SHINDENGEN

Schottky Rectifiers (SBD)

Dual

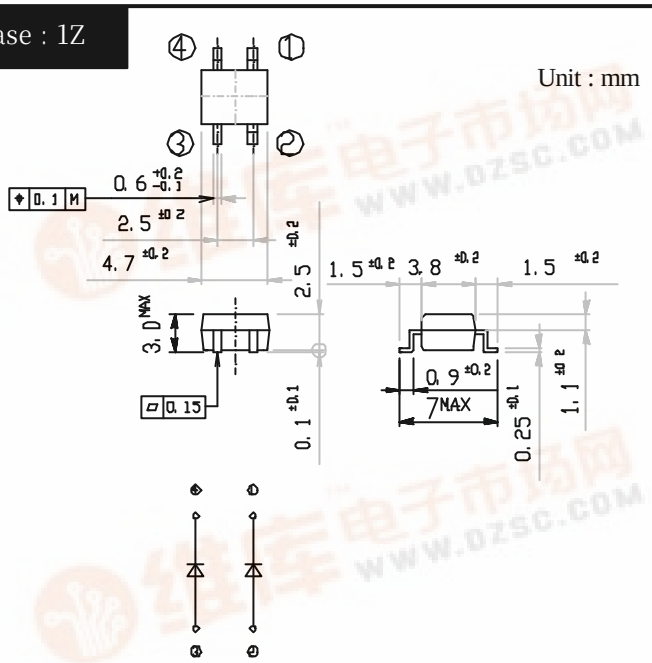
S1ZAS4

40V 1.2A

OUTLINE DIMENSIONS

Case : 1Z

Unit : mm



FEATURES

- SMT
- Tj150℃
- PRRSM avalanche guaranteed
- Array

APPLICATION

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

RATINGS

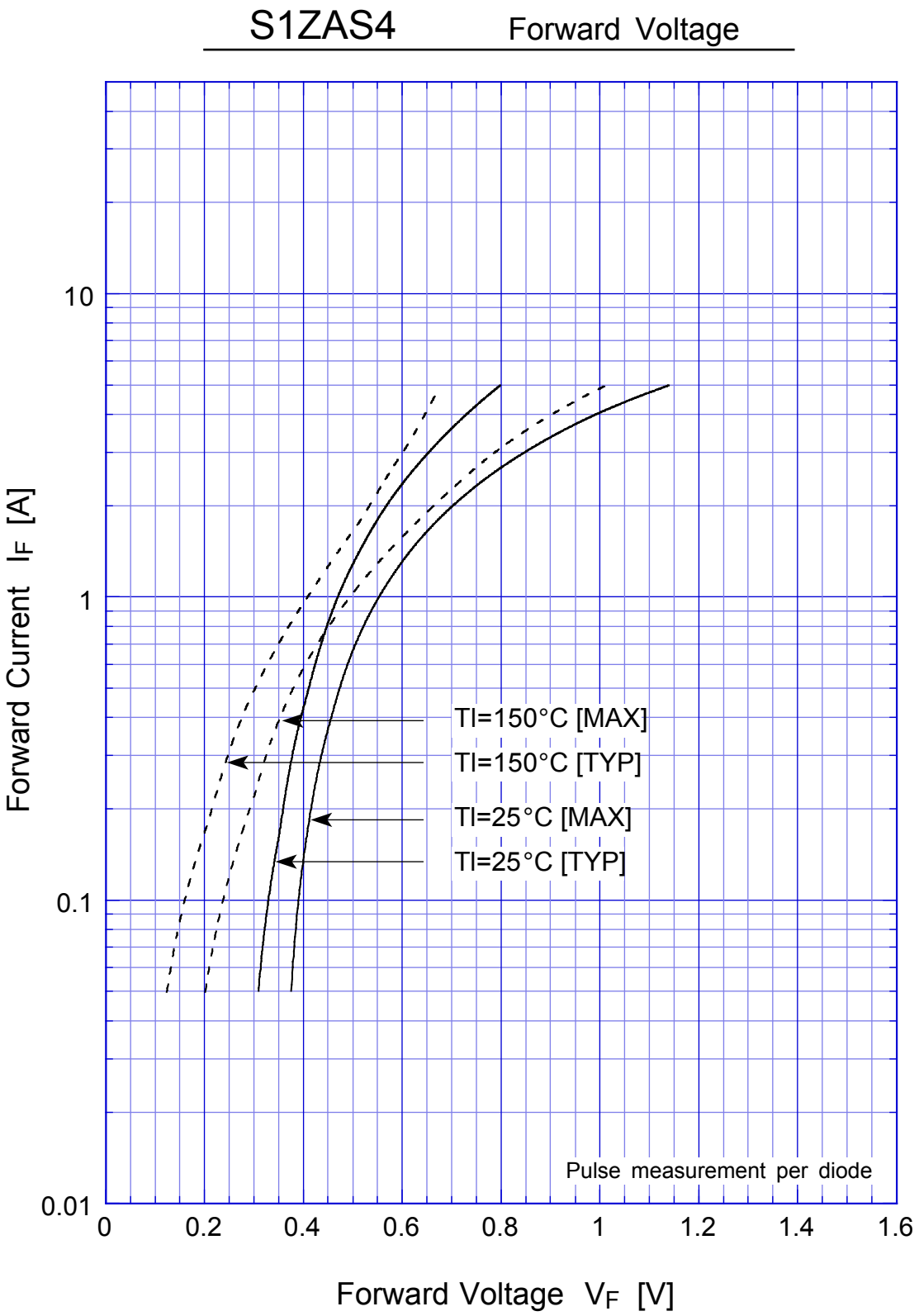
●Absolute Maximum Ratings (If not specified Tl=25℃)

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	VRRSM	Pulse width 0.5ms, duty 1/40	45	V
Average Rectified Forward Current	I_O	50Hz sine wave, R-load, On alumina substrate, 1 element operation, Ta=49℃	1.2	A
		50Hz sine wave, R-load, On alumina substrate, 2 element operation, Ta=45℃	0.9*	
		50Hz sine wave, R-load, On glass-epoxy substrate, 1 element operation, Ta=47℃	1.0	
		50Hz sine wave, R-load, On glass-epoxy substrate, 2 element operation, Ta=43℃	0.72*	
Peak Surge Forward Current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=125℃	40	A
Repetitive Peak Surge Reverse Power	PRRSM	Pulse width 10μs, Rating of per diode, Tj=25℃	160	W

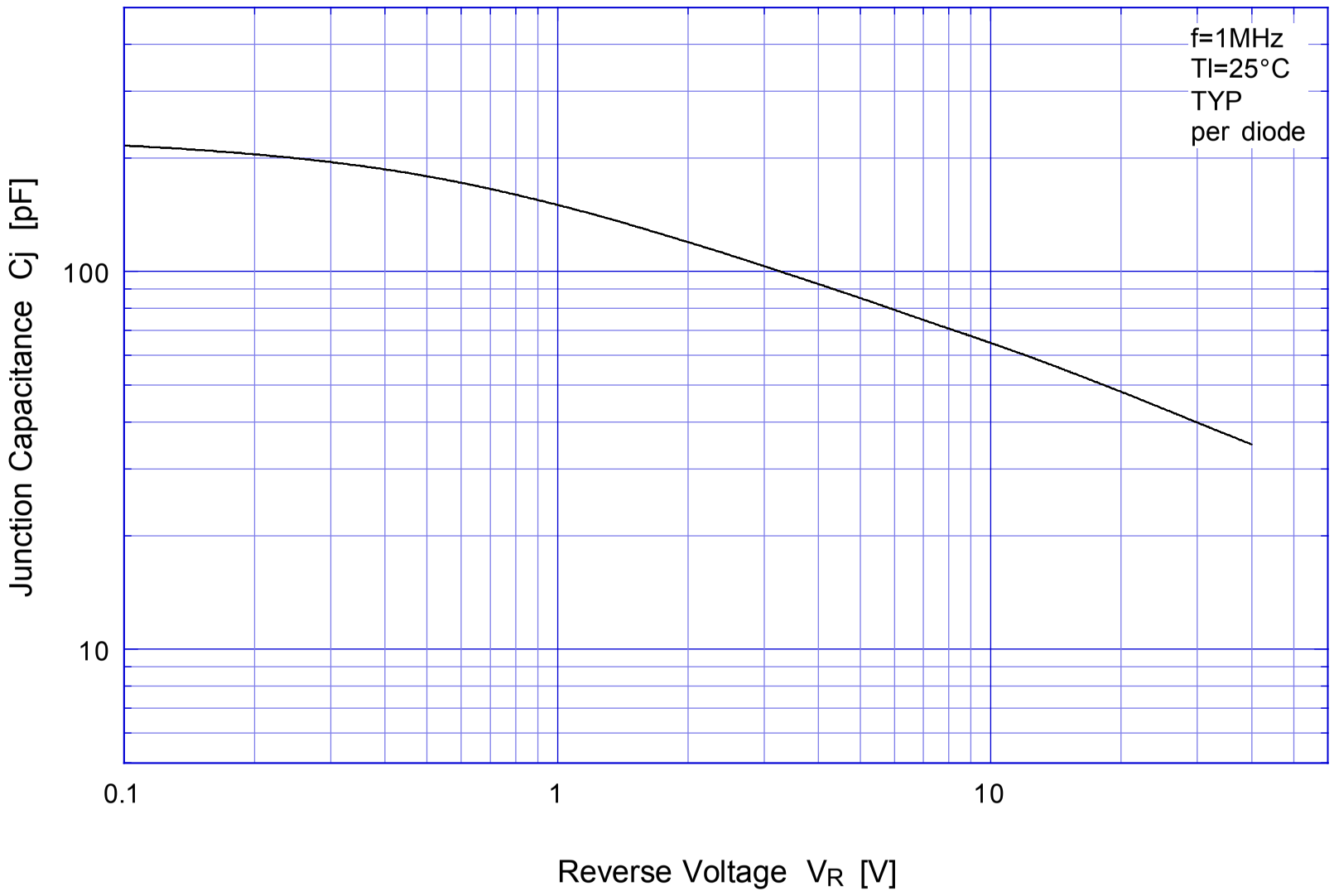
●Electrical Characteristics (If not specified Tl=25℃)

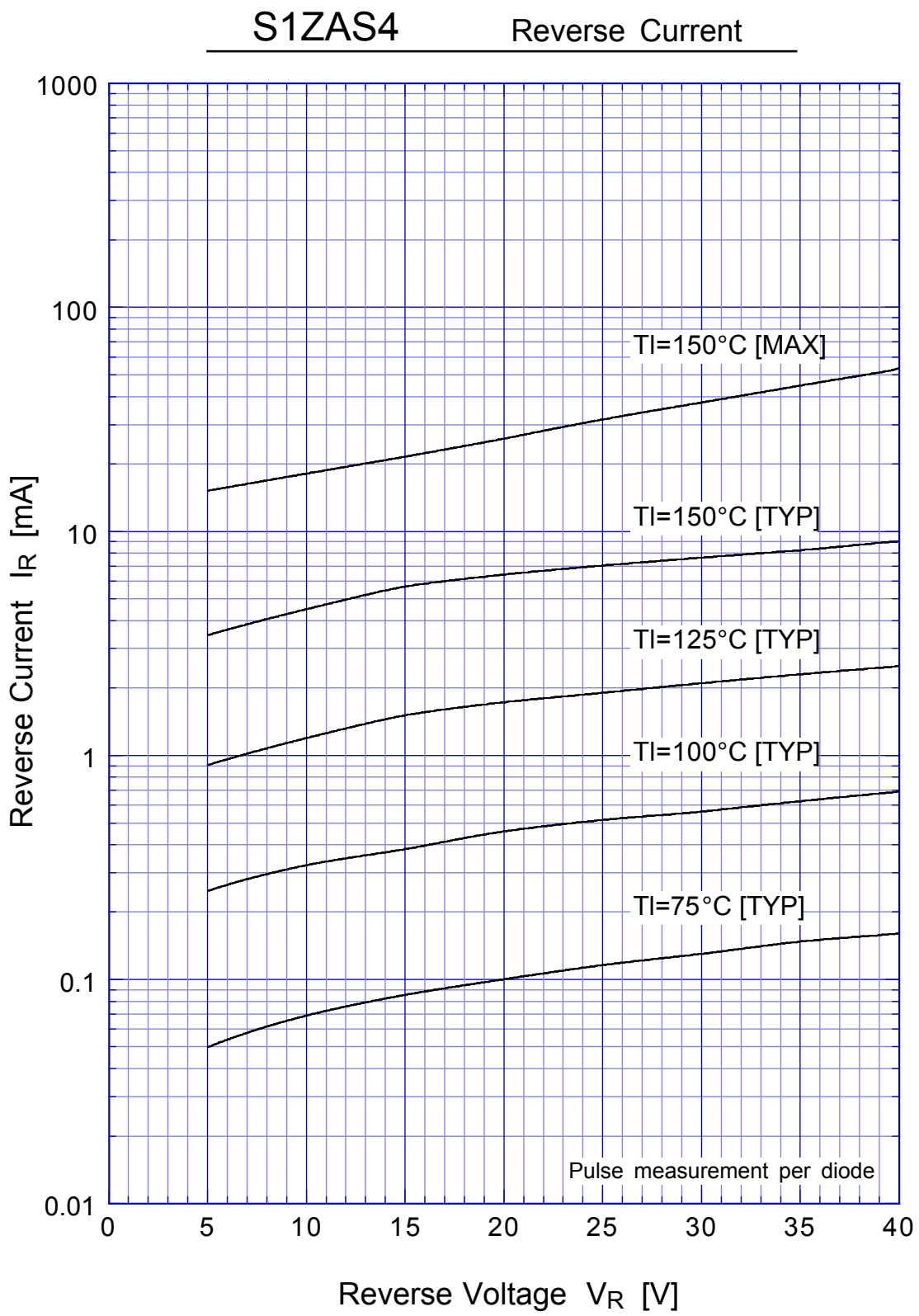
Item	Symbol	Conditions	Ratings	Unit
Forward Voltage	VF	IF=1A, Pulse measurement, Rating of per diode	Max.0.55	V
Reverse Current	IR	VR=VRM, Pulse measurement, Rating of per diode	Max.1	mA
Junction Capacitance	Cj	f=1MHz, VR=10V, Rating of per diode	Typ.65	pF
Thermal Resistance	θjl	junction to lead	Max.25	℃/W
	θja	junction to ambient, On alumina substrate, 1 element operation	Max.93	
		junction to ambient, On alumina substrate, 2 element operation	Max.140*	
		junction to ambient, On glass-epoxy substrate, 1 element operation	Max.120	
		junction to ambient, On glass-epoxy substrate, 2 element operation	Max.186*	

＊ Raitng of per diode

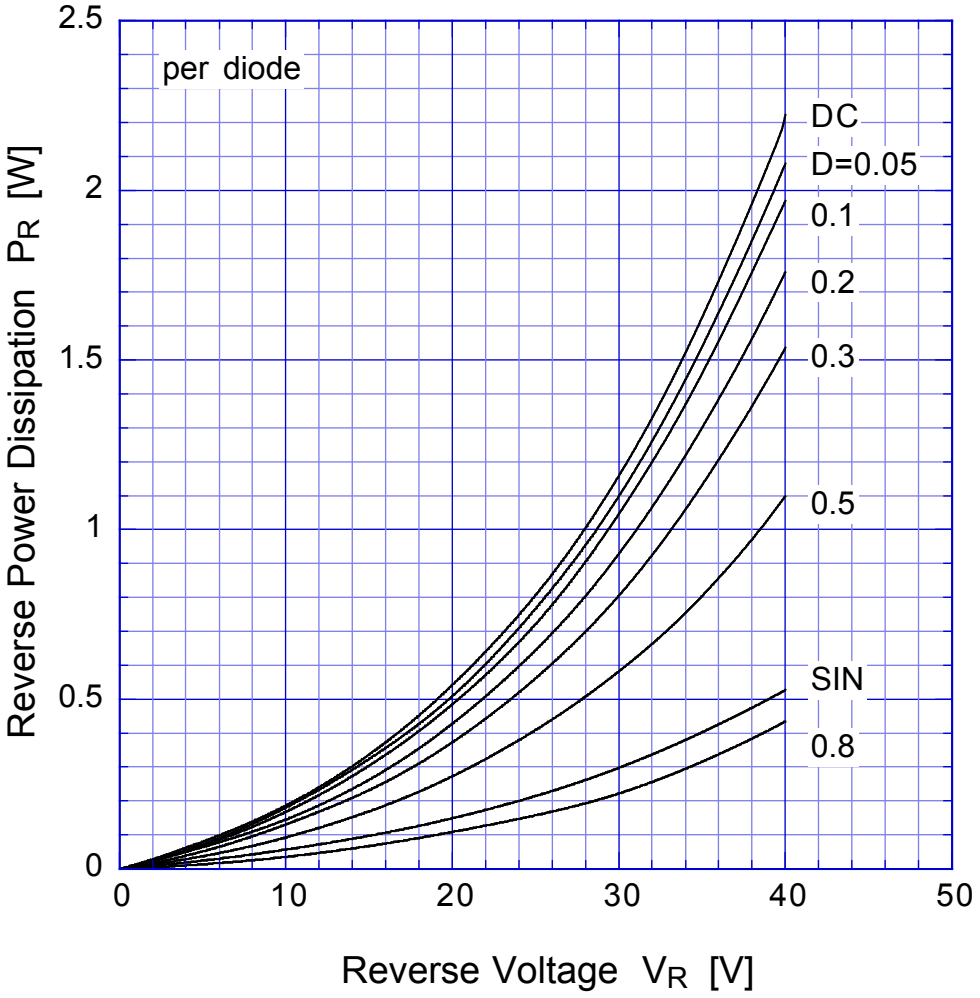

S1ZAS4
Forward Voltage
Forward Current I_F [A]
10
1
0.1
0.01
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
Forward Voltage V_F [V]
Tl=150°C [MAX]
Tl=150°C [TYP]
Tl=25°C [MAX]
Tl=25°C [TYP]
Pulse measurement per diode

S1ZAS4 Junction Capacitance

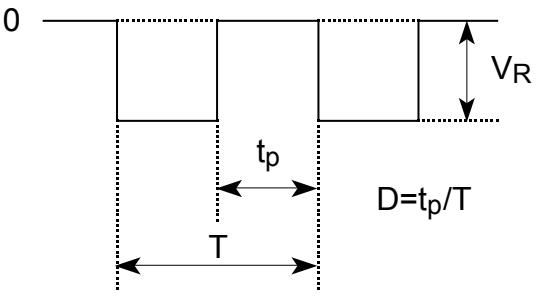



S1ZAS4
Reverse Current
1000
100
10
1
0.1
0.01
Reverse Current IR [mA]
TI=150°C [MAX]
TI=150°C [TYP]
TI=125°C [TYP]
TI=100°C [TYP]
TI=75°C [TYP]
Pulse measurement per diode
0
5
10
15
20
25
30
35
40
Reverse Voltage VR [V]

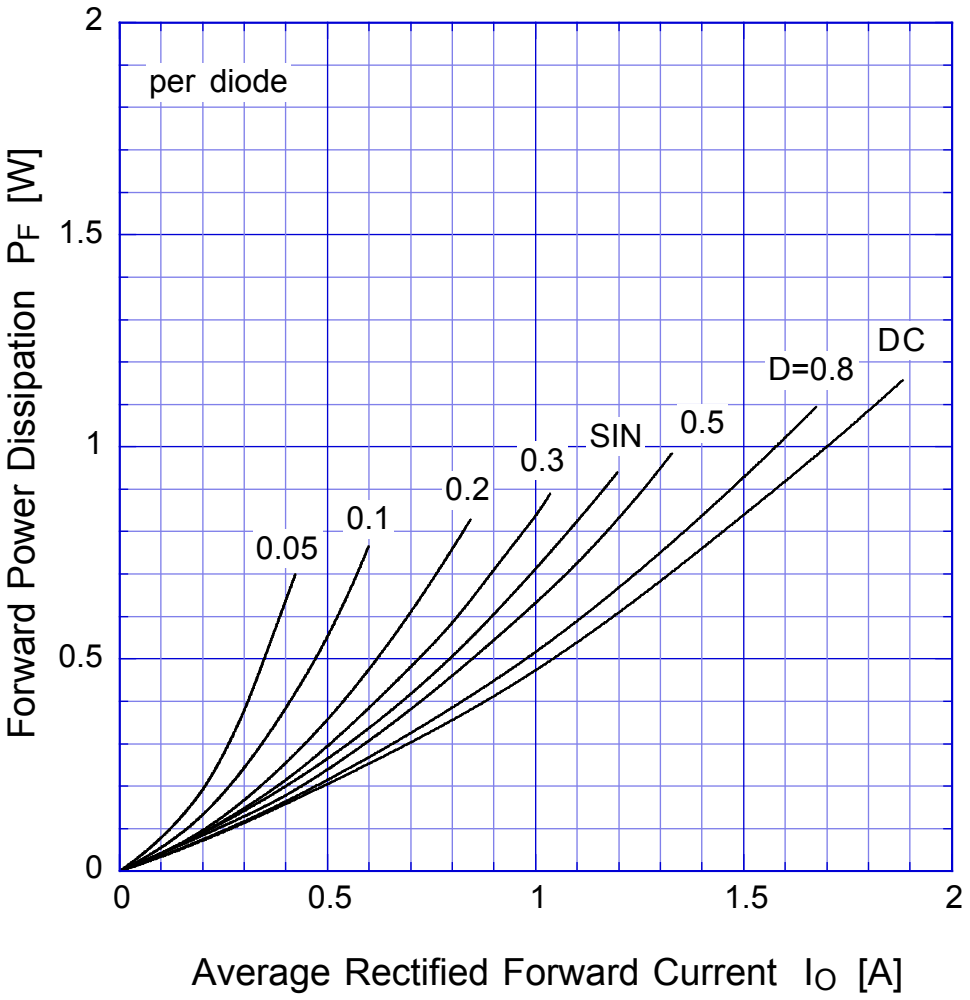
S1ZAS4 Reverse Power Dissipation



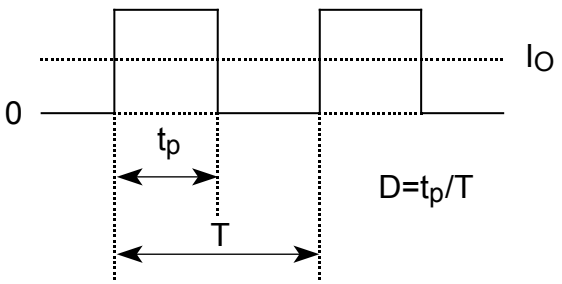
Tj = 150°C



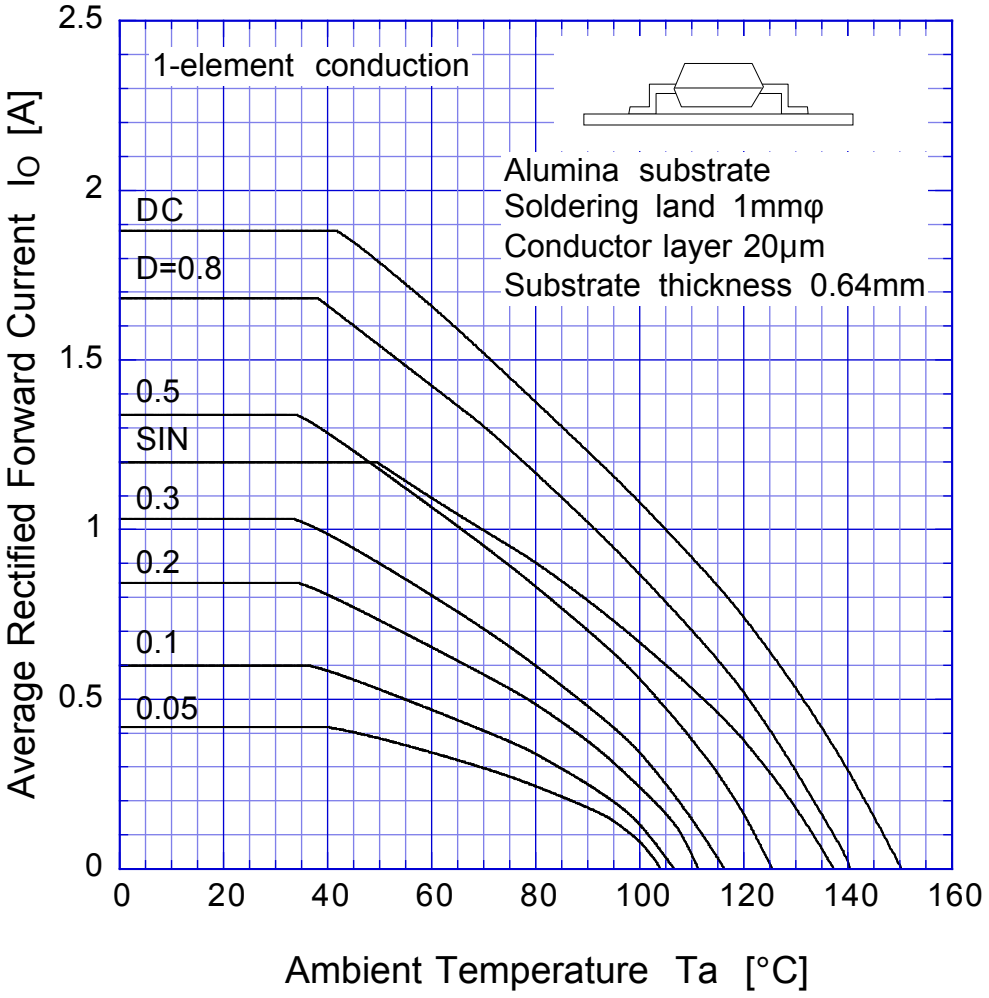
S1ZAS4 Forward Power Dissipation

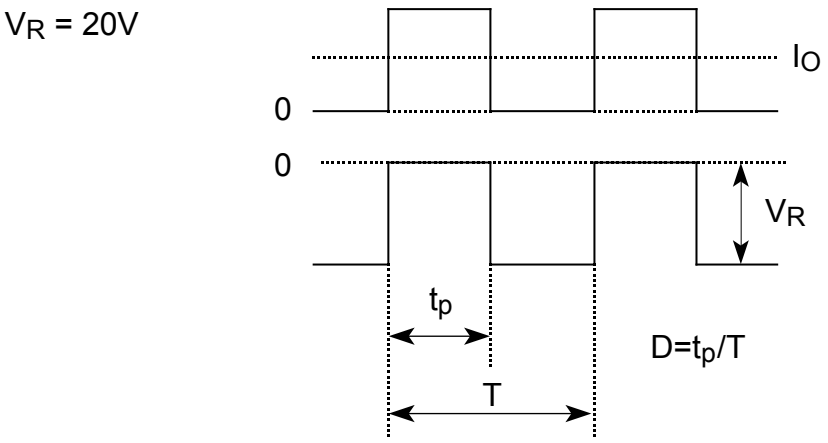


Tj = 150°C

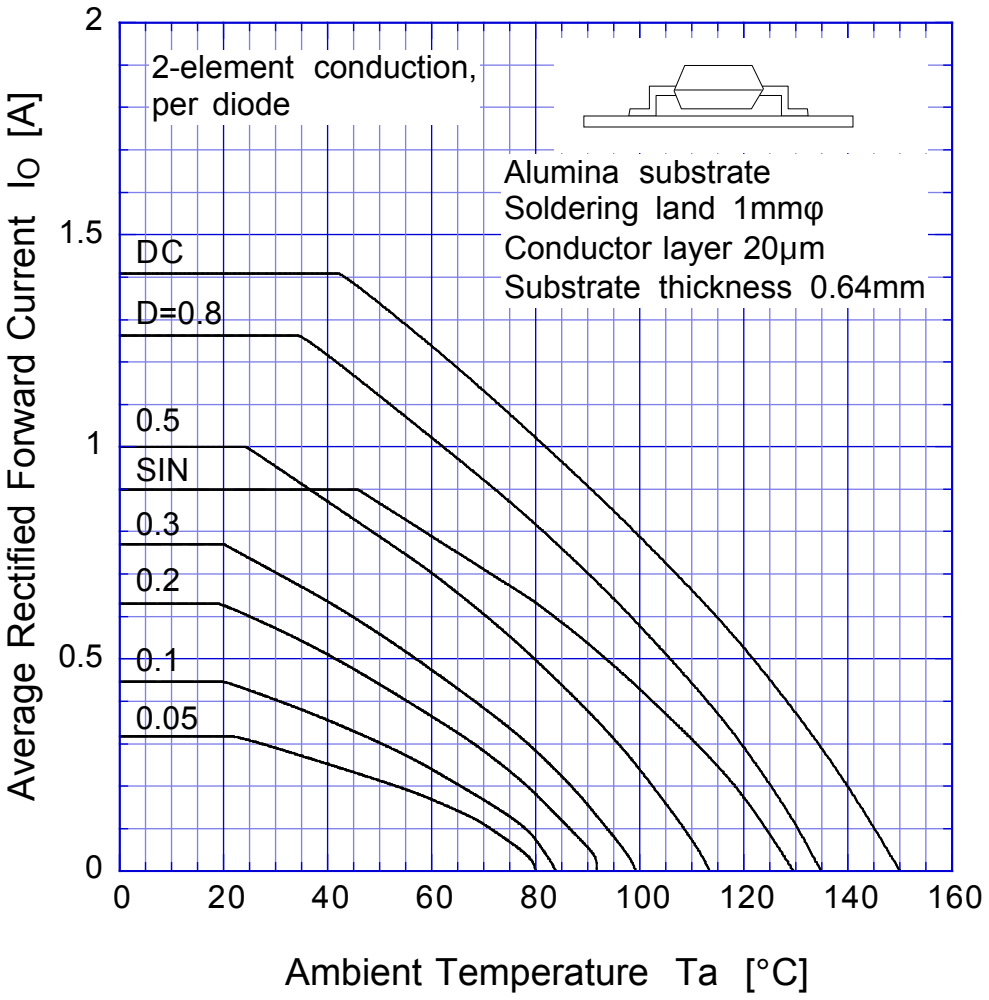


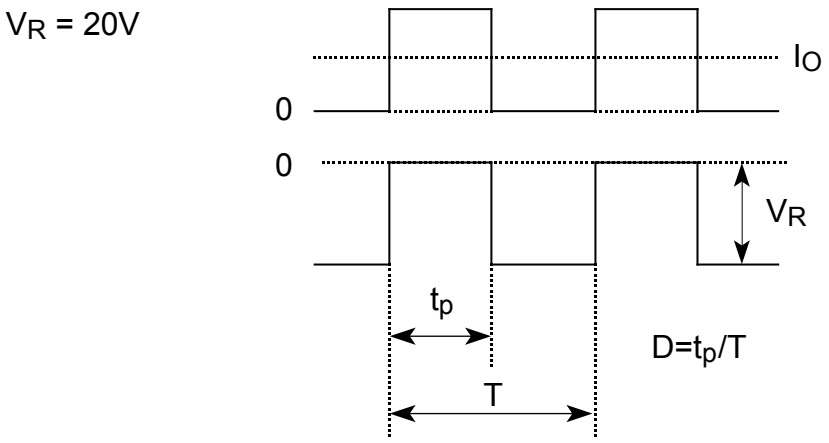
S1ZAS4 Derating Curve



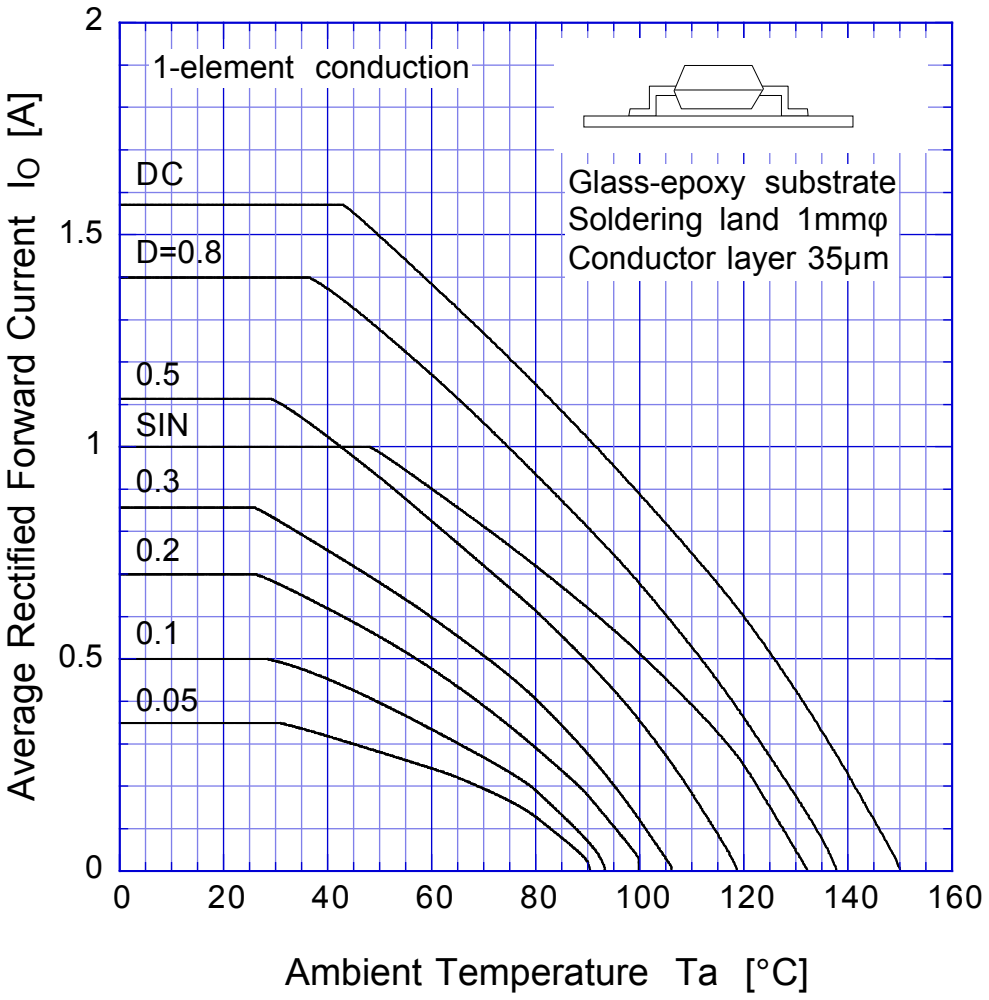


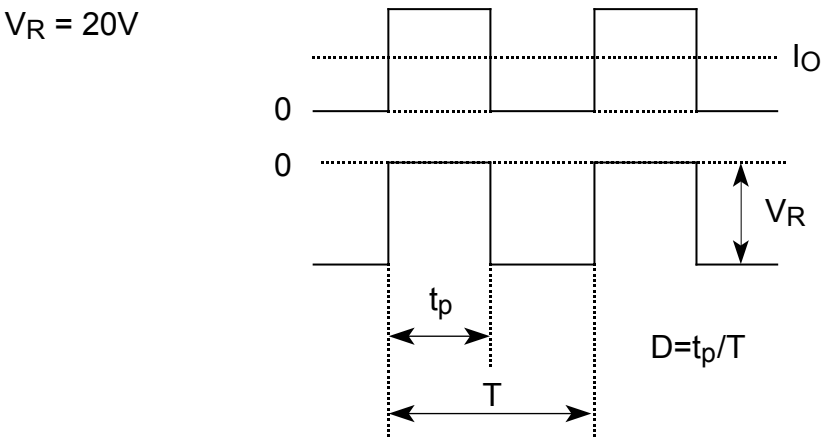
S1ZAS4 Derating Curve



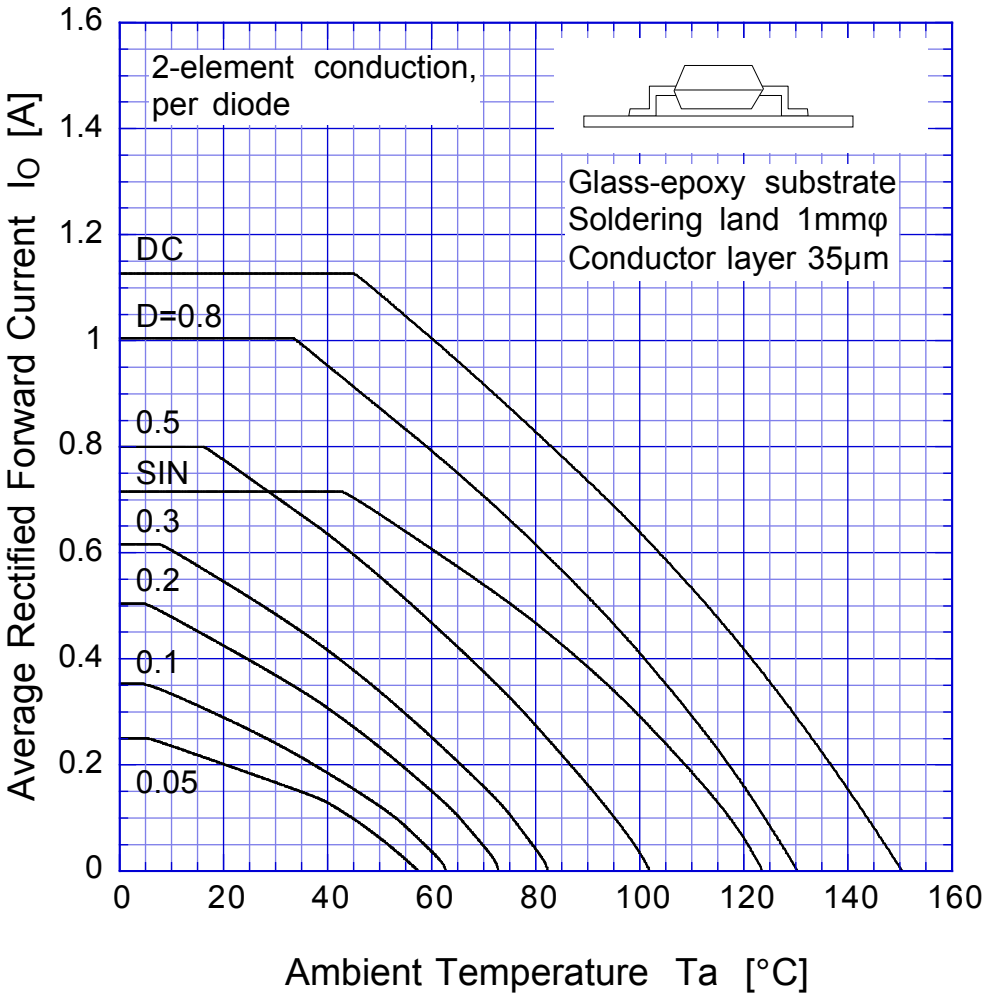


S1ZAS4 Derating Curve

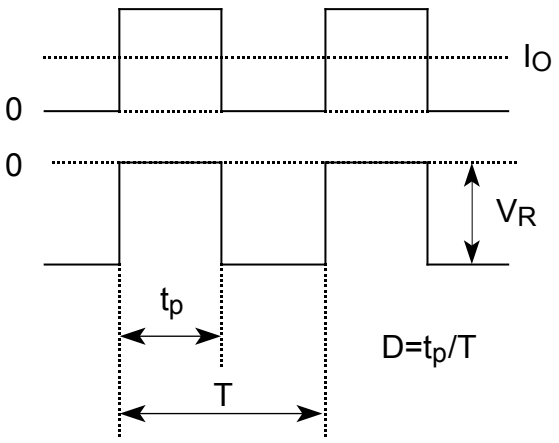




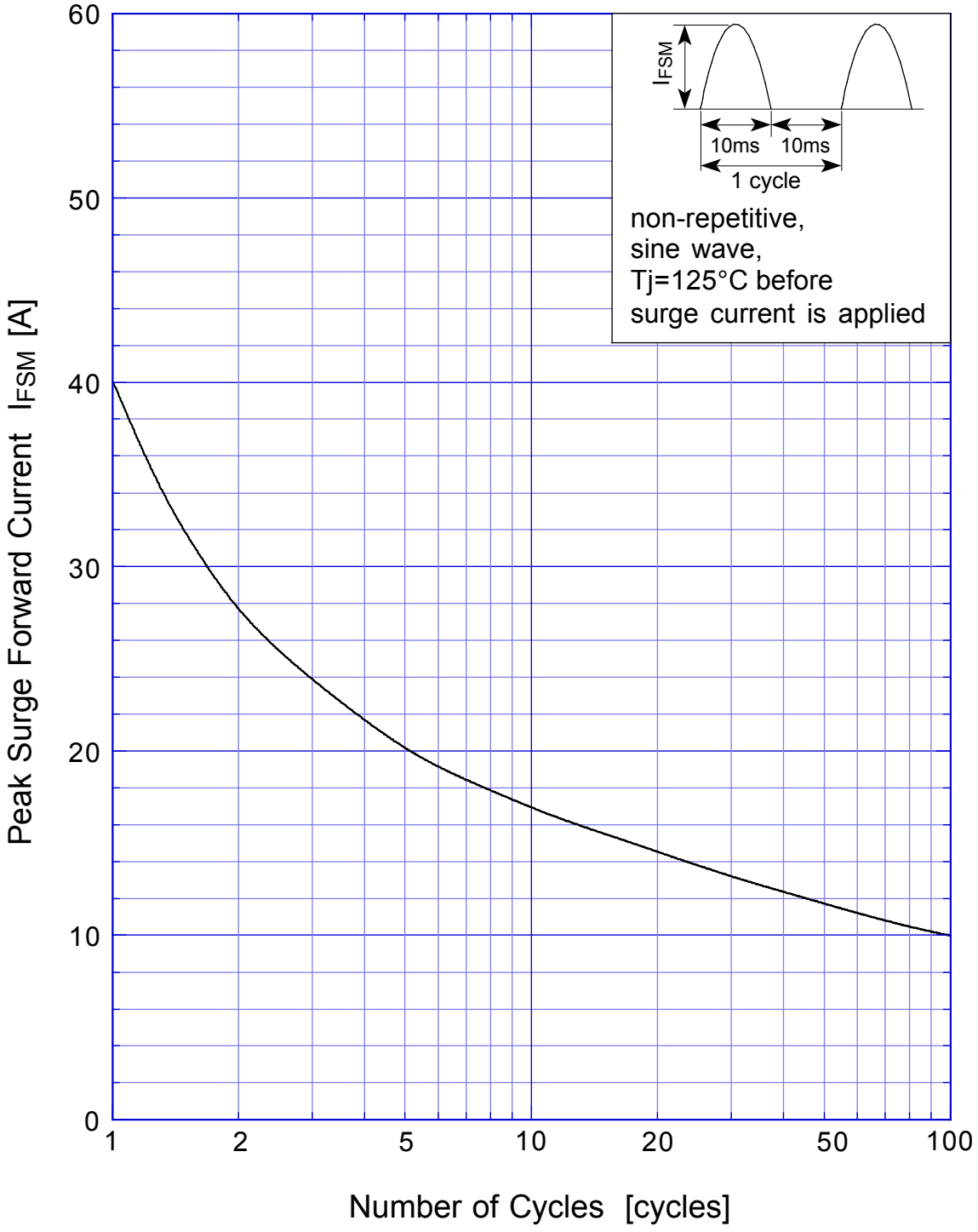
S1ZAS4 Derating Curve



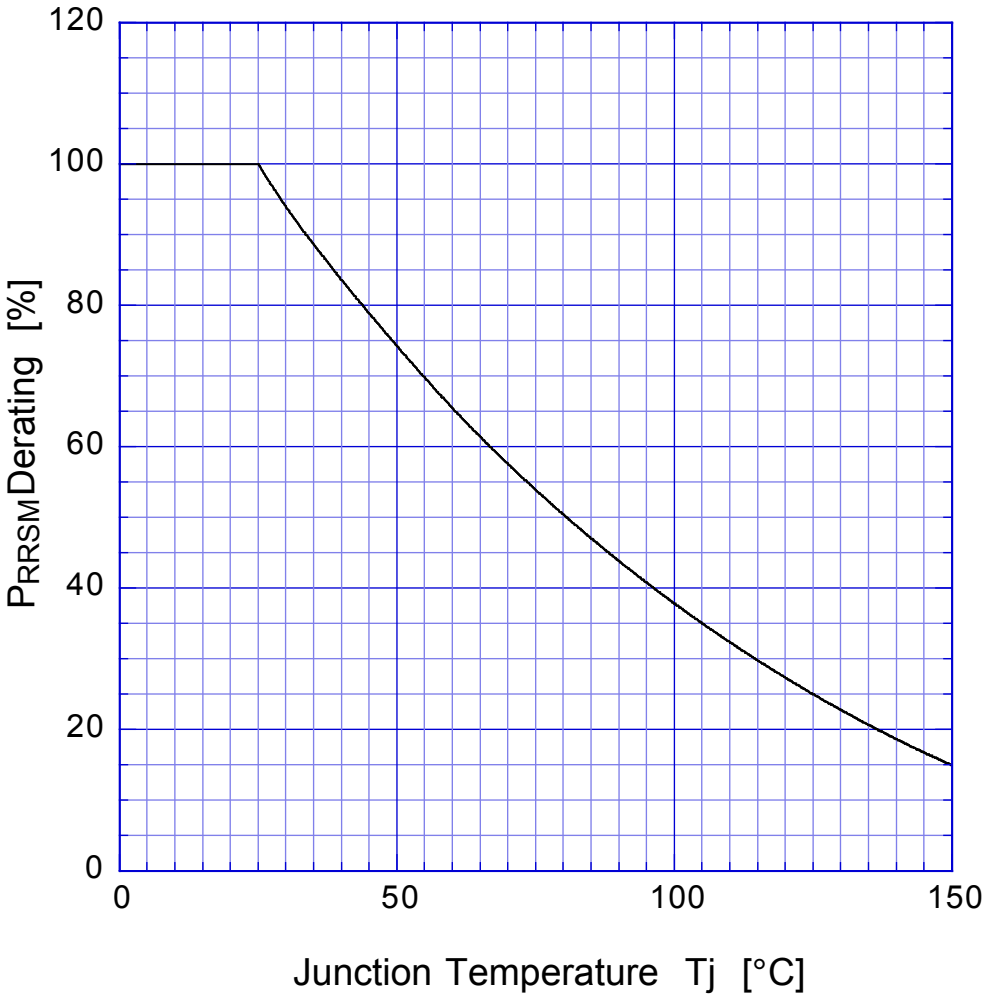
V_R = 20V

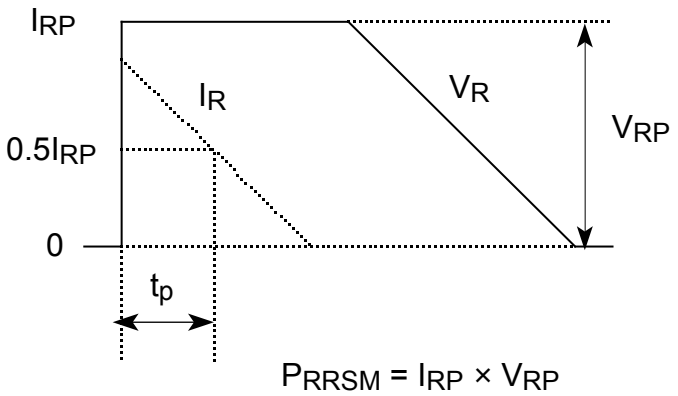


S1ZAS4 Peak Surge Forward Capability



SBD Repetitive Surge Reverse Power Derating Curve





SBD Repetitive Surge Reverse Power Capability