

# SHINDENGEN

## Schottky Rectifiers (SBD)

Dual

# S20SC9M

## 90V 20A

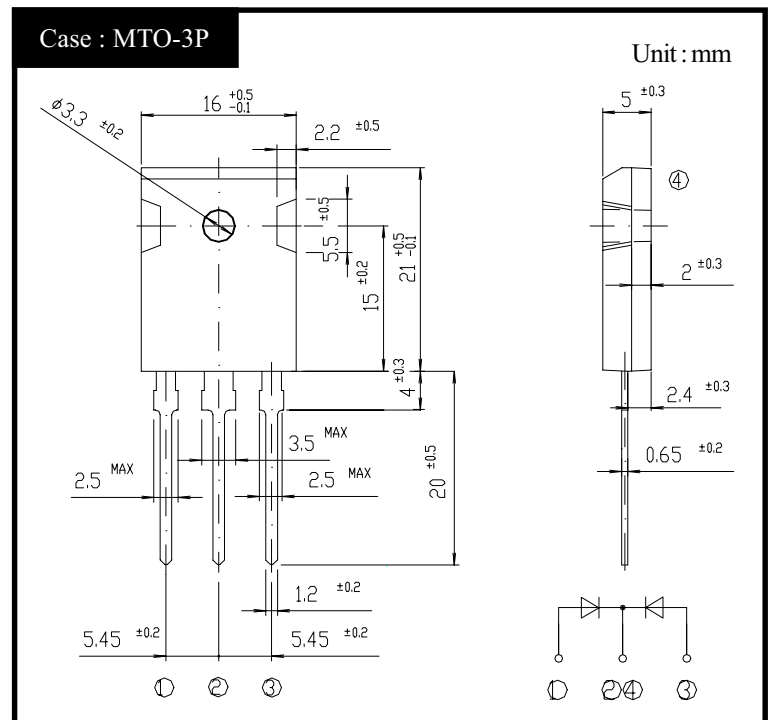
### FEATURES

- Tj150°C
- P<sub>RRSM</sub> avalanche guaranteed
- Small  $\theta_{jc}$
- High current capacity

### 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)

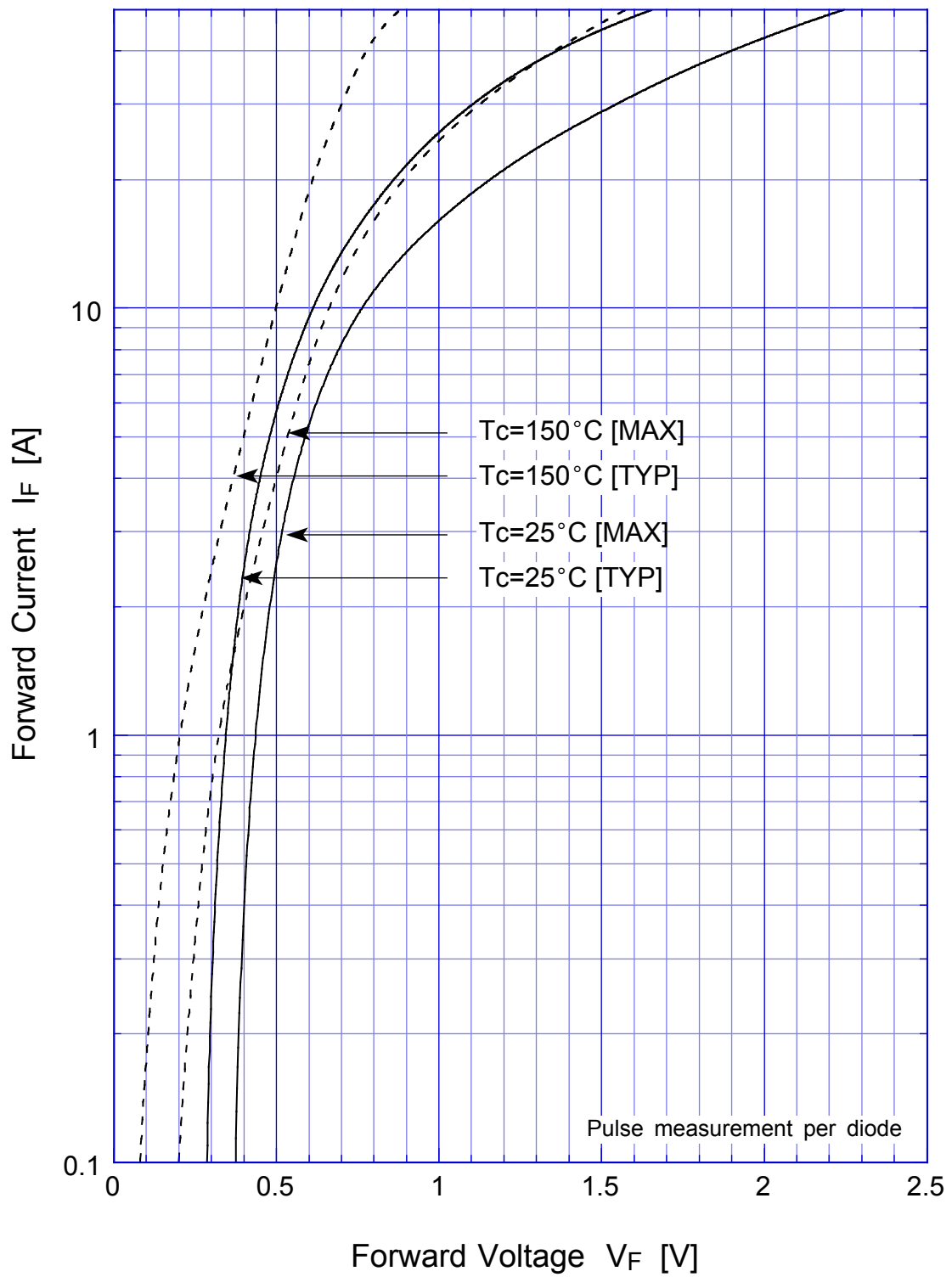
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-40~150	°C
Operating Junction Temperature	T <sub>j</sub>		150	°C
Maximum Reverse Voltage	V <sub>RM</sub>		90	V
Repetitive Peak Surge Reverse Voltage	V <sub>RRSM</sub>	Pulse width 0.5ms, duty 1/40	100	V
Average Rectified Forward Current	I <sub>O</sub>	50Hz sine wave, R-load, Rating for each diode I <sub>o</sub> /2, T <sub>c</sub> =125°C	20	A
Peak Surge Forward Current	I <sub>FSM</sub>	50Hz sine wave, Non-repetitive 1 cycle peak value, T <sub>j</sub> =25°C	200	A
Repetitive Peak Surge Reverse Power	P <sub>RRSM</sub>	Pulse width 10 μs, Rating of per diode, T <sub>j</sub> =25°C	660	W
Mounting Torque	TOR	(Recommended torque:0.5N·m)	0.8	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> =10A, Pulse measurement, Rating of per diode	Max.0.75	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =V <sub>RM</sub> , Pulse measurement, Rating of per diode	Max.10	mA
Junction Capacitance	C <sub>j</sub>	f=1MHz, V <sub>R</sub> =10V, Rating of per diode	Typ.370	pF
Thermal Resistance	$\theta_{jc}$	junction to case	Max.1.0	°C/W

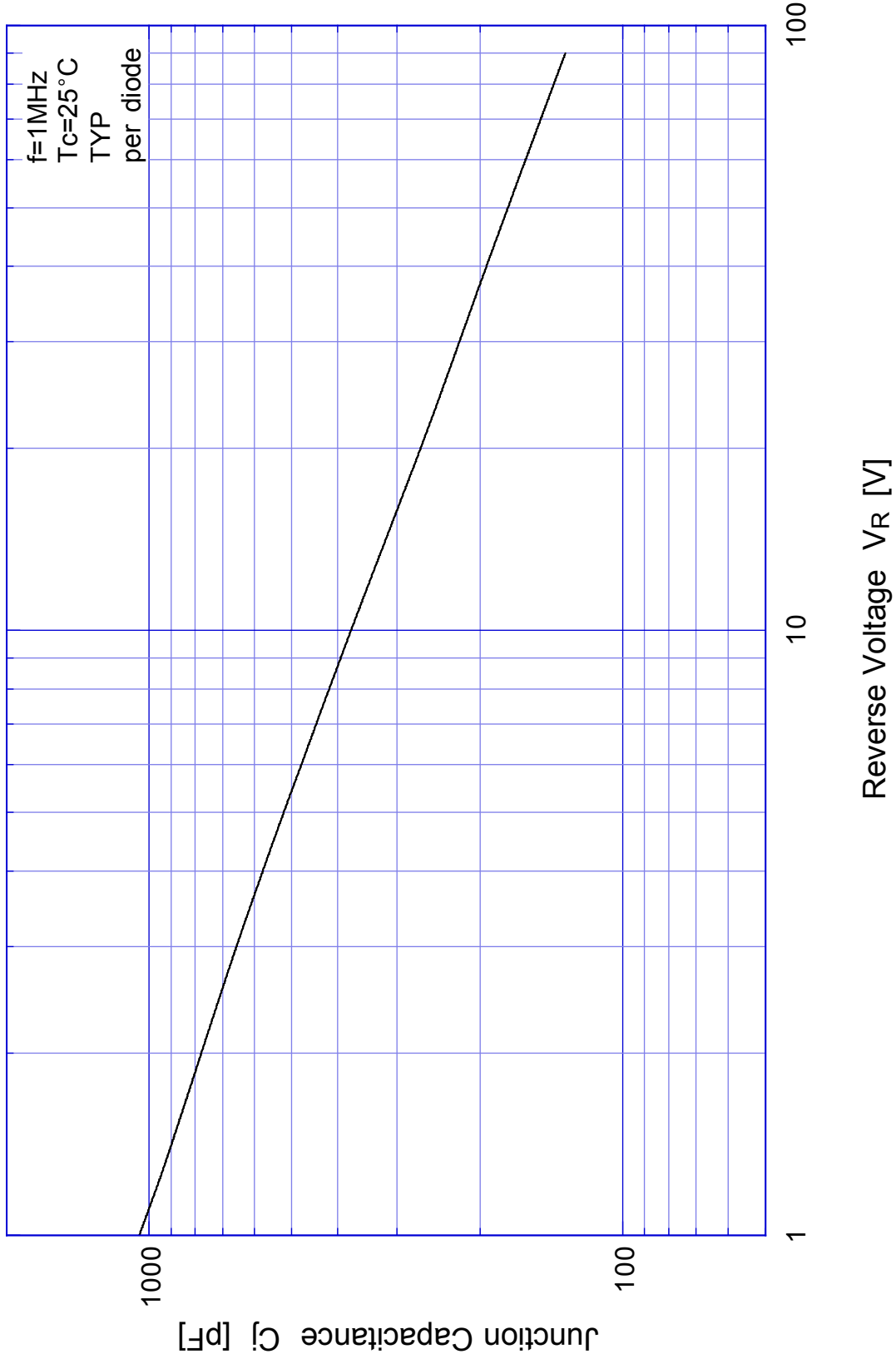
# S20SC9M

## Forward Voltage



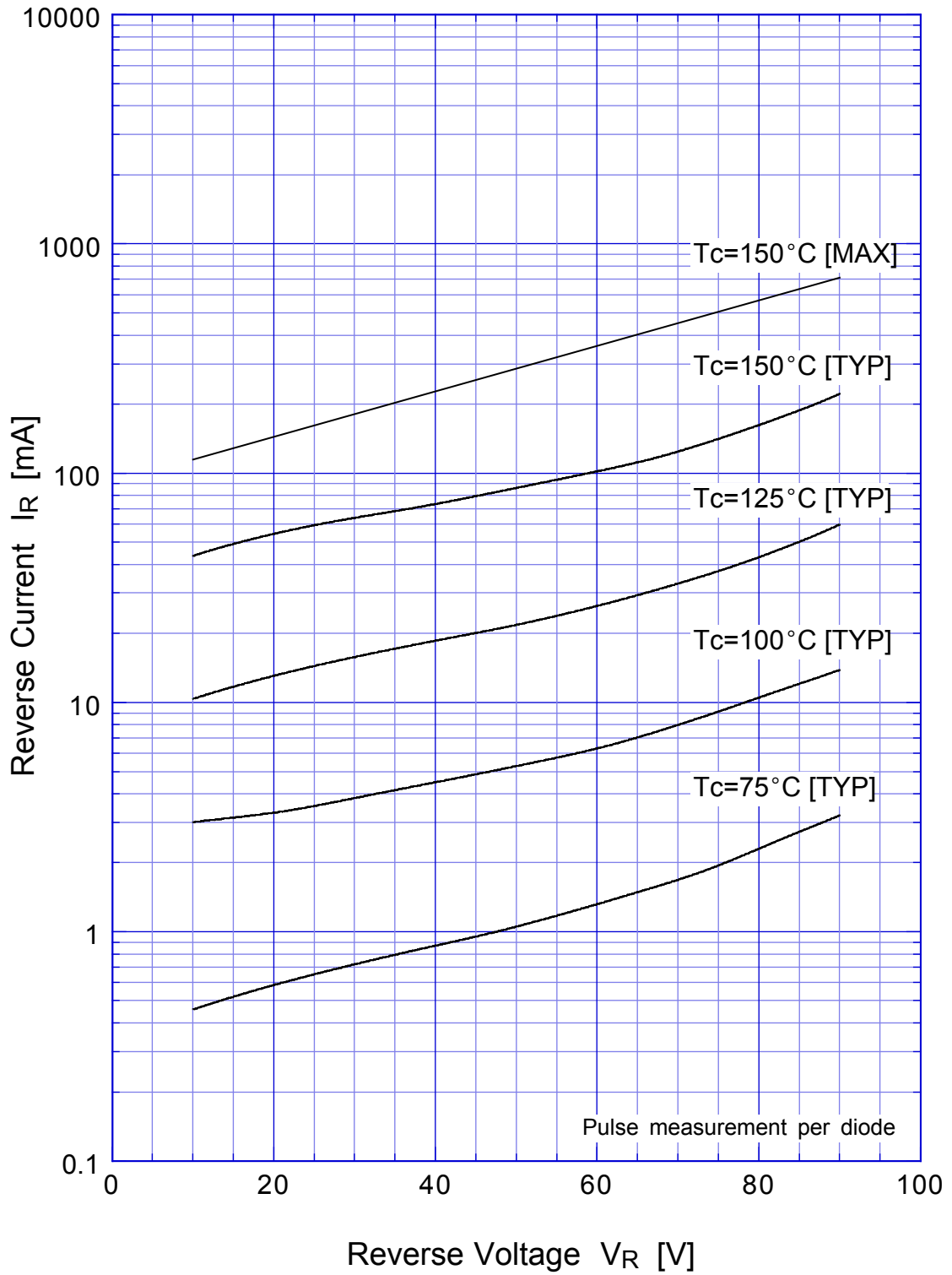
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## Junction Capacitance

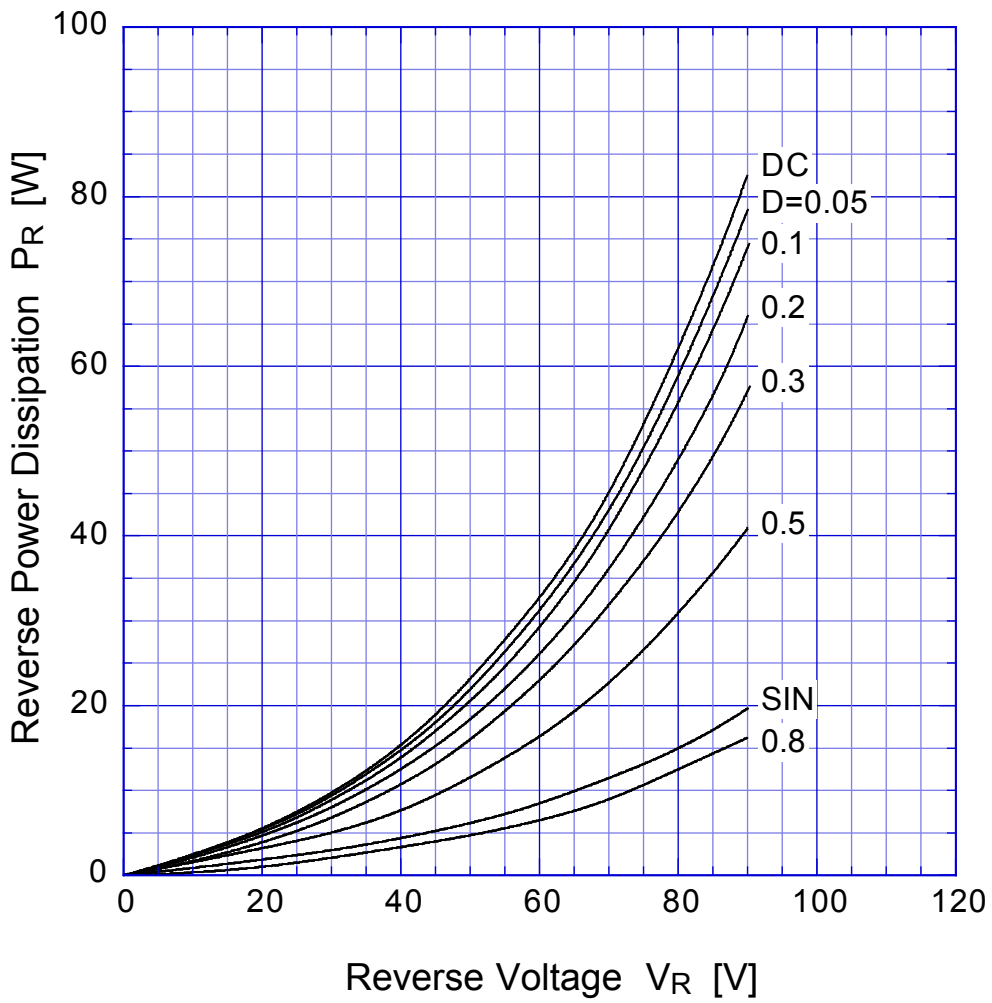


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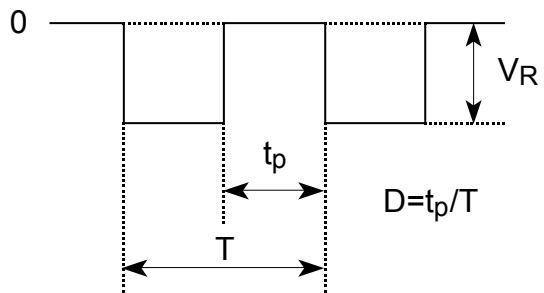
## Reverse Current



# S20SC9M Reverse Power Dissipation

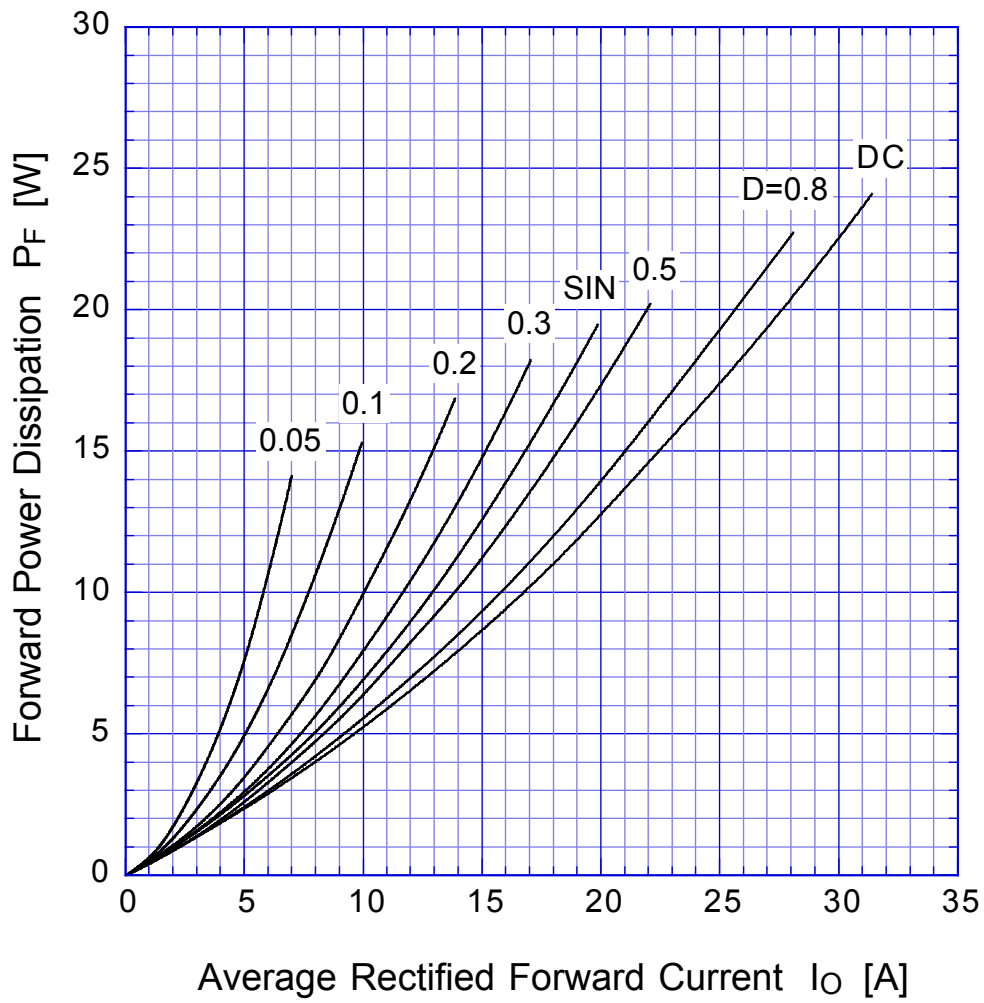


$T_j = 150^\circ\text{C}$

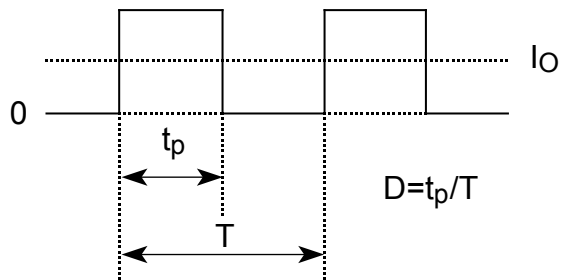


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## Forward Power Dissipation

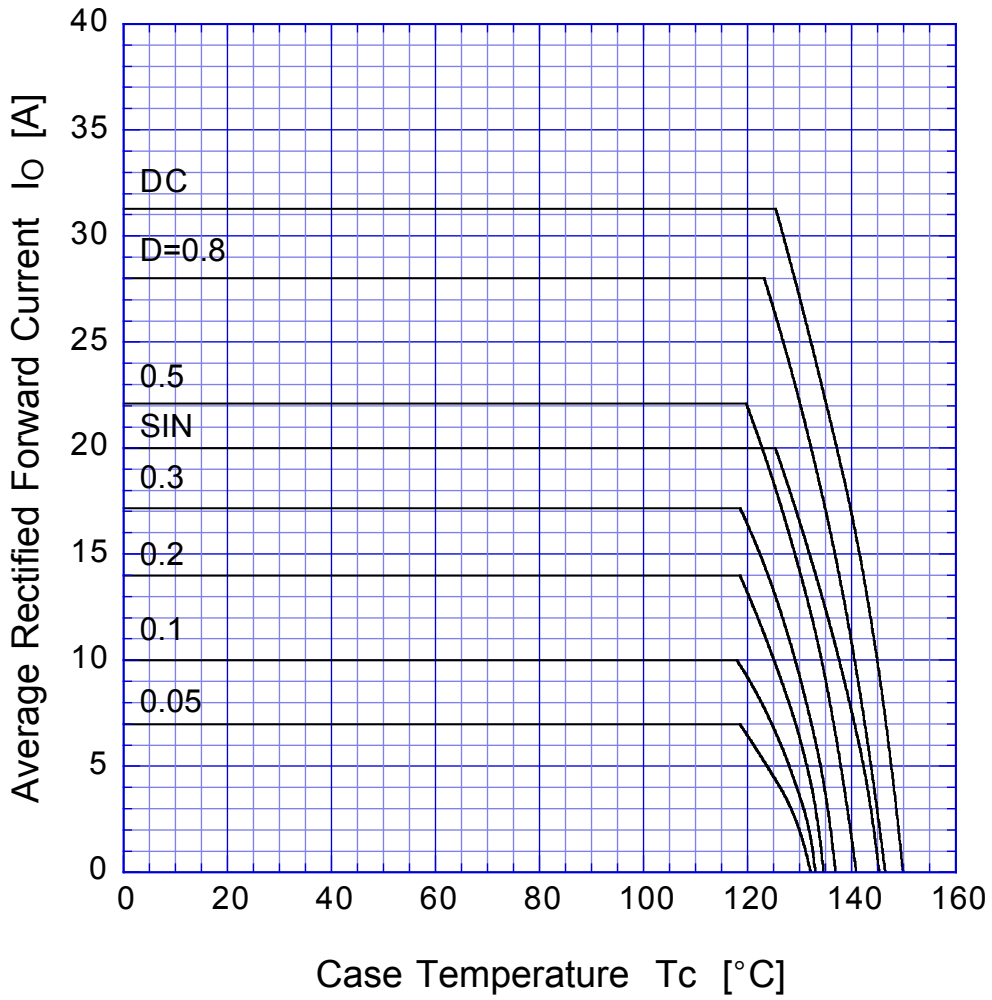


$T_j = 150^\circ\text{C}$

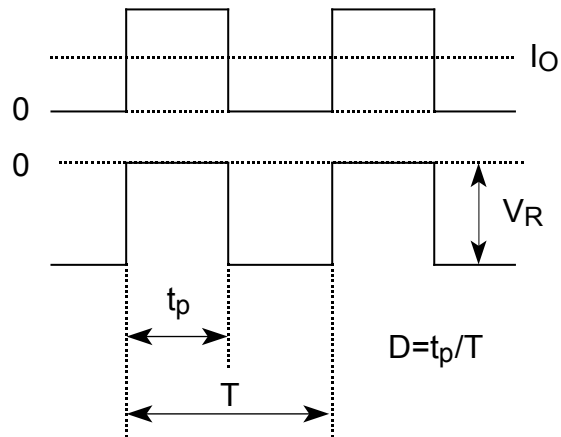


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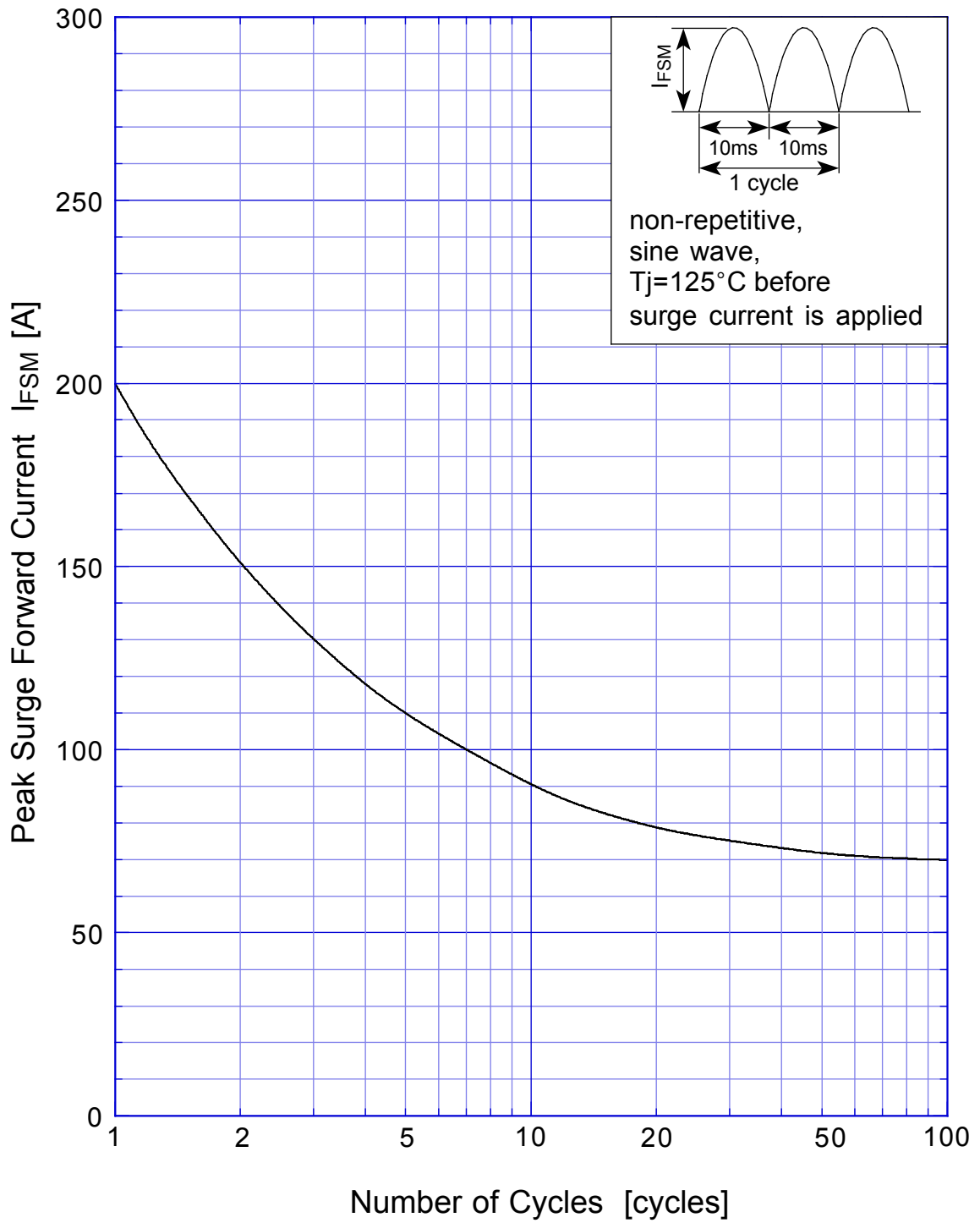
# Derating Curve



$V_R = 45V$

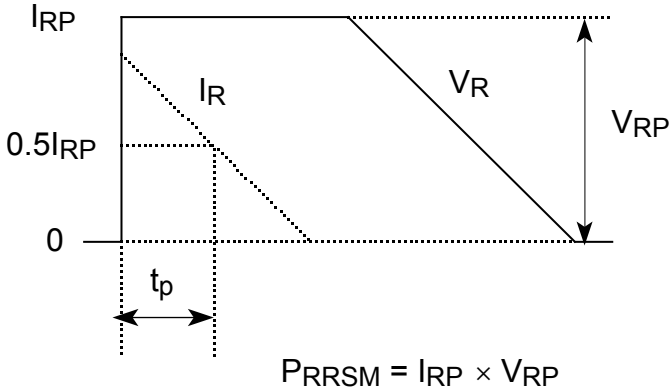
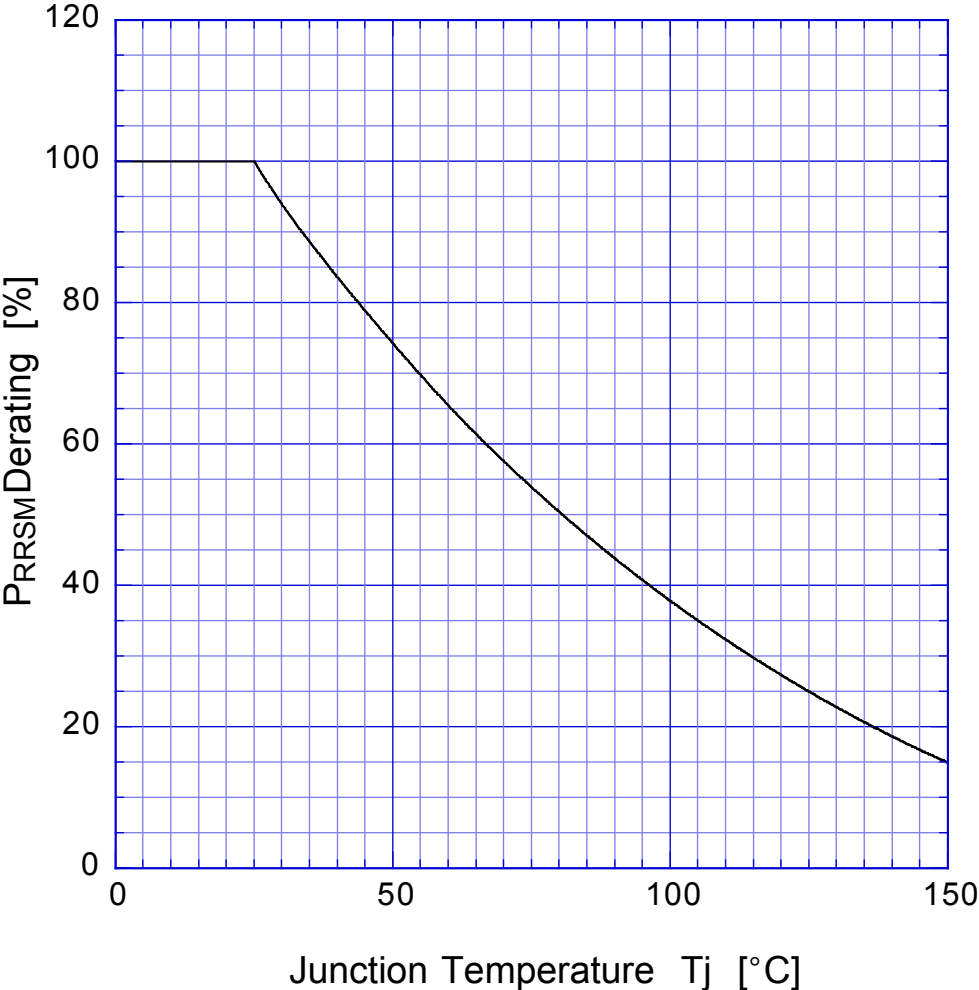


# S20SC9M Peak Surge Forward Capability





# SBD Repetitive Surge Reverse Power Derating Curve



# SBD

## Repetitive Surge Reverse Power Capability

