# SHINDENGEN

## Schottky Rectifiers (SBD)

**Dual**

# S10SC4M

**40V 10A**

## FEATURES

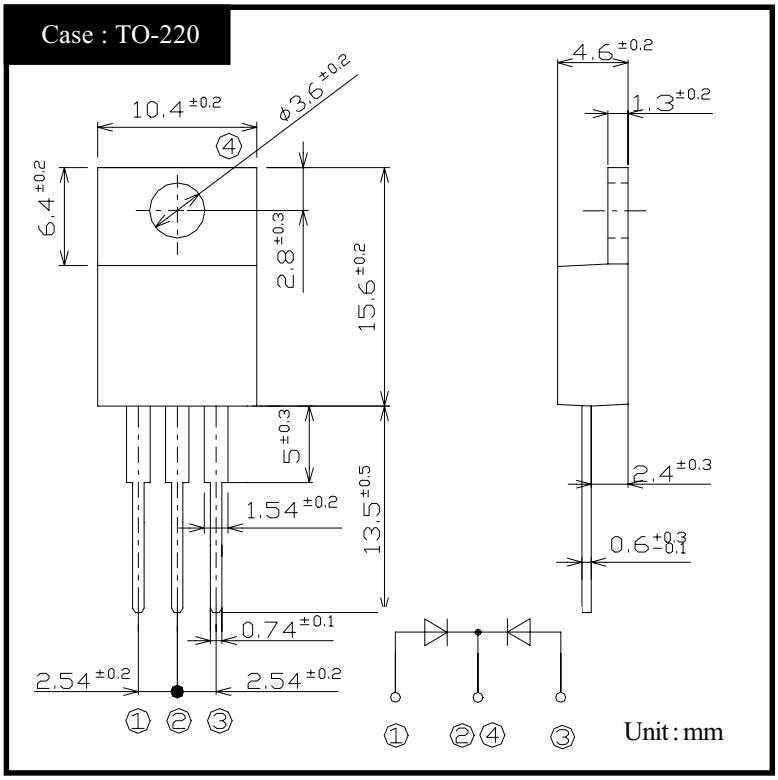
- Tj150℃
- $P_{RRSM}$ avalanche guaranteed

## APPLICATION

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

## OUTLINE DIMENSIONS

Case : TO-220




## RATINGS

●Absolute Maximum Ratings (If not specified Tc=25℃)

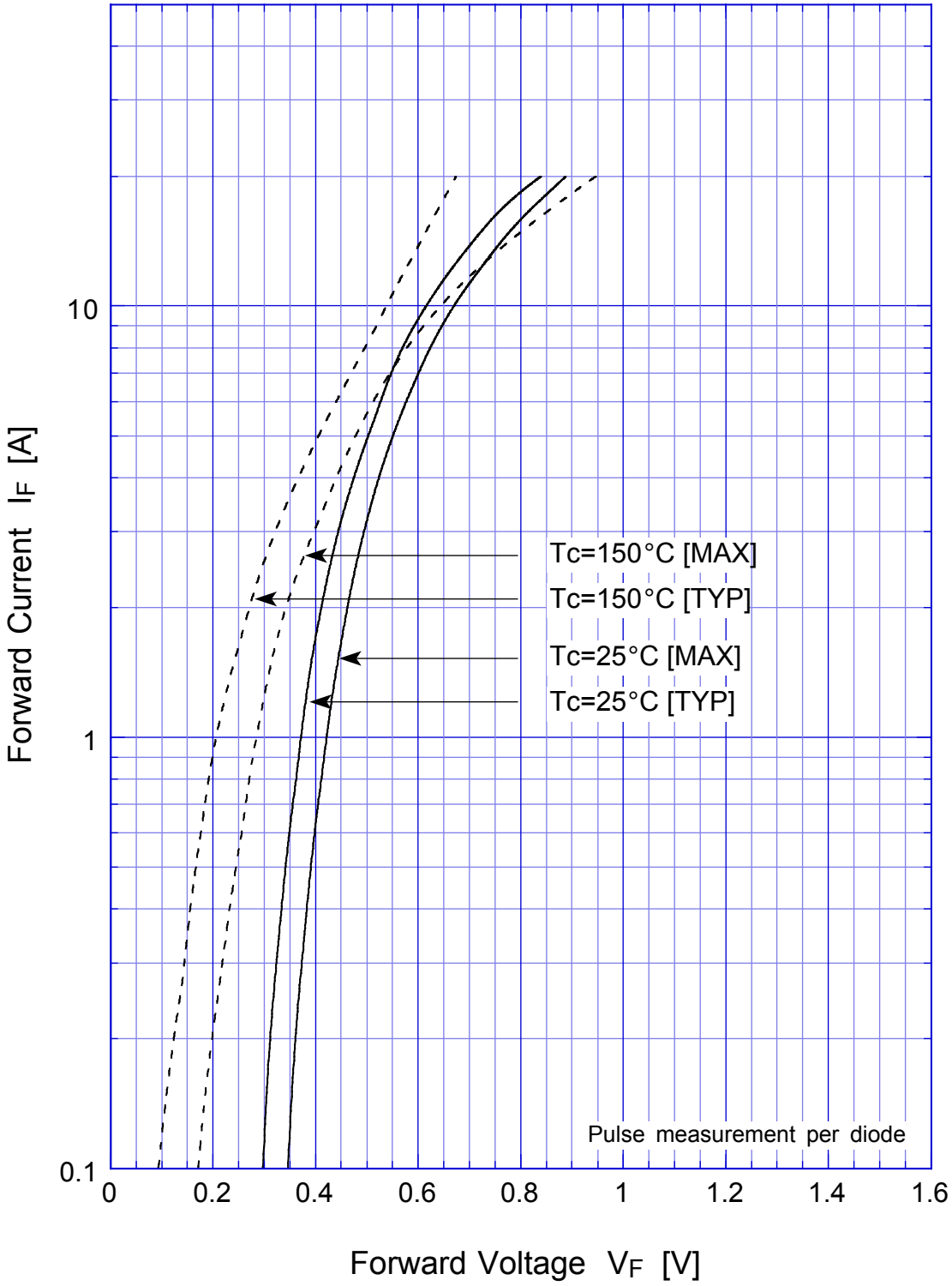
| Item | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Storage Temperature | Tstg | | −40～150 | ℃ |
| Operating Junction Temperature | Tj | | 150 | ℃ |
| Maximum Reverse Voltage | $V_{RM}$ | | 40 | V |
| Repetitive Peak Surge Reverse Voltage | $V_{RRSM}$ | Pulse width 0.5ms, duty 1/40 | 45 | V |
| Average Rectified Forward Current | $I_O$ | 50Hz sine wave, R-load, Rating for each diode Io/2, Tc=125℃ | 10 | A |
| Peak Surge Forward Current | $I_{FSM}$ | 50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=125℃ | 100 | A |
| Repetitive Peak Surge Reverse Power | $P_{RRSM}$ | Pulse width 10 μ s, Rating of per diode, Tj=25℃ | 330 | W |
| Mounting Torque | TOR | (Recommended torque:0.3N・m) | 0.5 | N・m |

●Electrical Characteristics (If not specified Tc=25℃)

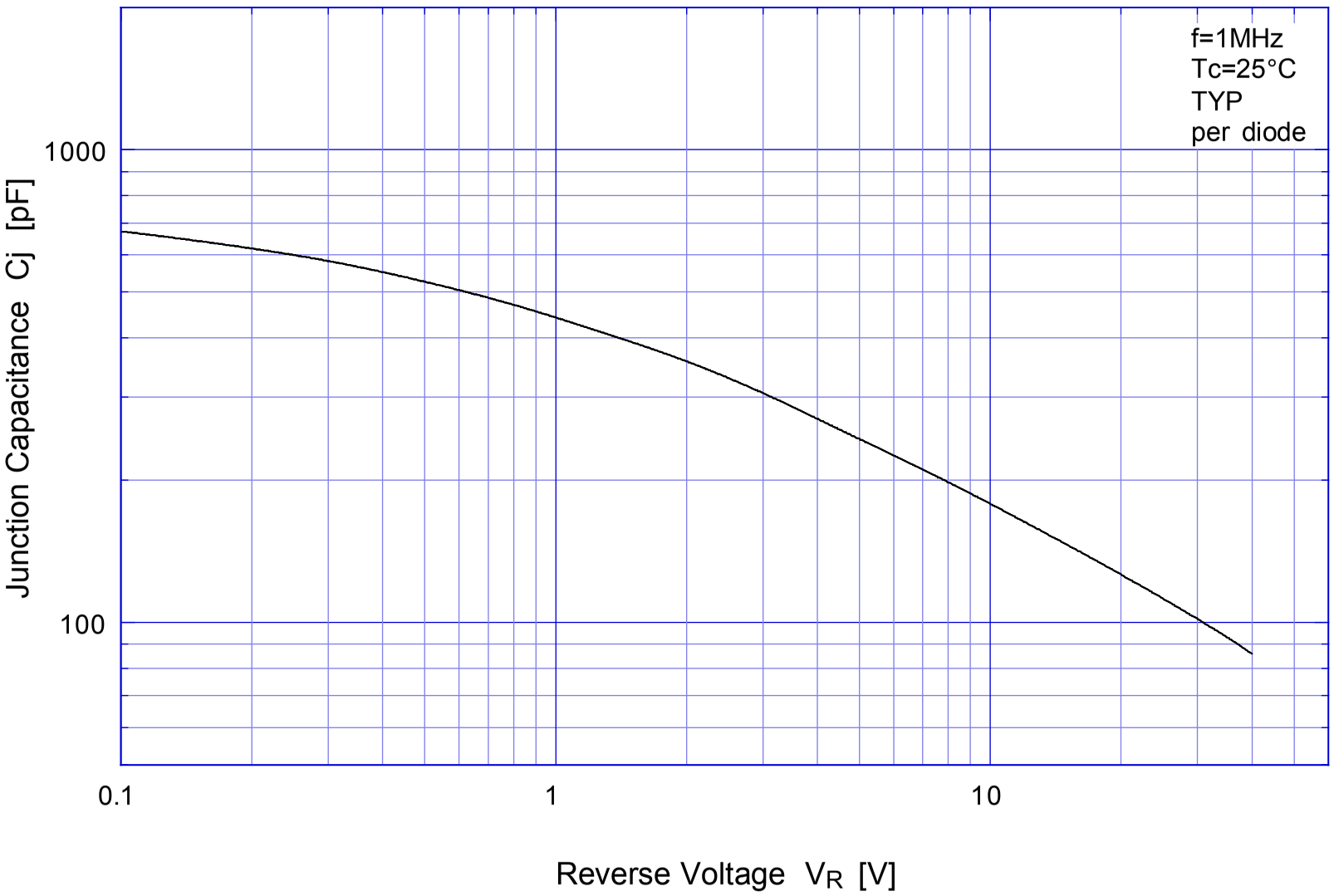
| Item | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=5A, Pulse measurement, Rating of per diode | Max.0.55 | V |
| Reverse Current | $I_R$ | $V_R$=$V_{RM}$, Pulse measurement, Rating of per diode | Max.3.5 | mA |
| Junction Capacitance | Cj | f=1MHz, $V_R$=10V, Rating of per diode | Typ.180 | pF |
| Thermal Resistance | θ jc | junction to case | Max.3.0 | ℃/W |

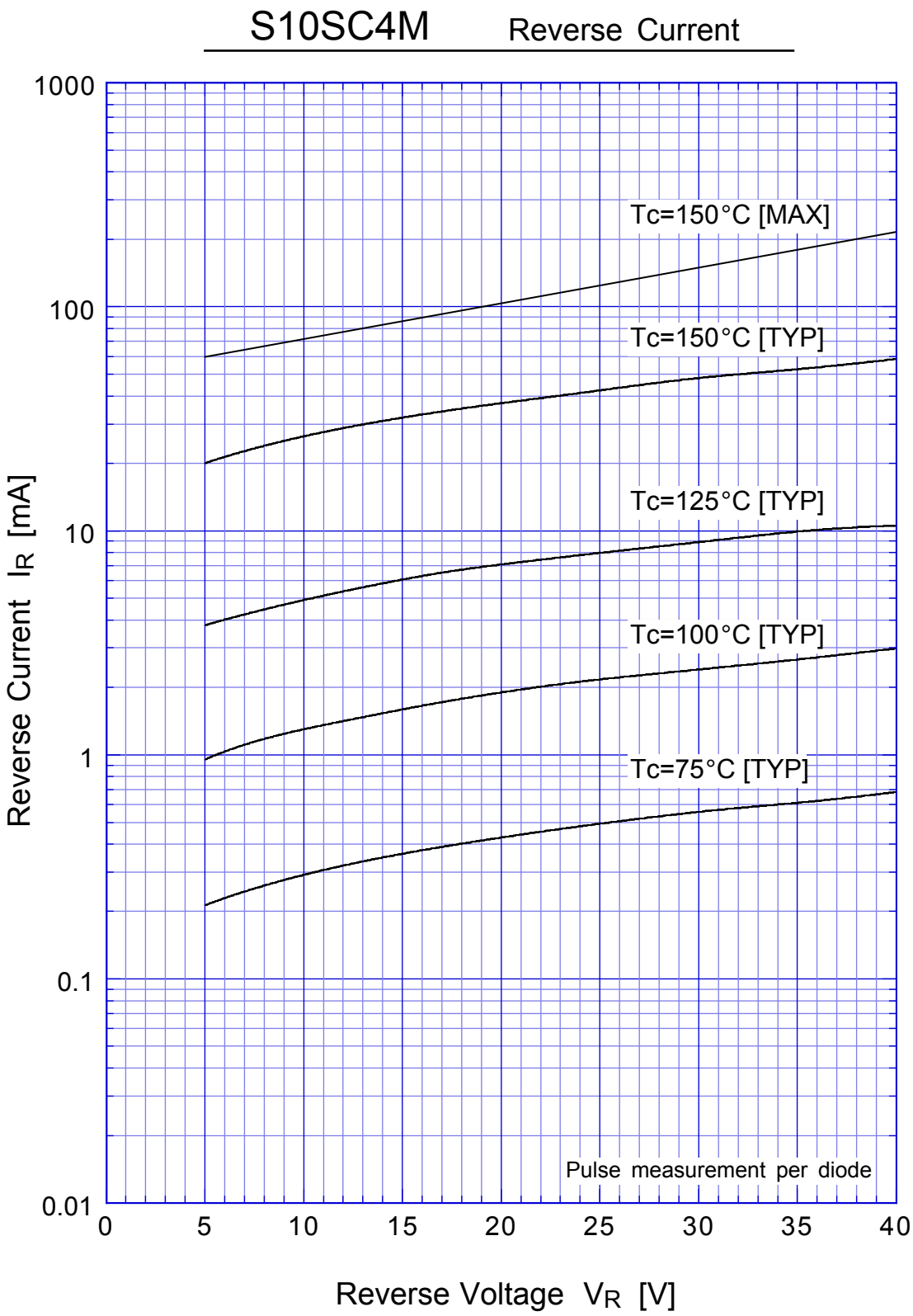
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# S10SC4M Forward Voltage

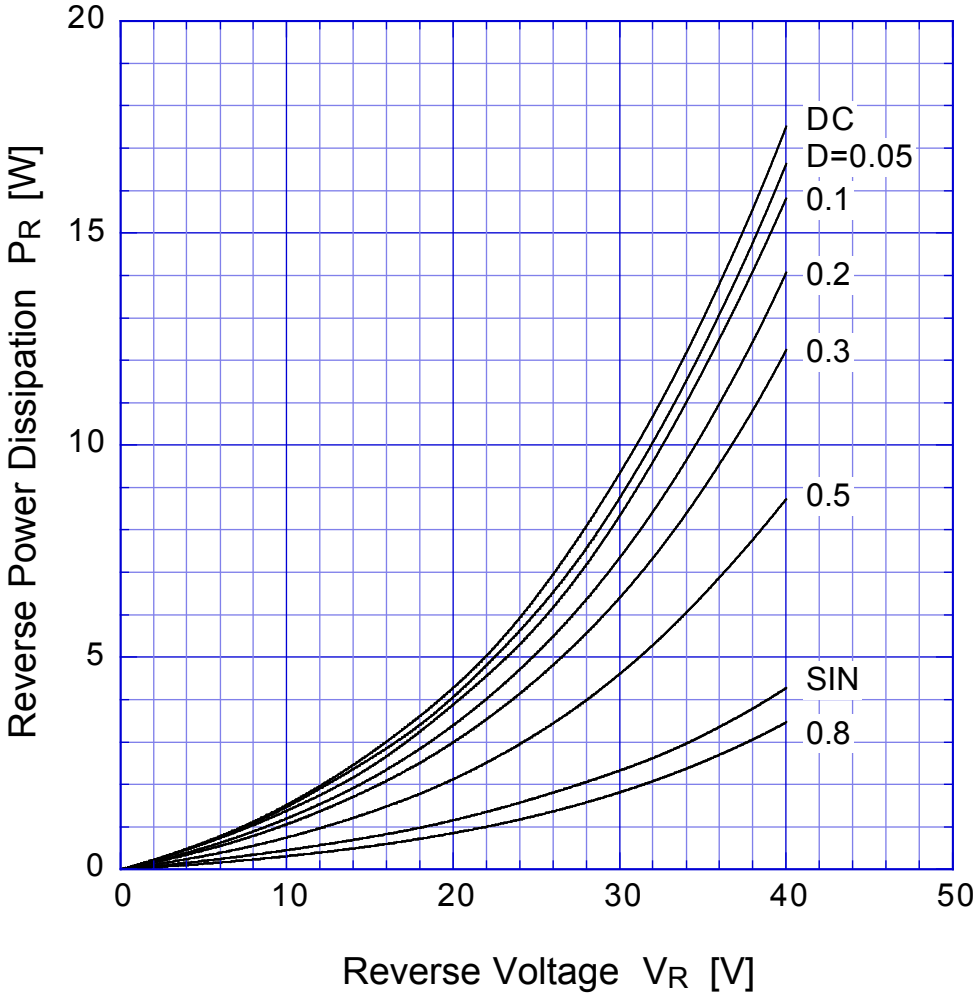


# S10SC4M Junction Capacitance

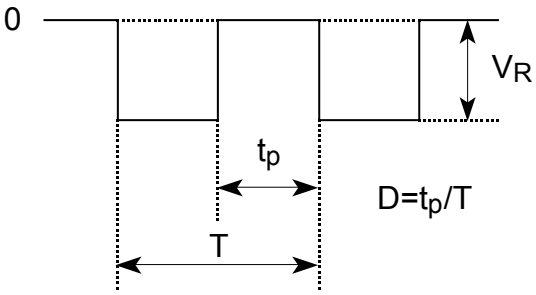



S10SC4M Reverse Current
1000
100
10
1
0.1
0.01
Reverse Current IR [mA]
Tc=150°C [MAX]
Tc=150°C [TYP]
Tc=125°C [TYP]
Tc=100°C [TYP]
Tc=75°C [TYP]
Pulse measurement per diode
0
5
10
15
20
25
30
35
40
Reverse Voltage VR [V]

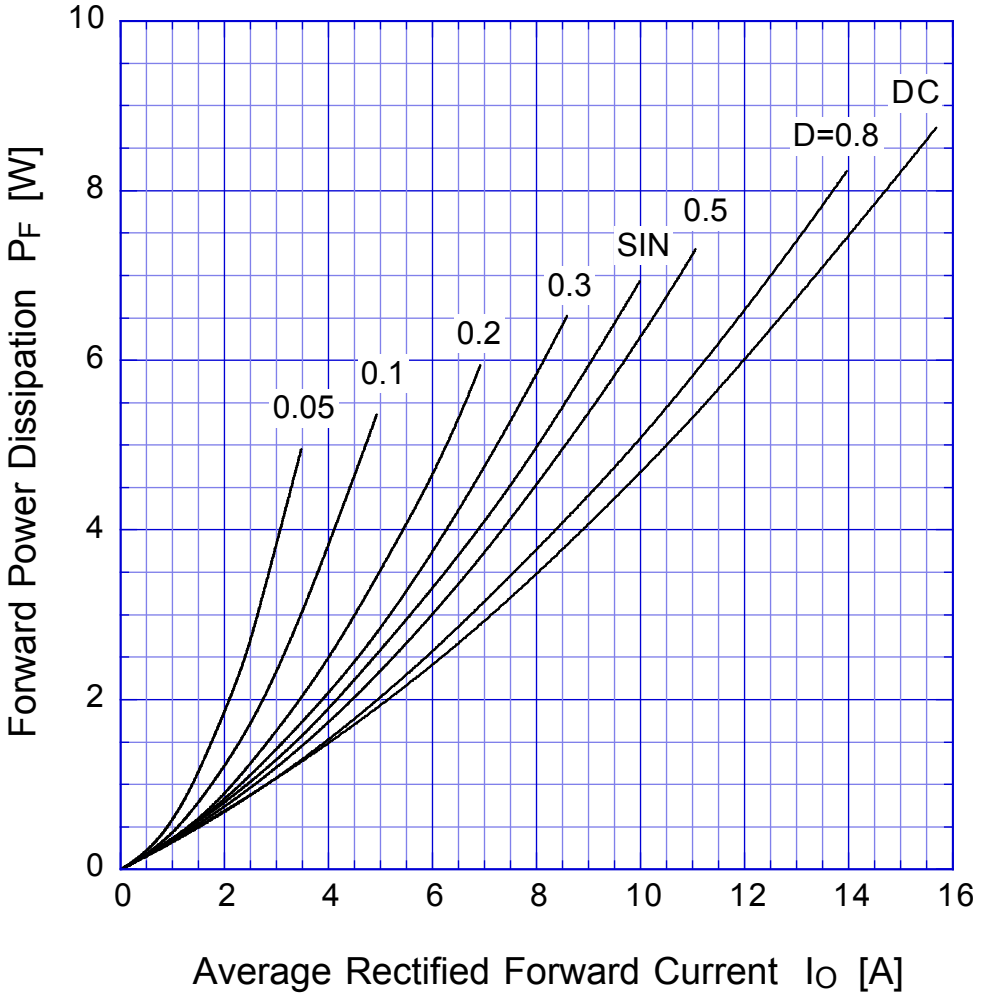
## S10SC4M Reverse Power Dissipation



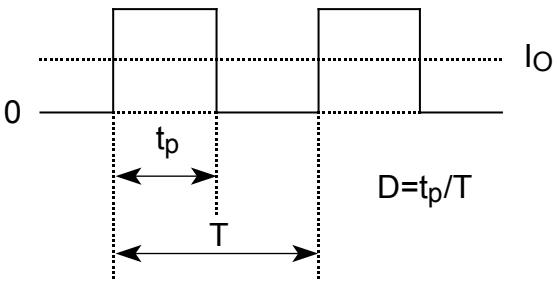

Tj = 150°C



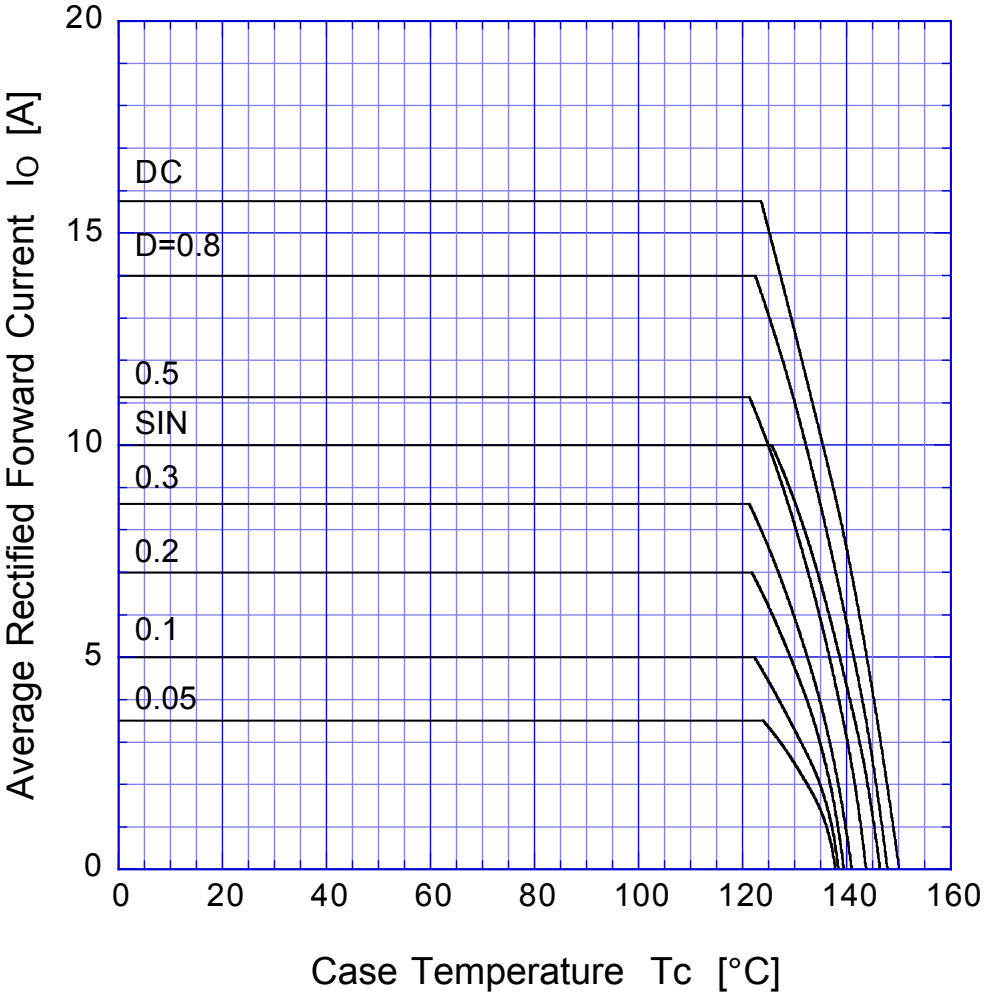
## S10SC4M Forward Power Dissipation



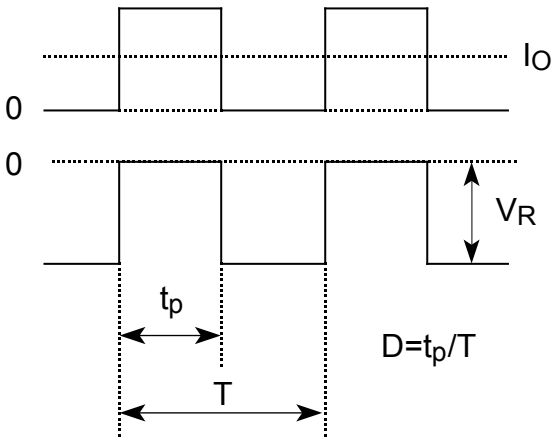

Tj = 150°C



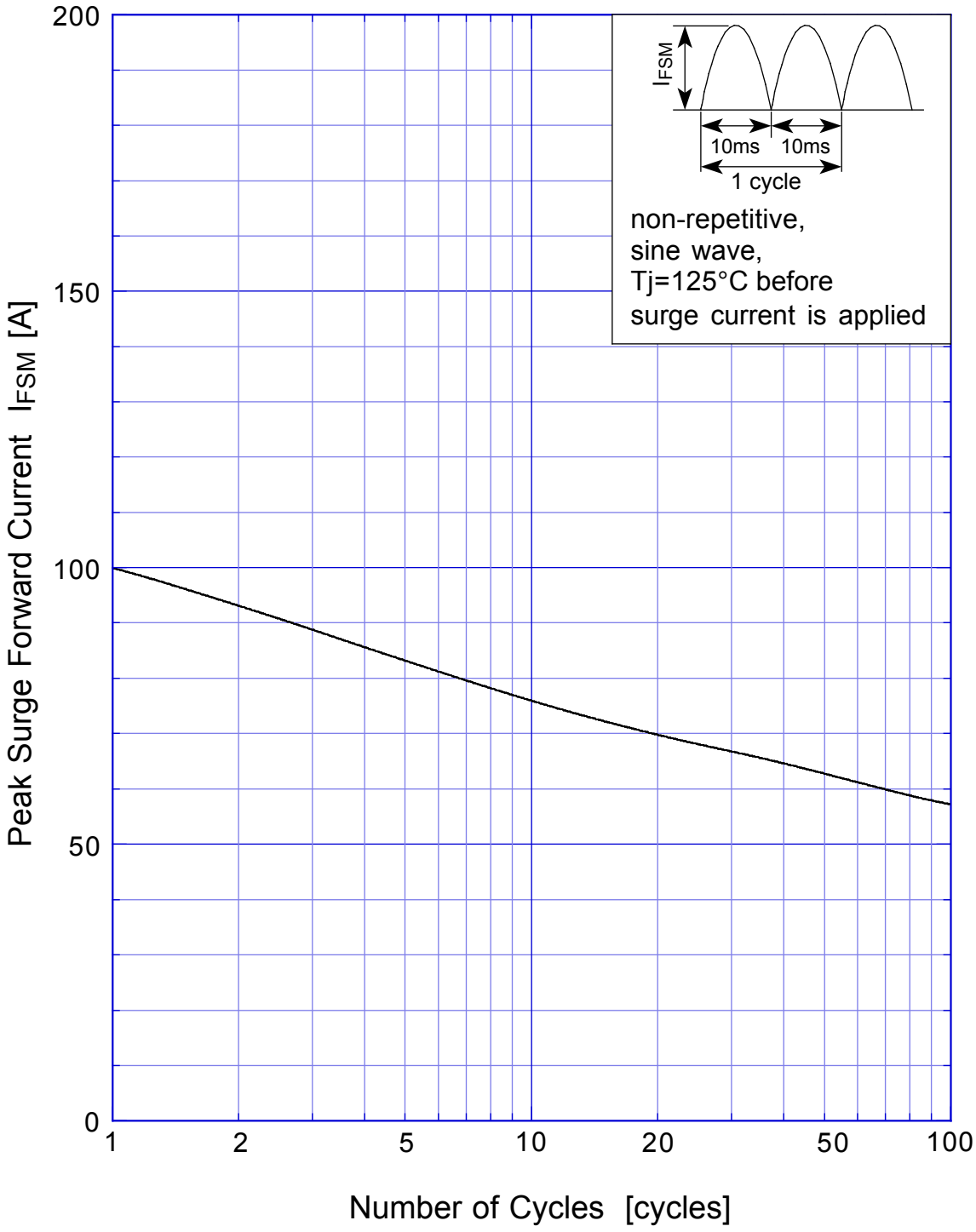
# S10SC4M Derating Curve



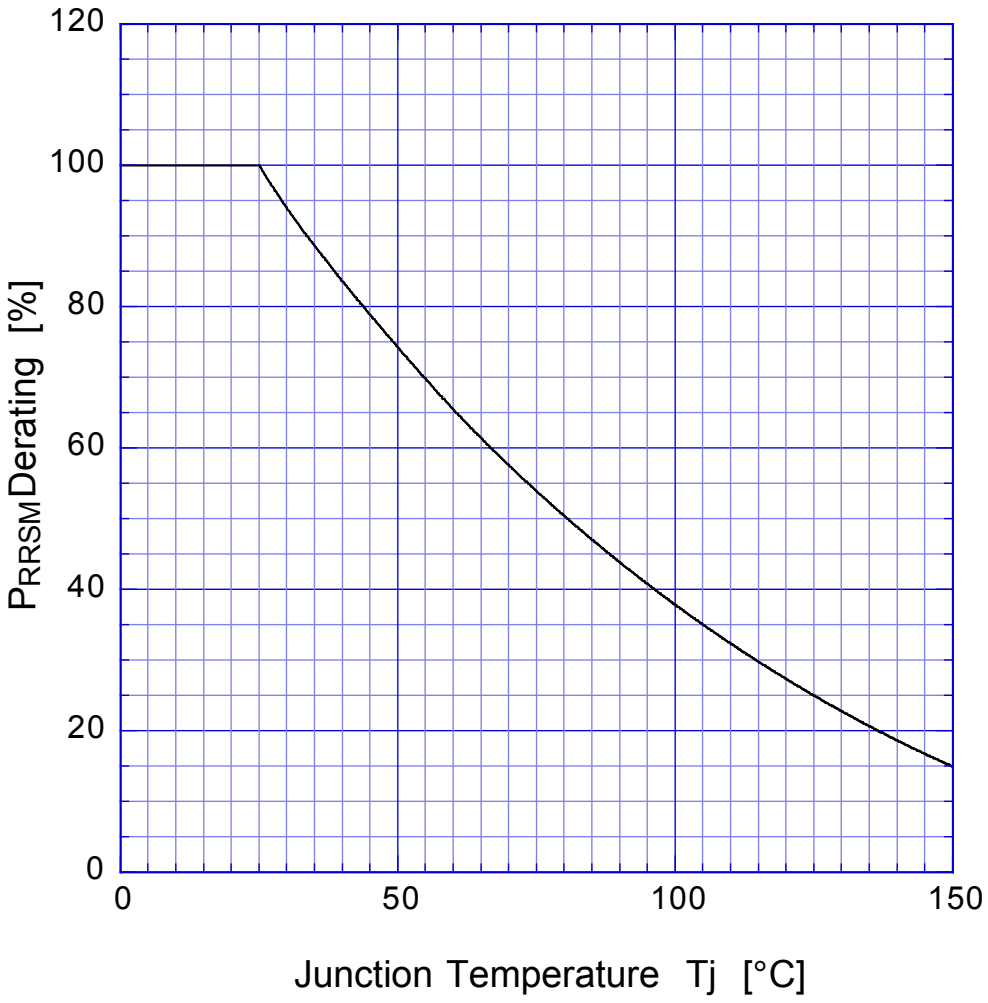

$V_R$ = 20V

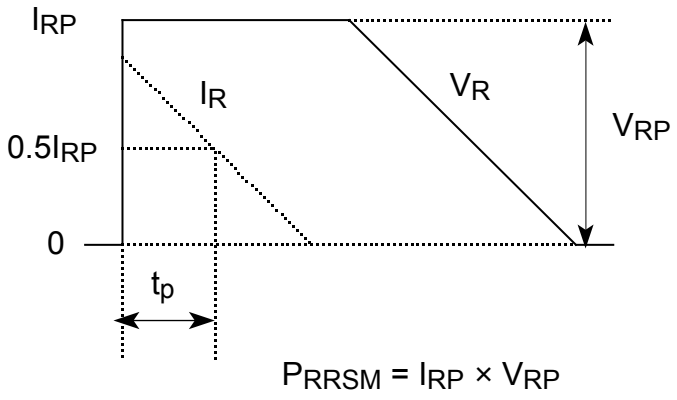


# S10SC4M Peak Surge Forward Capability

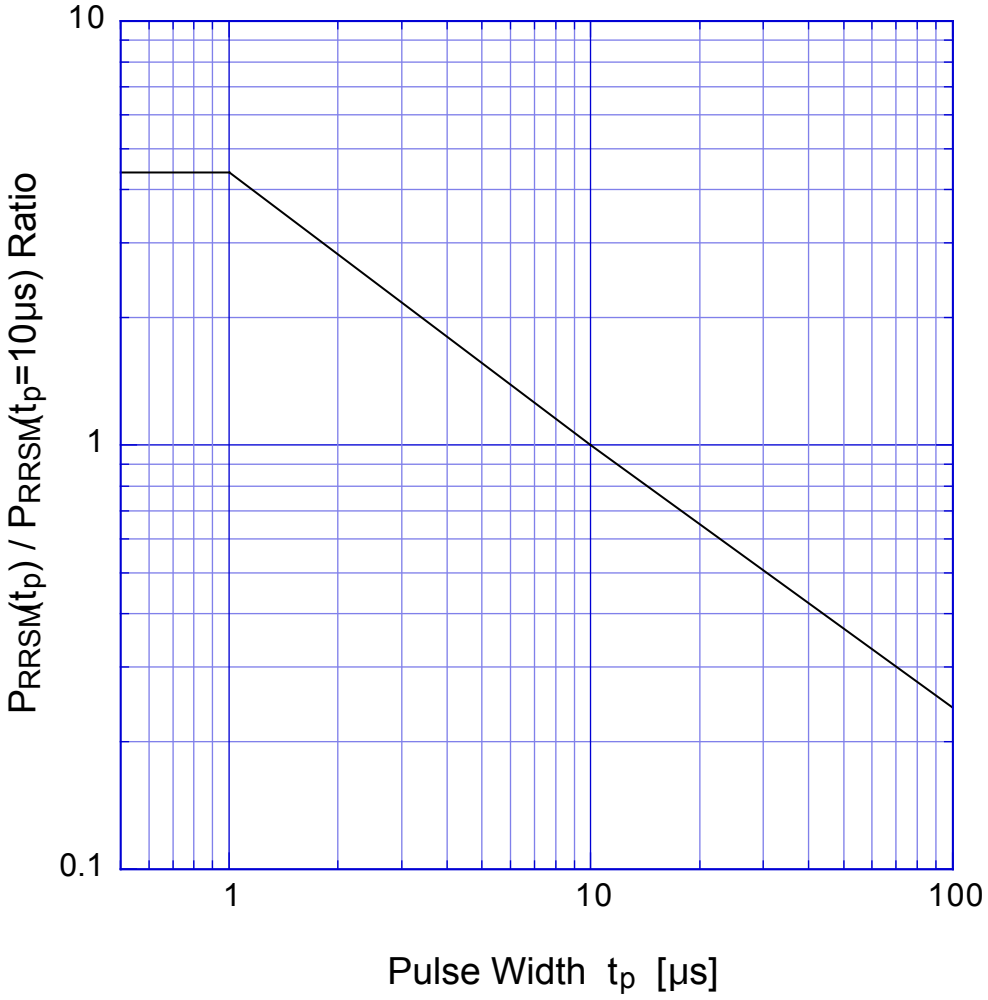


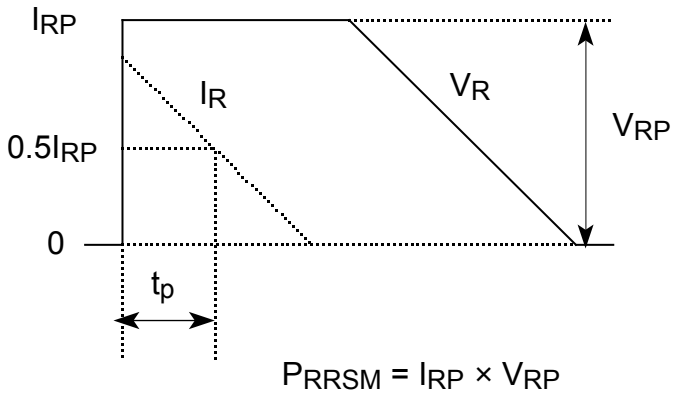
## SBD Repetitive Surge Reverse Power Derating Curve



## SBD Repetitive Surge Reverse Power Capability



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