

# SHINDENGEN

## Schottky Rectifiers (SBD)

Single

# D1FS4A

## 40V 1.5A

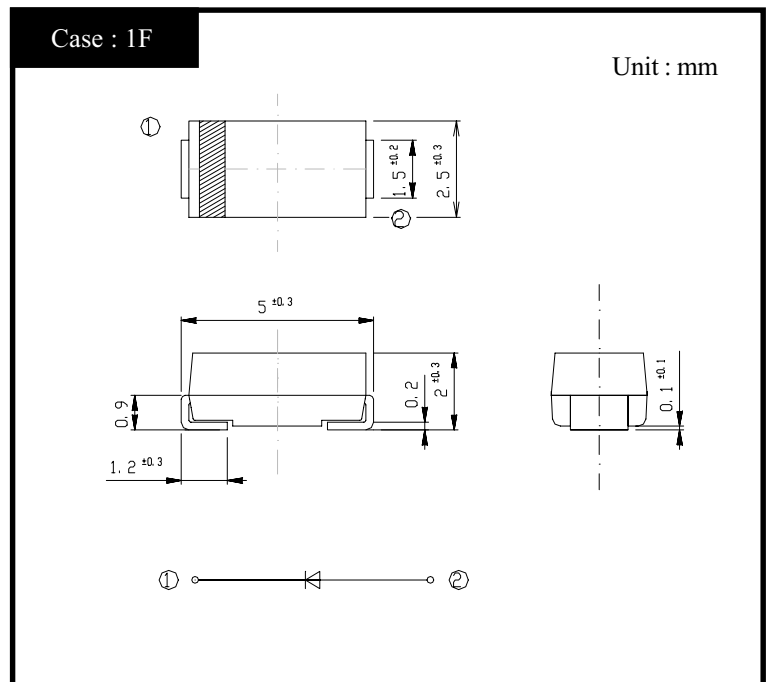
### FEATURES

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

### APPLICATION

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

### OUTLINE DIMENSIONS



### RATINGS

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

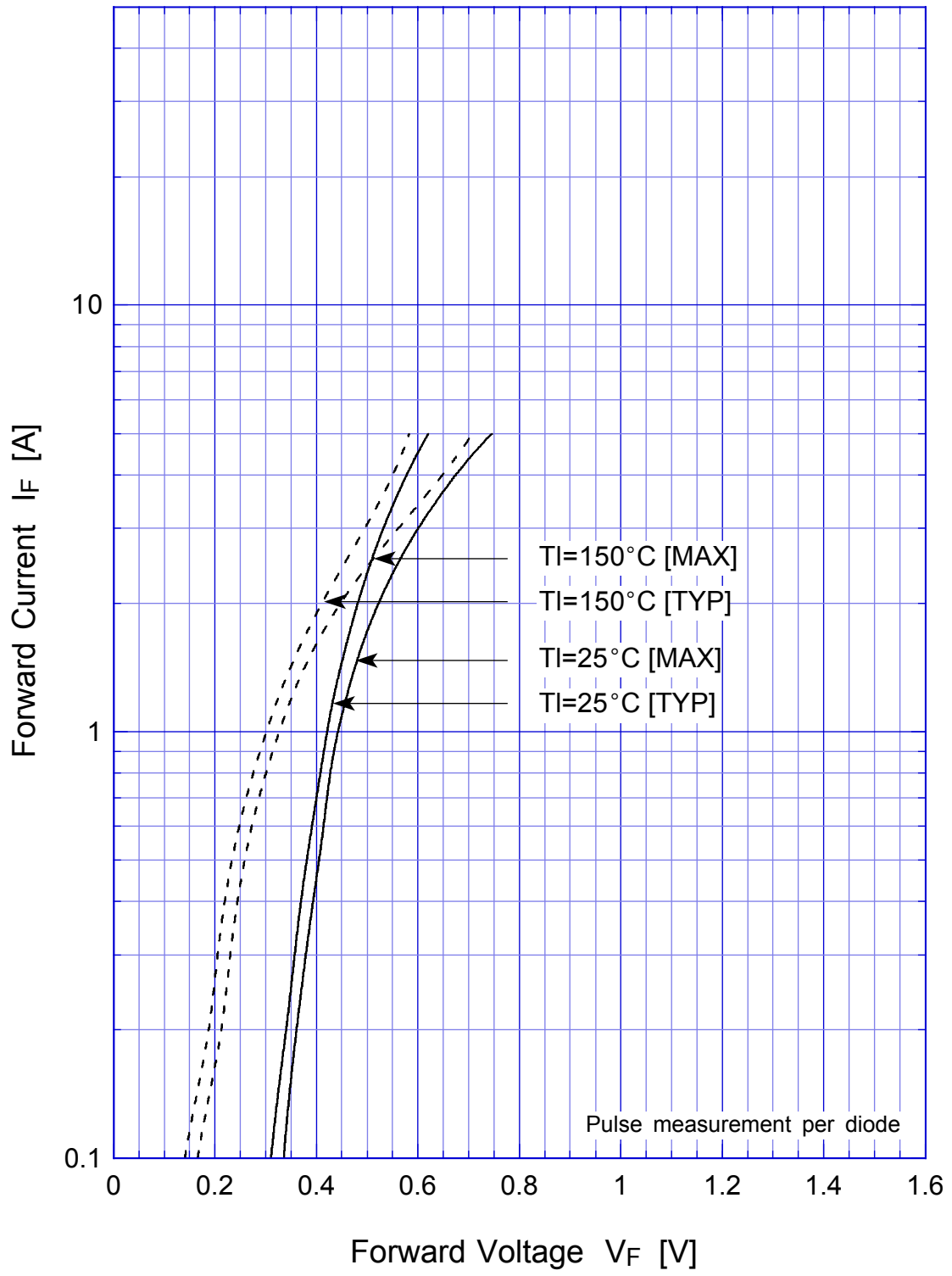
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	$T_{stg}$		-55 ~ 150	$^{\circ}\text{C}$
Operating Junction Temperature	$T_j$		150	$^{\circ}\text{C}$
Maximum Reverse Voltage	$V_{RM}$		40	V
Repetitive Peak Surge Reverse Voltage	$V_{RRSM}$	Pulse width 0.5ms, duty 1/40	45	V
Average Rectified Forward Current	$I_O$	50Hz sine wave, R-load $T_a=28^{\circ}\text{C}$ On alumina substrate	1.5	A
		50Hz sine wave, R-load $T_a=36^{\circ}\text{C}$ On glass-epoxy substrate	1.1	
Peak Surge Forward Current	$I_{FSM}$	50Hz sine wave, Non-repetitive 1 cycle peak value, $T_j=25^{\circ}\text{C}$	60	A
Repetitive Peak Surge Reverse Power	$P_{RRSM}$	Pulse width 10 $\mu$ s, Rating of per diode, $T_j=25^{\circ}\text{C}$	160	W

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

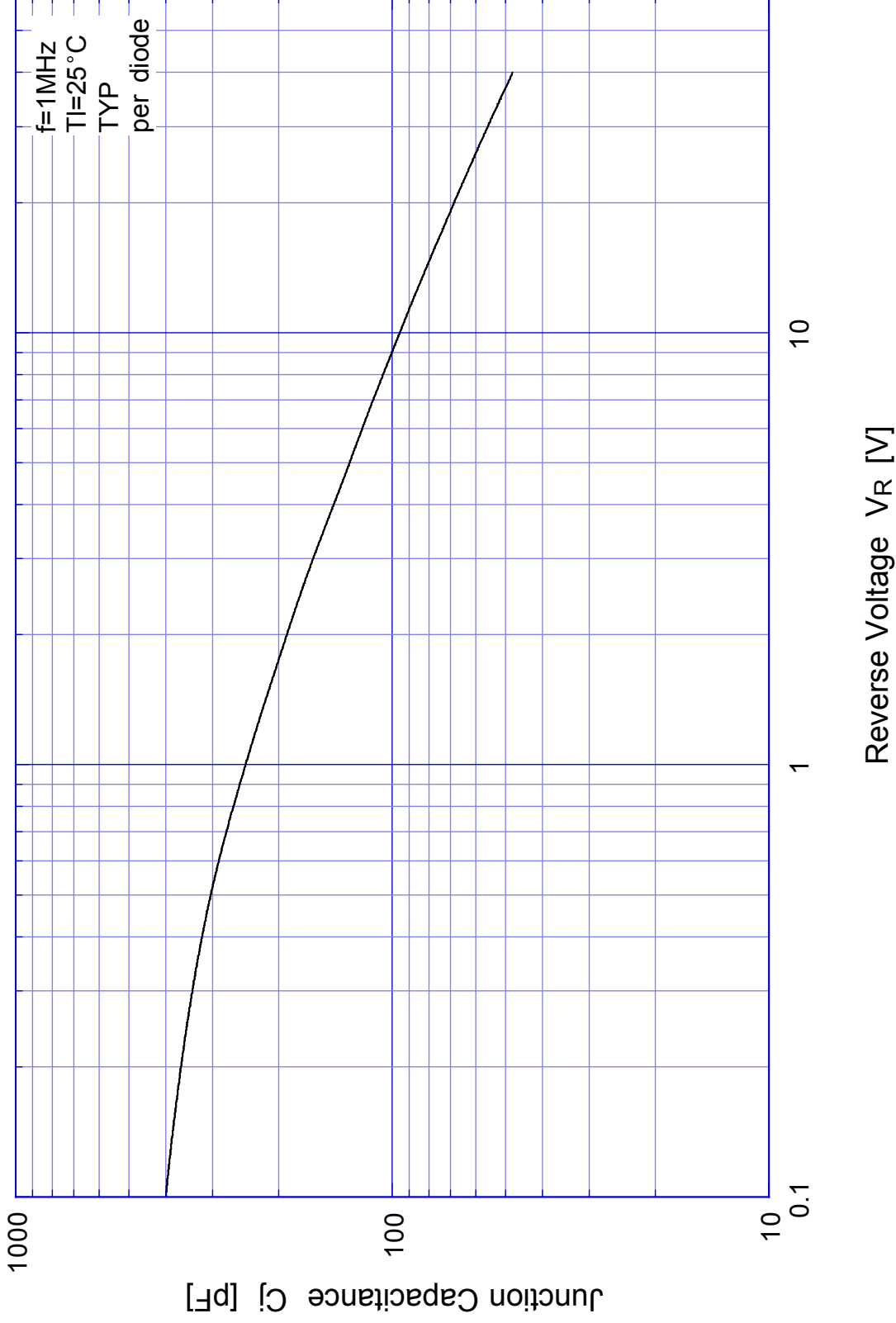
Item	Symbol	Conditions	Ratings	Unit
Forward Voltage	$V_F$	$I_F=1.1\text{A}$ , Pulse measurement	Max.0.45	V
		$I_F=1.5\text{A}$ , Pulse measurement	Max.0.48	
Reverse Current	$I_R$	$V_R=V_{RM}$ , Pulse measurement	Max.2	mA
Junction Capacitance	$C_j$	$f=1\text{MHz}$ , $V_R=10\text{V}$	Typ.95	pF
Thermal Resistance	$\theta_{jl}$	junction to lead	Max.23	$^{\circ}\text{C/W}$
	$\theta_{ja}$	junction to ambient On alumina substrate	Max.108	
		junction to ambient On glass-epoxy substrate	Max.157	

# D1FS4A

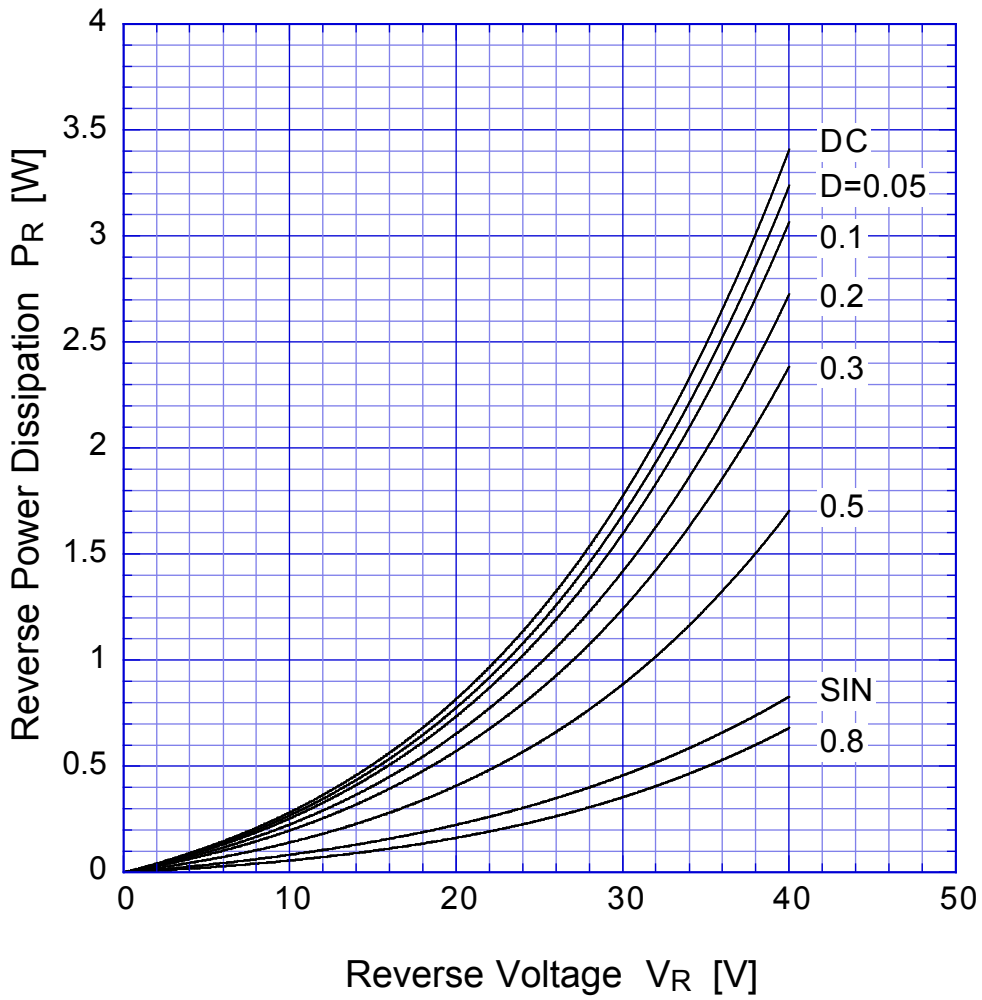
## Forward Voltage



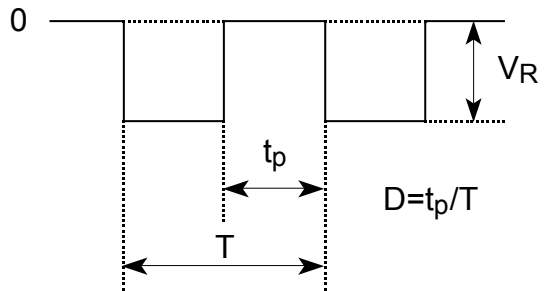
# D1FS4A Junction Capacitance



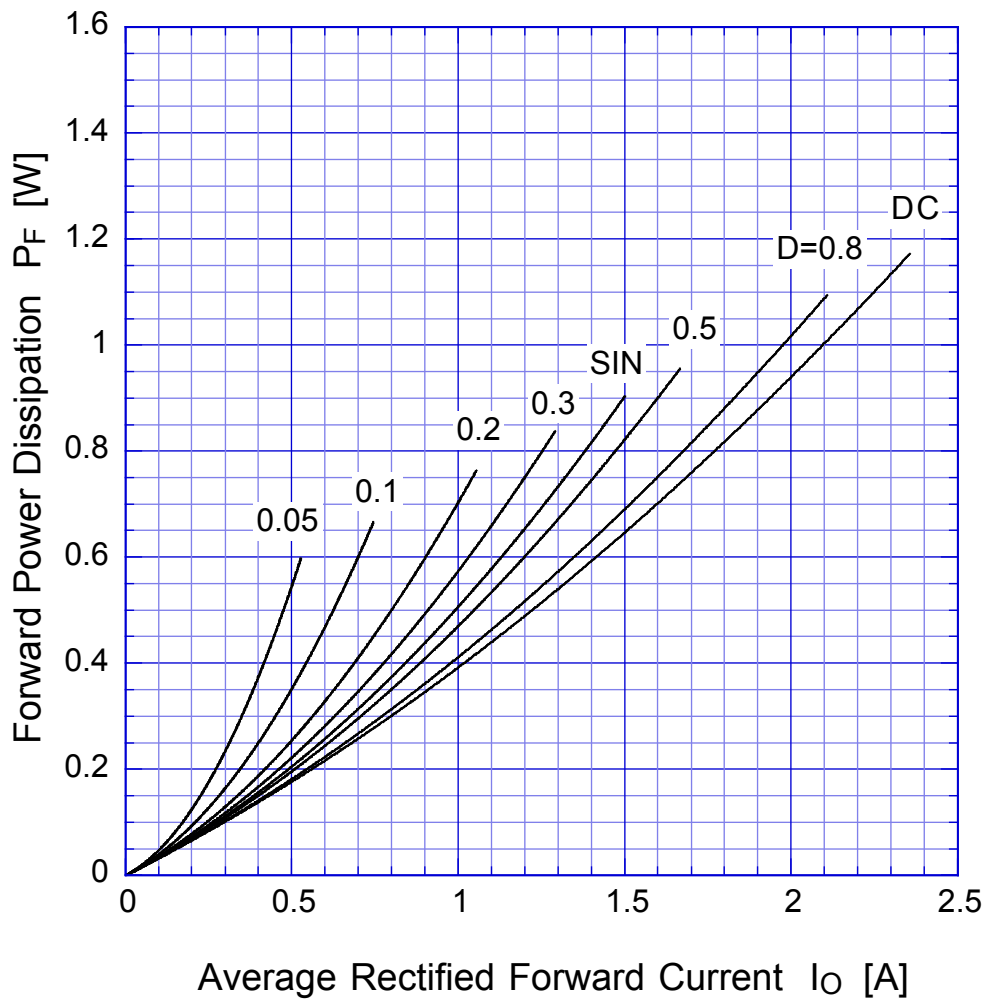
# D1FS4A Reverse Power Dissipation



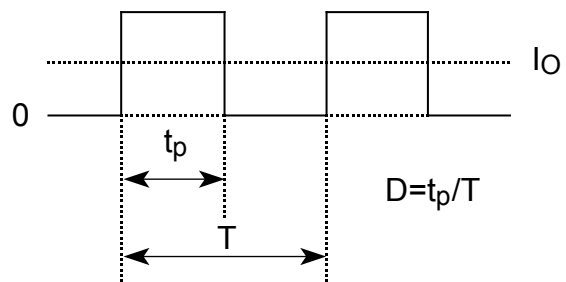
$T_j = 150^\circ\text{C}$



# D1FS4A Forward Power Dissipation

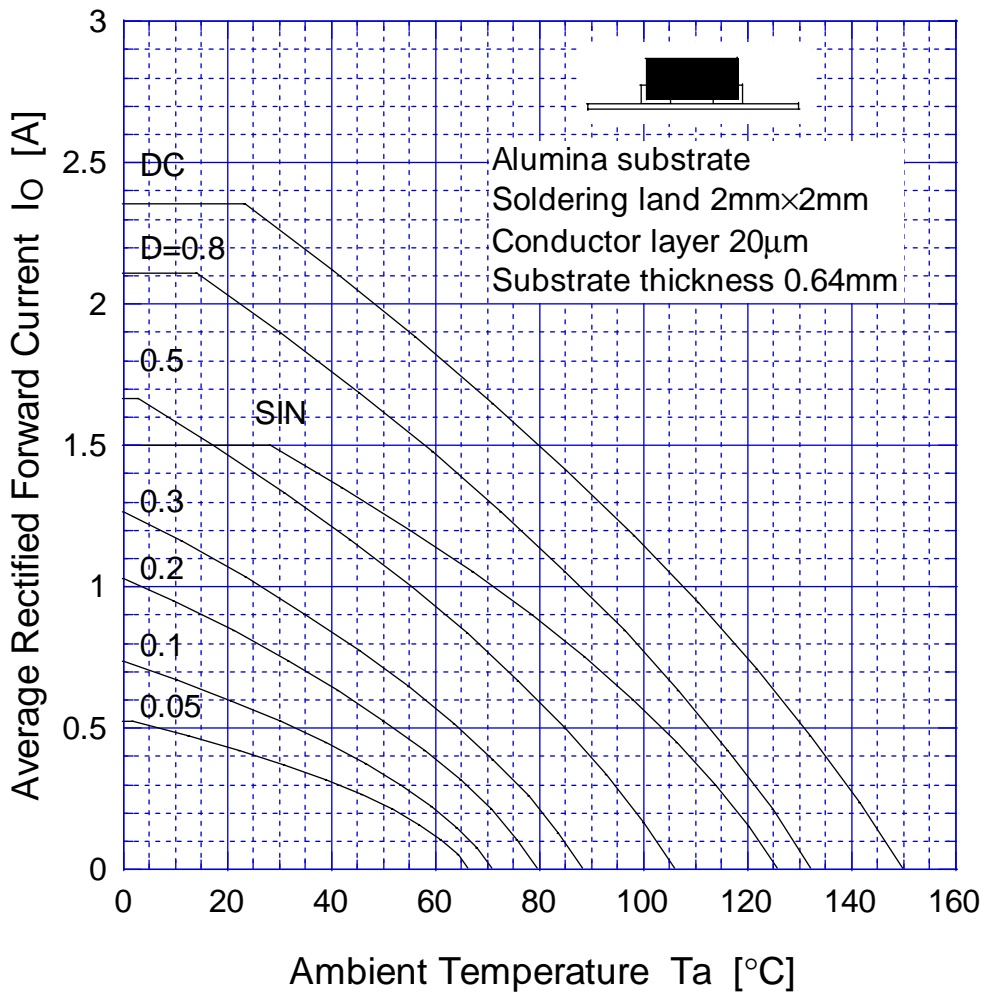


$T_j = 150^\circ\text{C}$

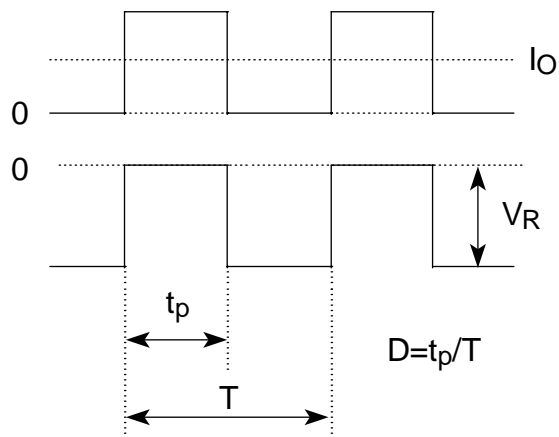


# D1FS4A

# Derating Curve

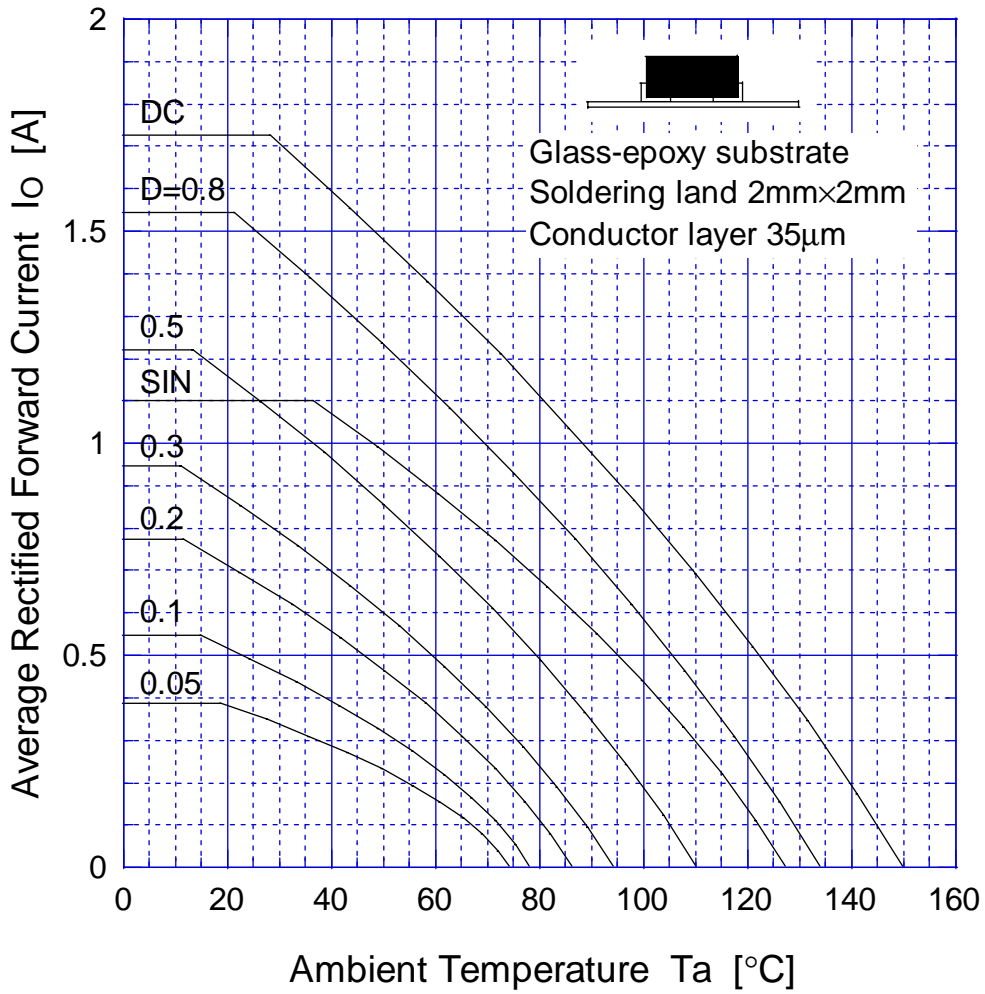


$V_R = 20V$

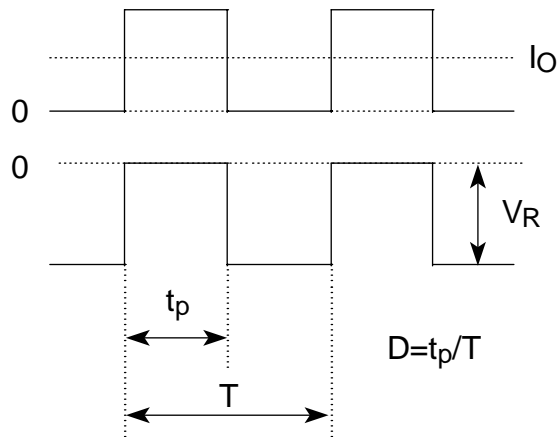


# D1FS4A

# Derating Curve

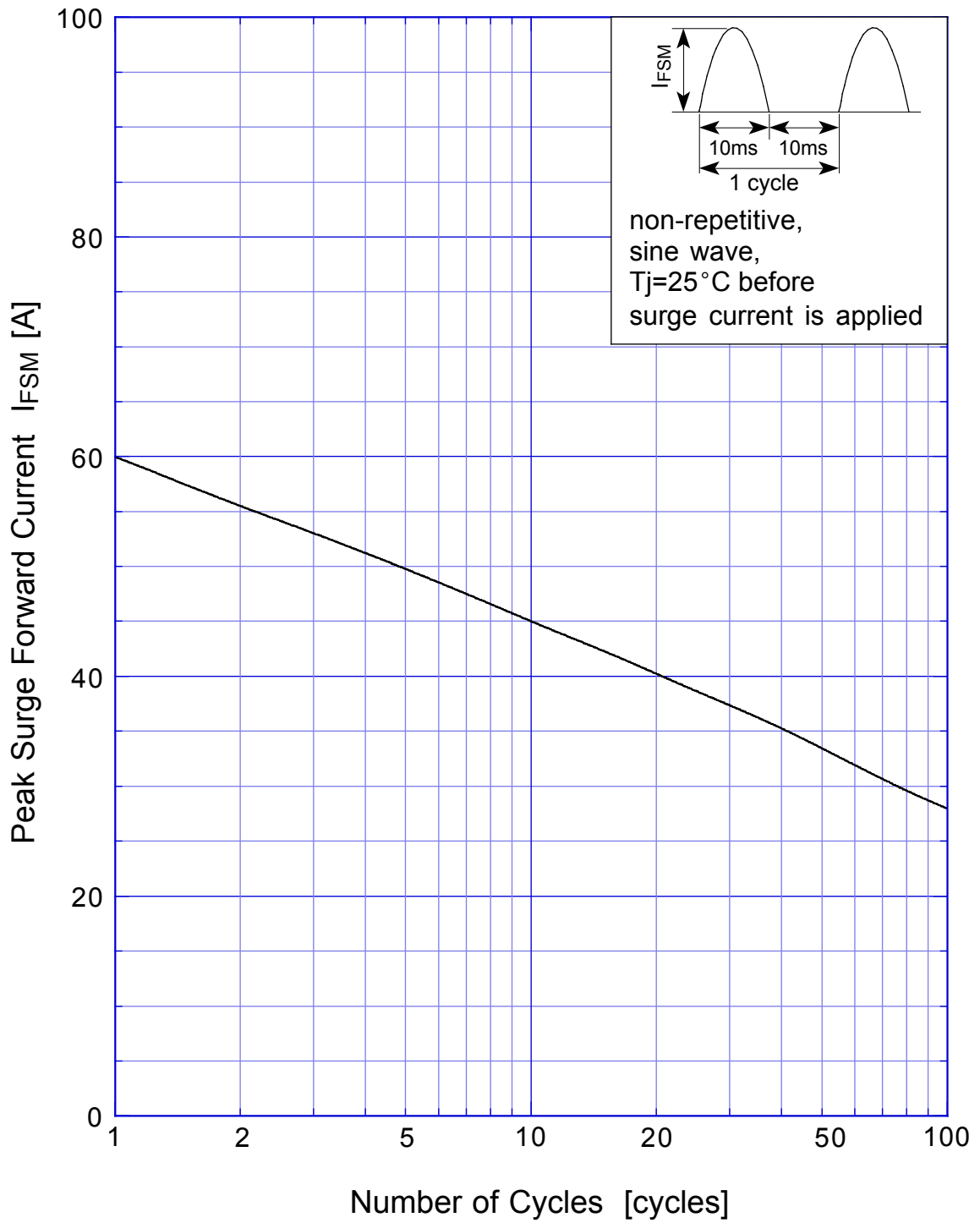


$V_R = 15V$



# D1FS4A

## Peak Surge Forward Capability





# SBD Repetitive Surge Reverse Power Derating Curve



# SBD

## Repetitive Surge Reverse Power Capability

