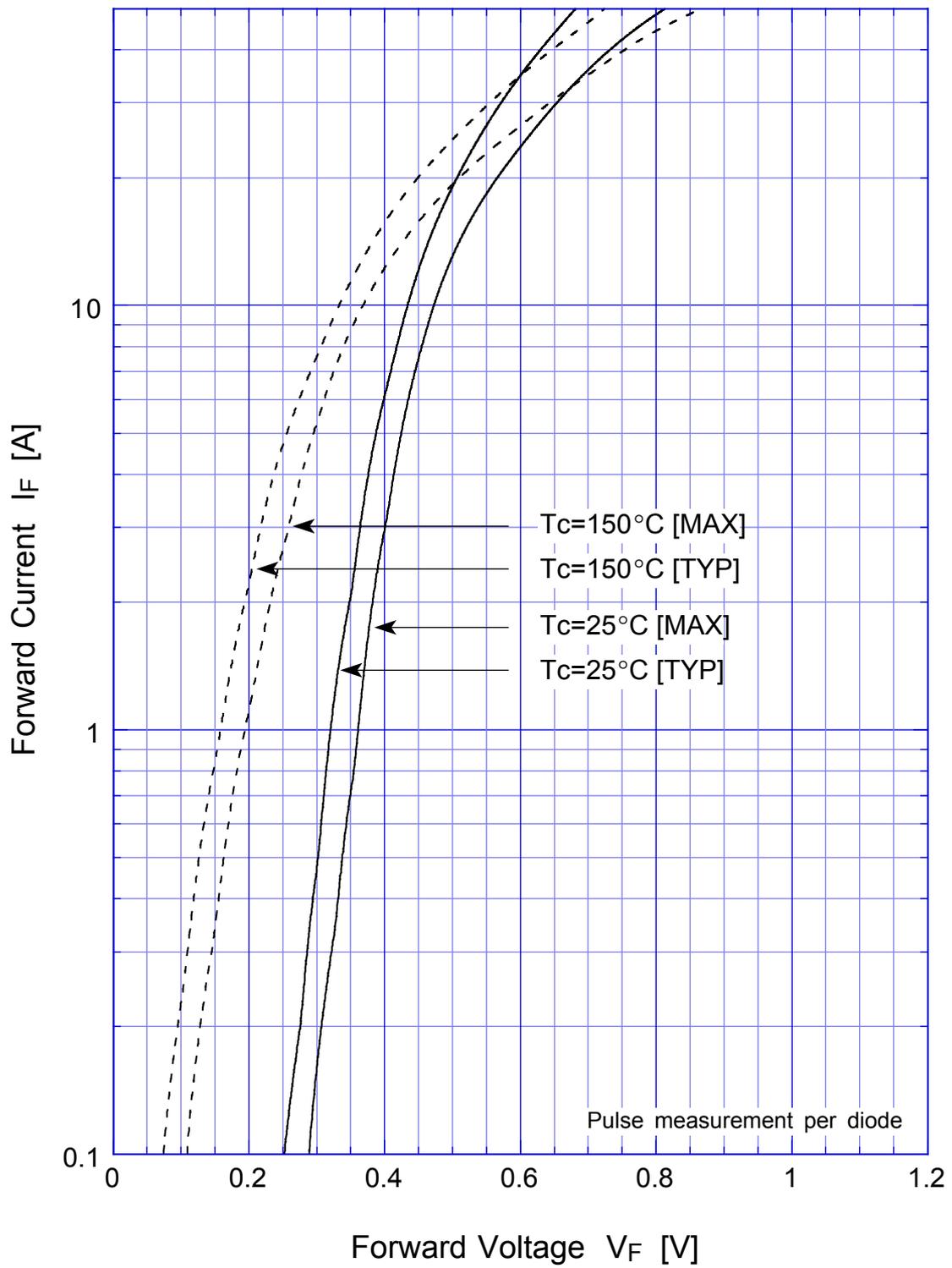
| Item | Symbol | Conditions | Ratings | Unit |
|---------------------------------------|------------|---|---------|--------------------|
| Storage Temperature | T_{stg} | | -55~150 | $^{\circ}\text{C}$ |
| Operating Junction Temperature | T_j | | 150 | $^{\circ}\text{C}$ |
| Maximum Reverse Voltage | V_{RM} | | 30 | V |
| Repetitive Peak Surge Reverse Voltage | V_{RRSM} | Pulse width 0.5ms, duty 1/40 | 35 | V |
| Average Rectified Forward Current | I_O | 50Hz sine wave, $T_c=124^{\circ}\text{C}$ | 10 | A |
| Peak Surge Forward Current | I_{FSM} | 50Hz sine wave, Non-repetitive 1 cycle peak value, $T_j=25^{\circ}\text{C}$ | 250 | A |
| Repetitive Peak Surge Reverse Power | P_{RRSM} | Pulse width 10 μ s, $T_j=25^{\circ}\text{C}$ | 660 | W |

- Electrical Characteristics (If not specified $T_c=25^{\circ}\text{C}$)

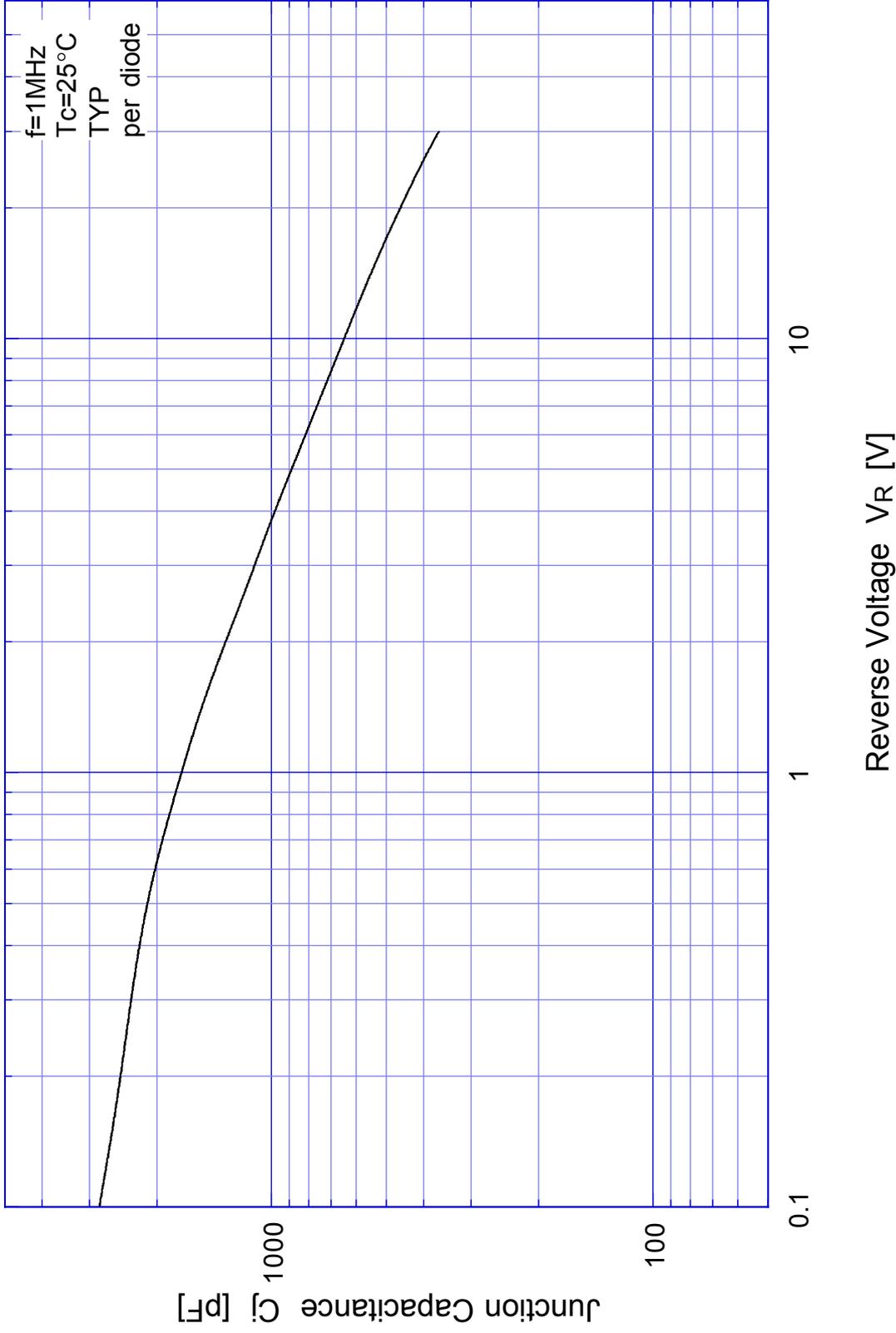
| Item | Symbol | Conditions | Ratings | Unit |
|----------------------|---------------|-------------------------------------|-----------|-----------------------------|
| Forward Voltage | V_F | $I_F=8\text{A}$, Pulse measurement | Max. 0.45 | V |
| Reverse Current | I_R | $V_R=V_{RM}$, Pulse measurement | Max. 10 | mA |
| Junction Capacitance | C_j | $f=1\text{MHz}$, $V_R=10\text{V}$ | Typ. 640 | pF |
| Thermal Resistance | θ_{jc} | junction to case | Max. 4.0 | $^{\circ}\text{C}/\text{W}$ |

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Forward Voltage

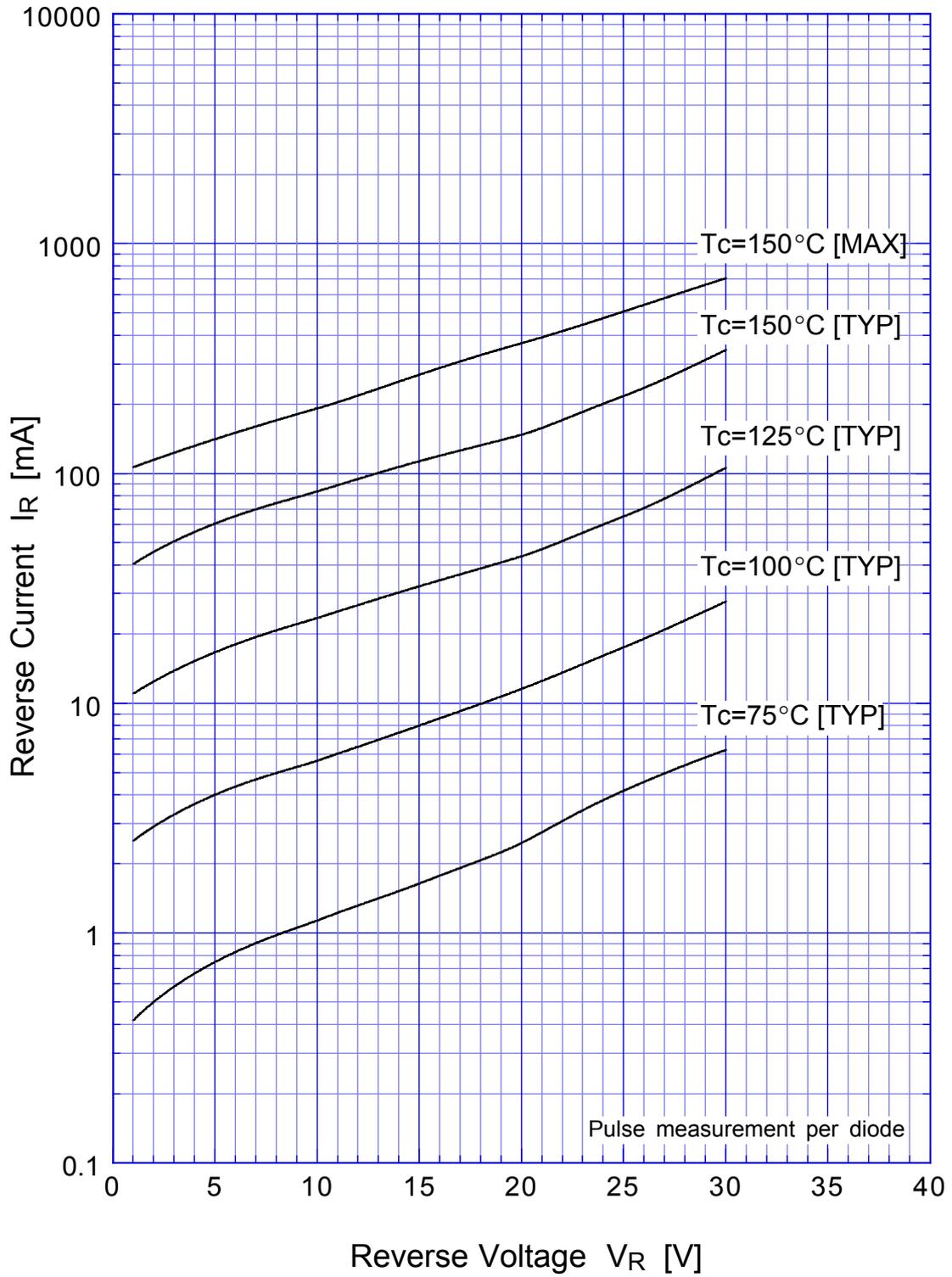


DE10S3L Junction Capacitance

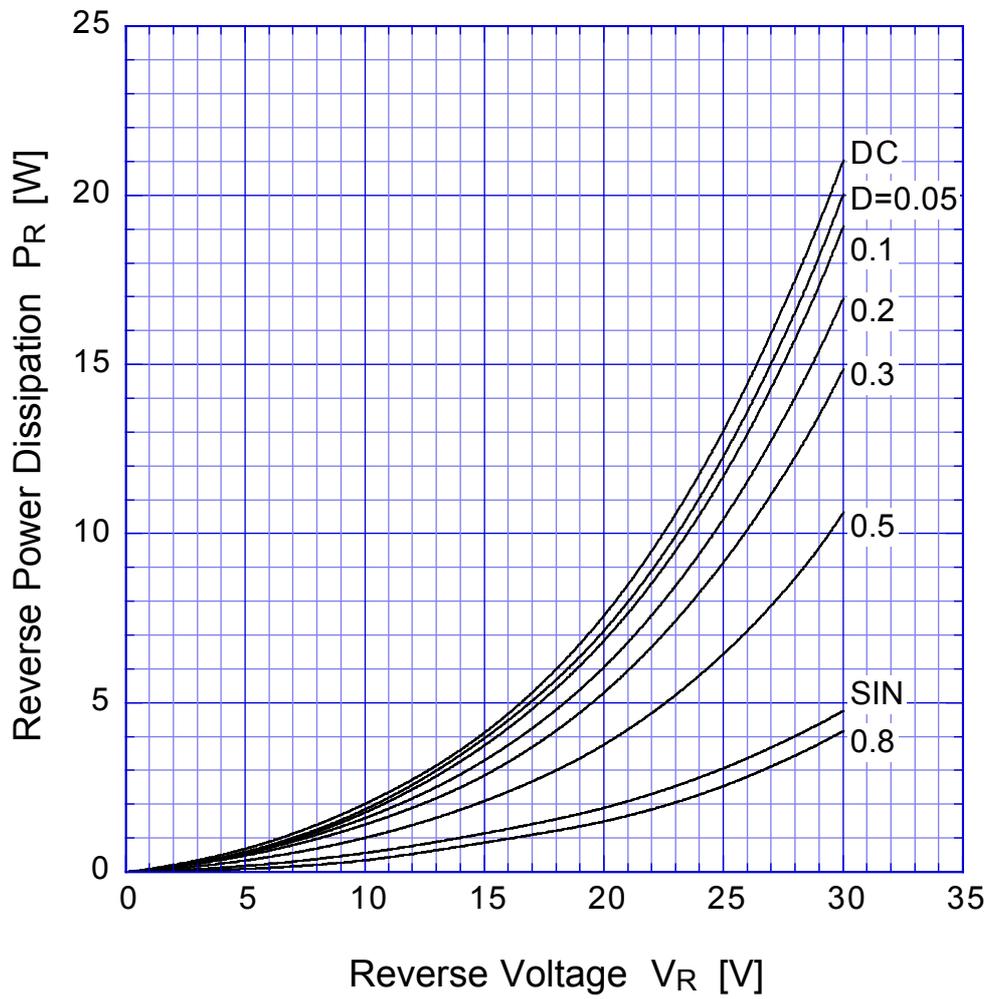


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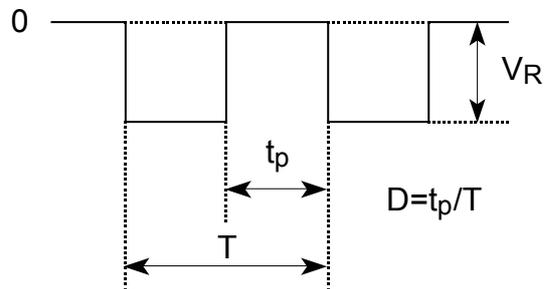
Reverse Current



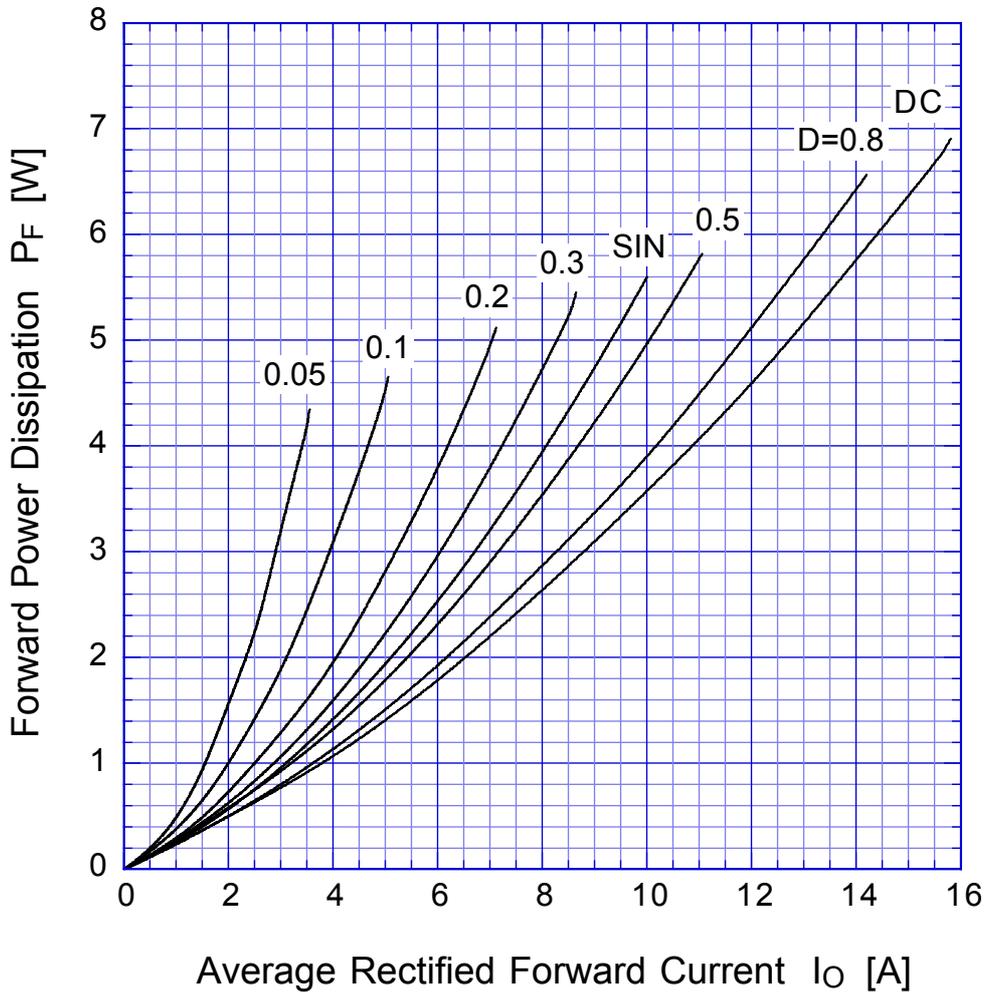
DE10S3L Reverse Power Dissipation



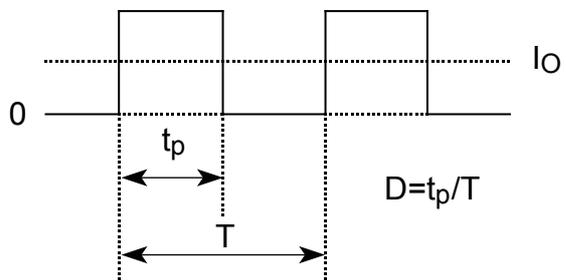
$T_j = 150^\circ\text{C}$



DE10S3L Forward Power Dissipation

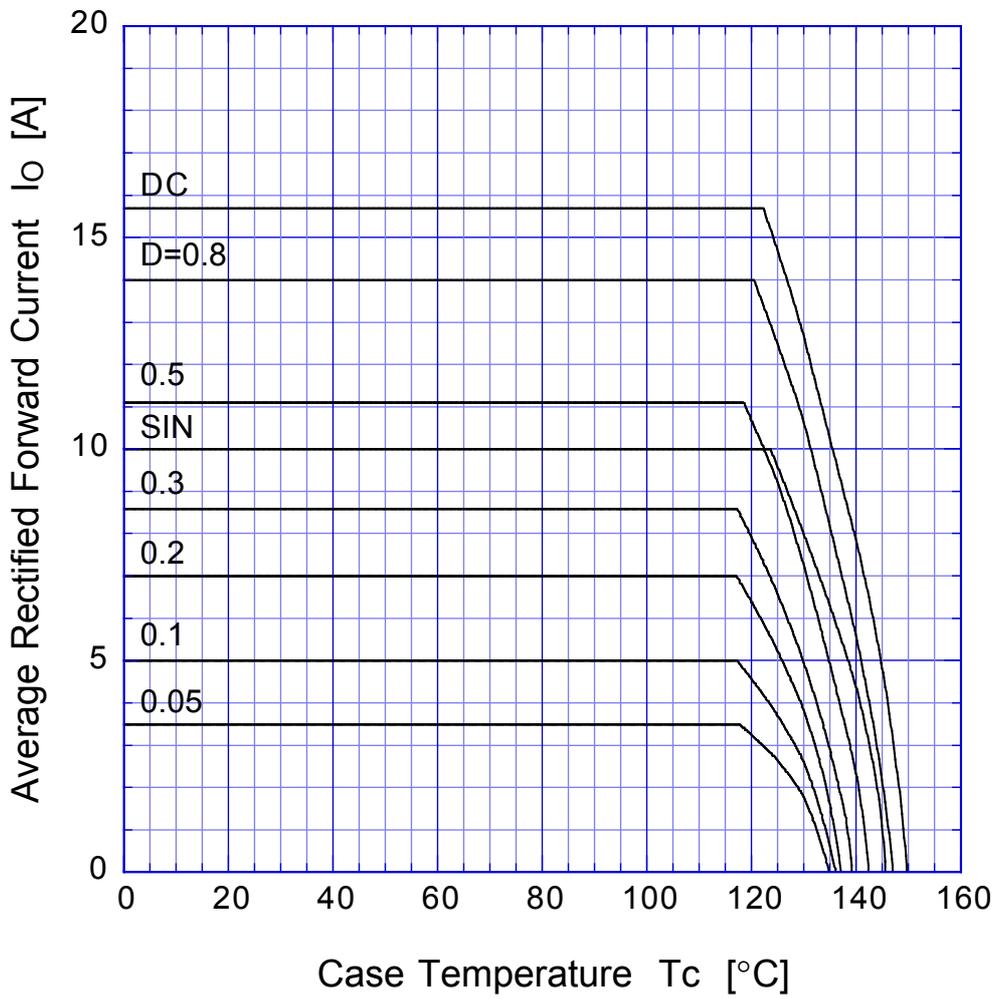


$T_j = 150^\circ\text{C}$

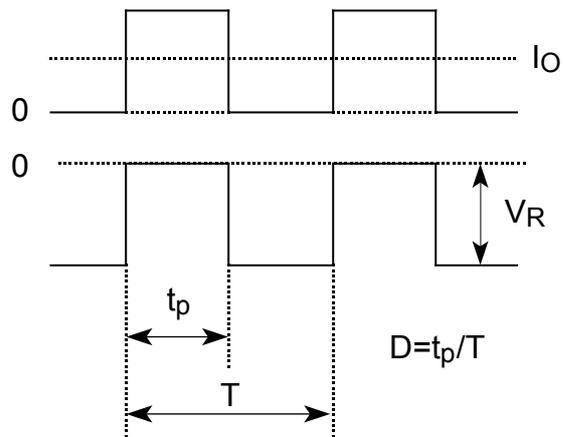


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Derating Curve

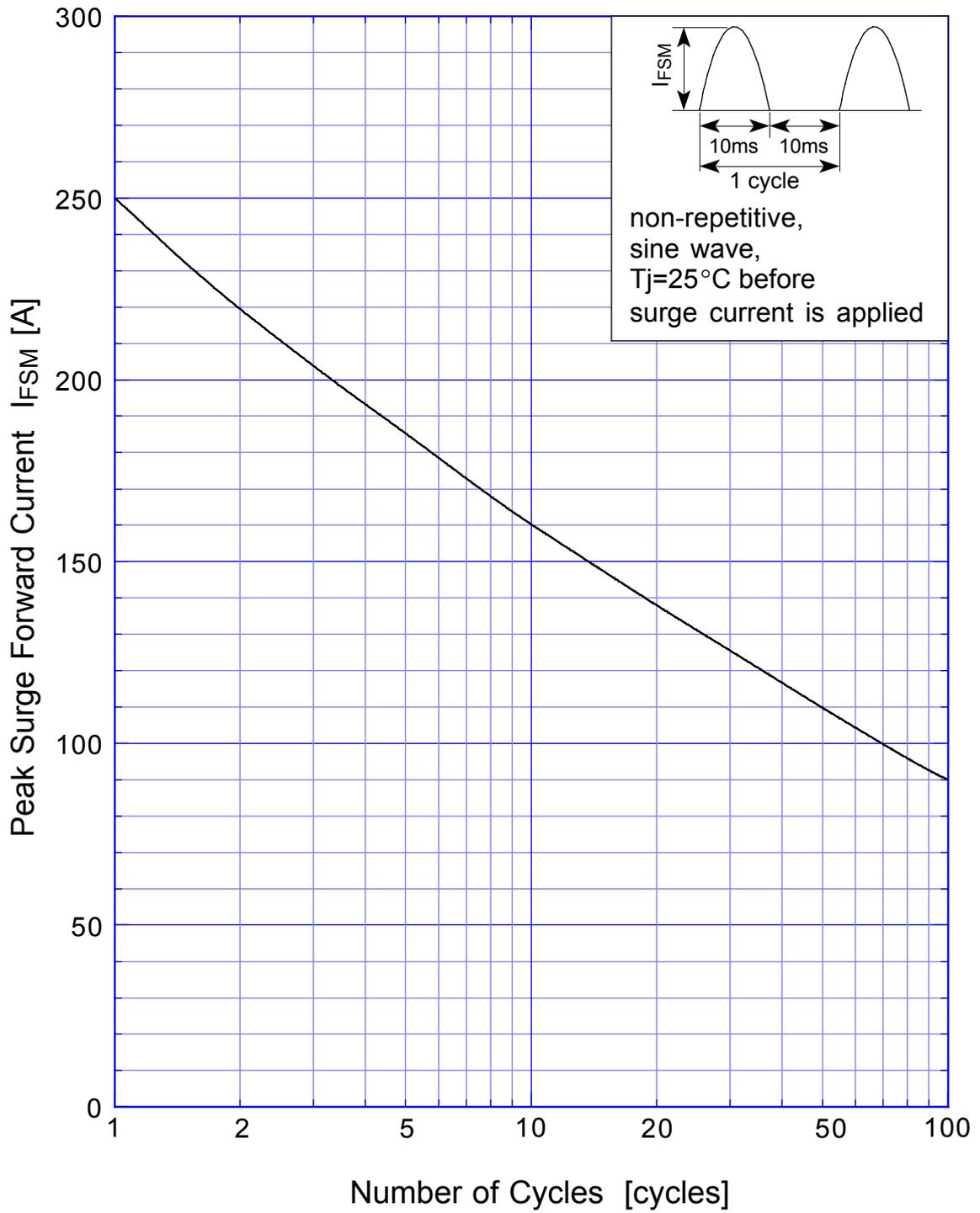


$V_R = 15V$

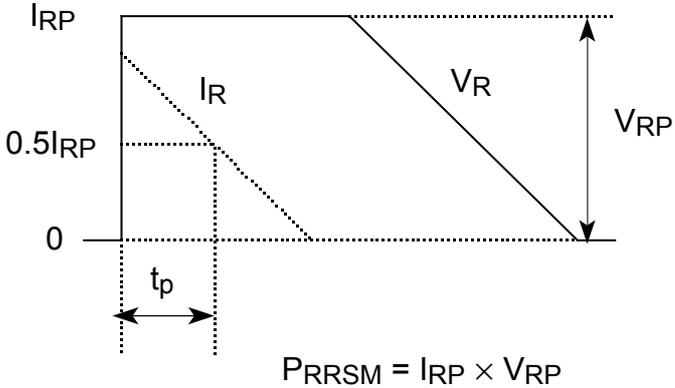
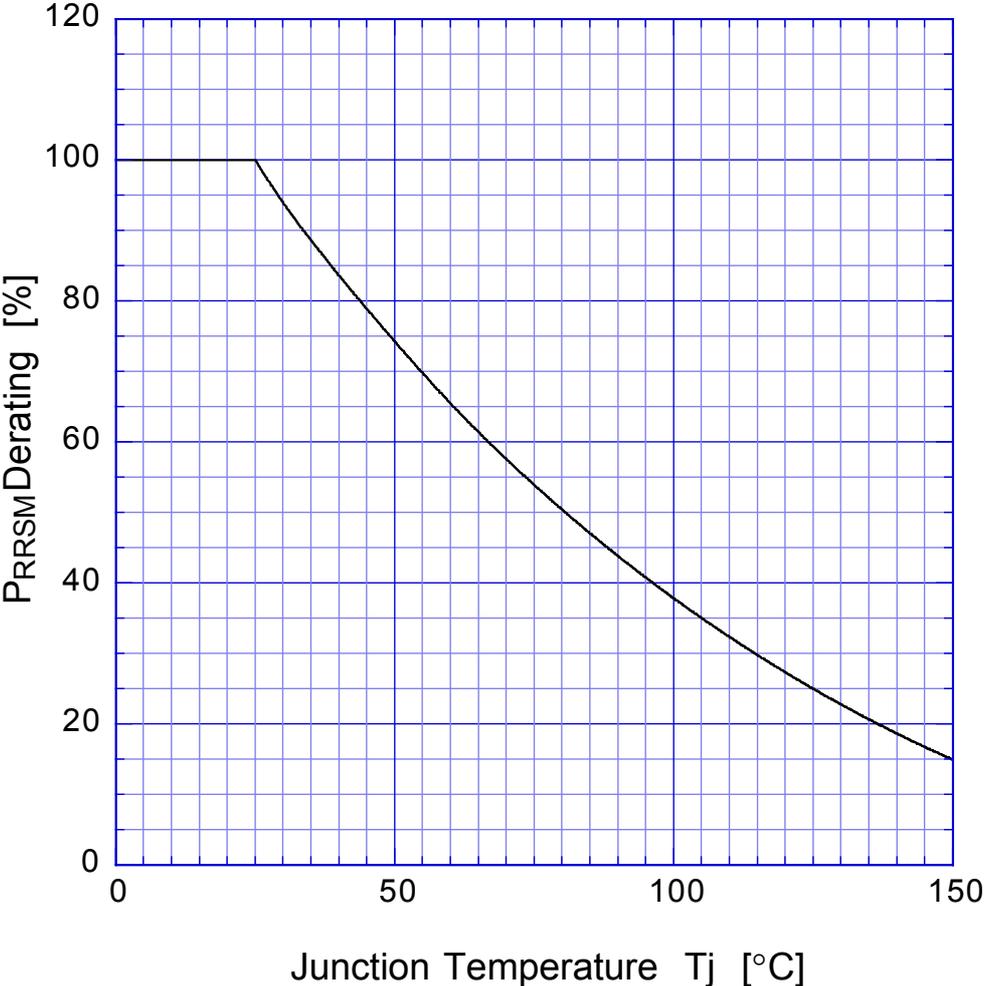


DE10S3L

Peak Surge Forward Capability



SBD Repetitive Surge Reverse Power Derating Curve



SBD

Repetitive Surge Reverse Power Capability

