ShinDengen

D2S4M

Schottky Barrier Diodes

40V, 2A

Feature

- High Recovery Speed
- Low V_F
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): AX078

Equivalent circuit

Absolute Maximum Ratings (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-40 to 150	°C
Junction temperature	Tj		-40 to 150	°C
Repetitive peak reverse voltage	V_{RRM}		40	V
Repetitive peak surge reverse voltage	V_{RRSM}	Pulse width 0.5ms, duty=1/40	45	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Tl=122°C ※	2	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Ta=36°C ※	1.5	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25°C	60	A
Repetitive peak surge reverse power	P_{RRSM}	Pulse width 10μs, Tj=25°C	160	W

※ ：See the original Specifications

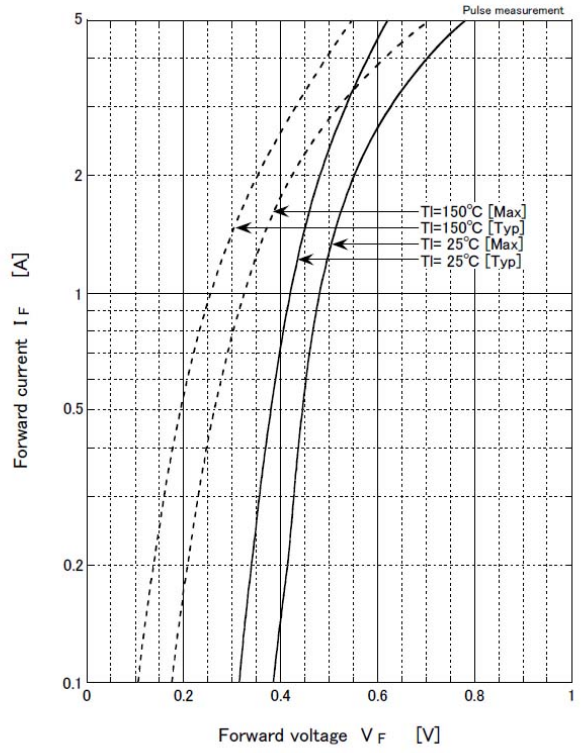
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=2A, Pulse measurement			0.55	V
Reverse current	I_R	VR=40V, Pulse measurement			2	mA
Total capacitance	Ct	f=1MHz, VR=10V		95		pF
Thermal resistance	Rth(j-l)	Junction to lead, On glass-epoxy substrate ※			17	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			105	°C/W

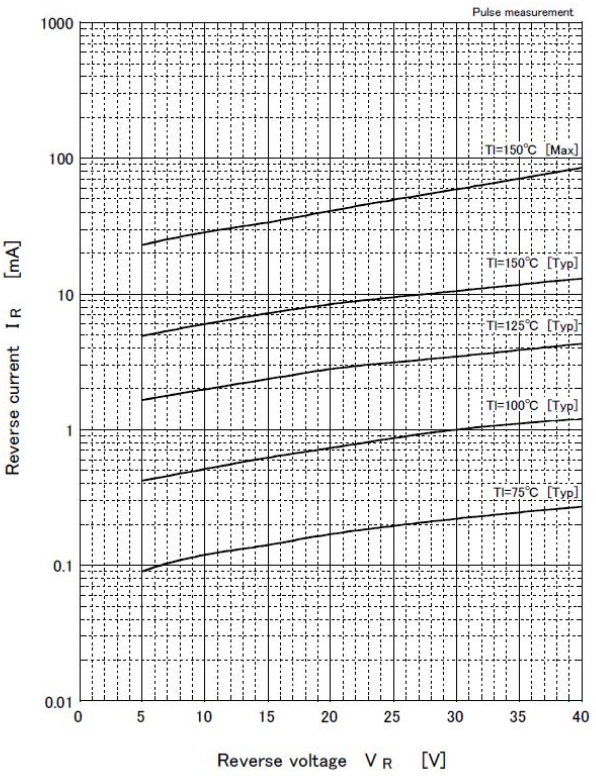
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

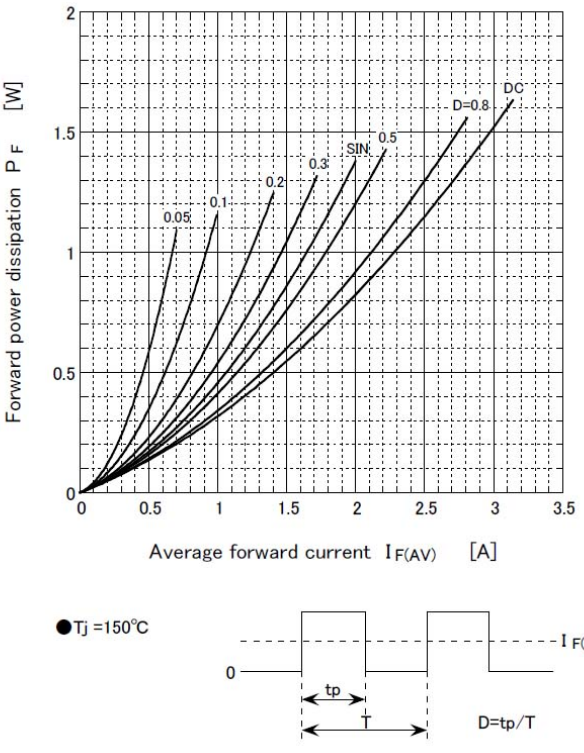
Forward voltage



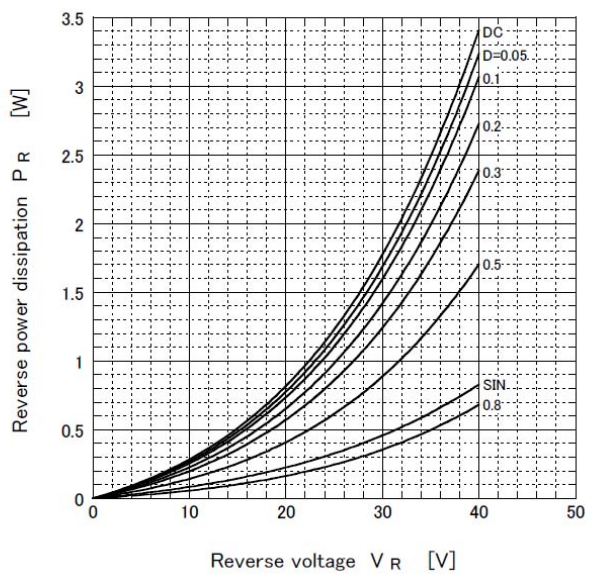
Reverse current

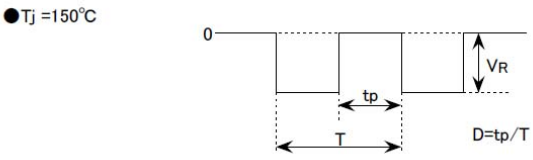


Forward power dissipation

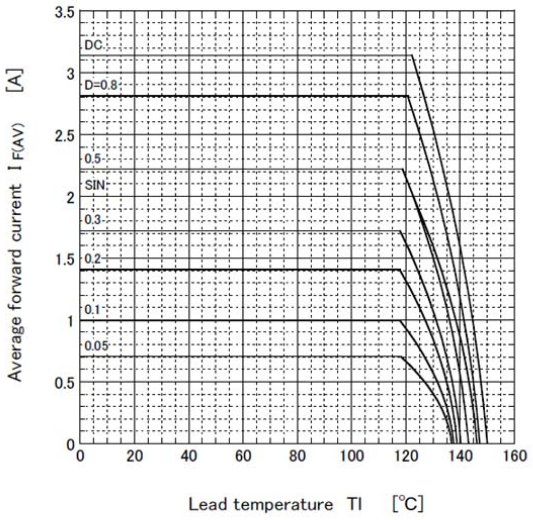


Reverse power dissipation

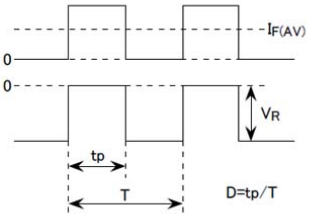




Derating curve



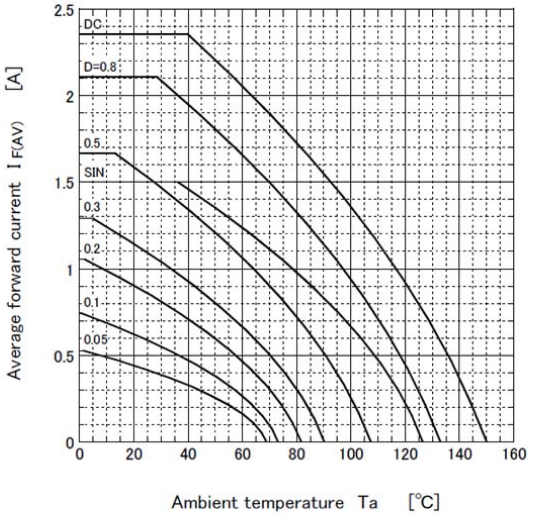
●V_R = 20V
R-load
Free in air



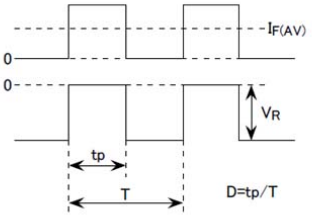
●Substrate detail

Type	Glass-epoxy
Size	90mm×150mm
Thickness	1mm
Conductor thickness	35μm
Pattern area	305.5mm²

Derating curve



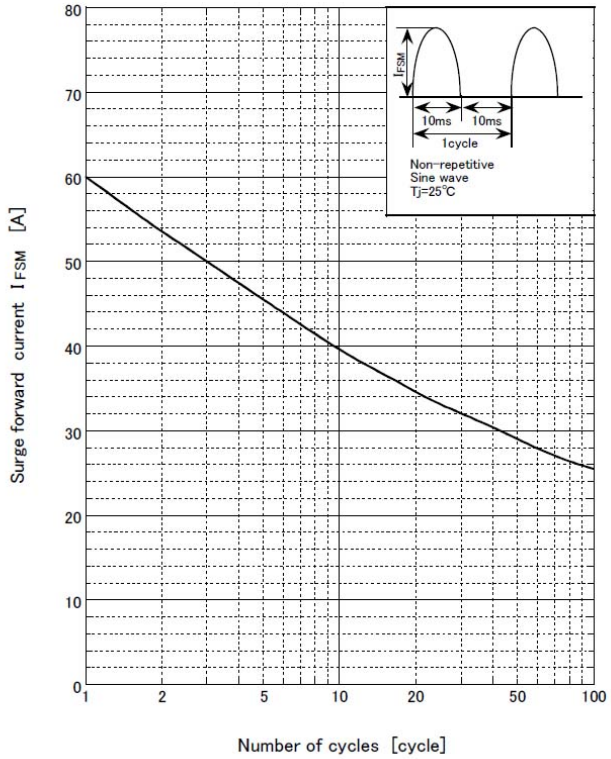
●V_R = 20V
R-load
Free in air



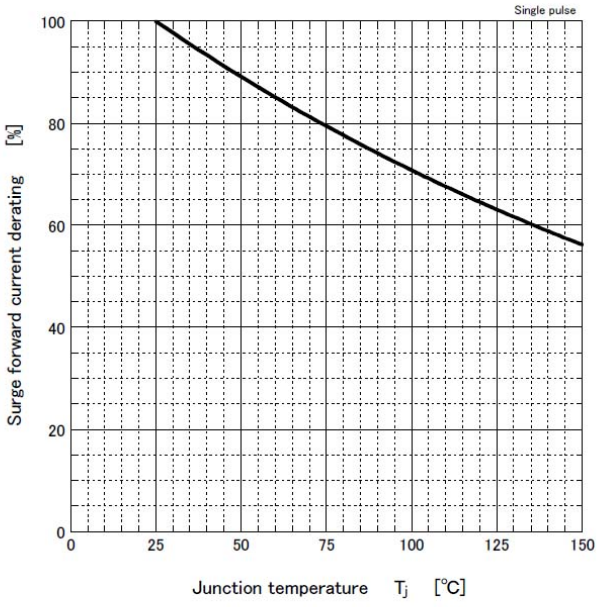
●Substrate detail

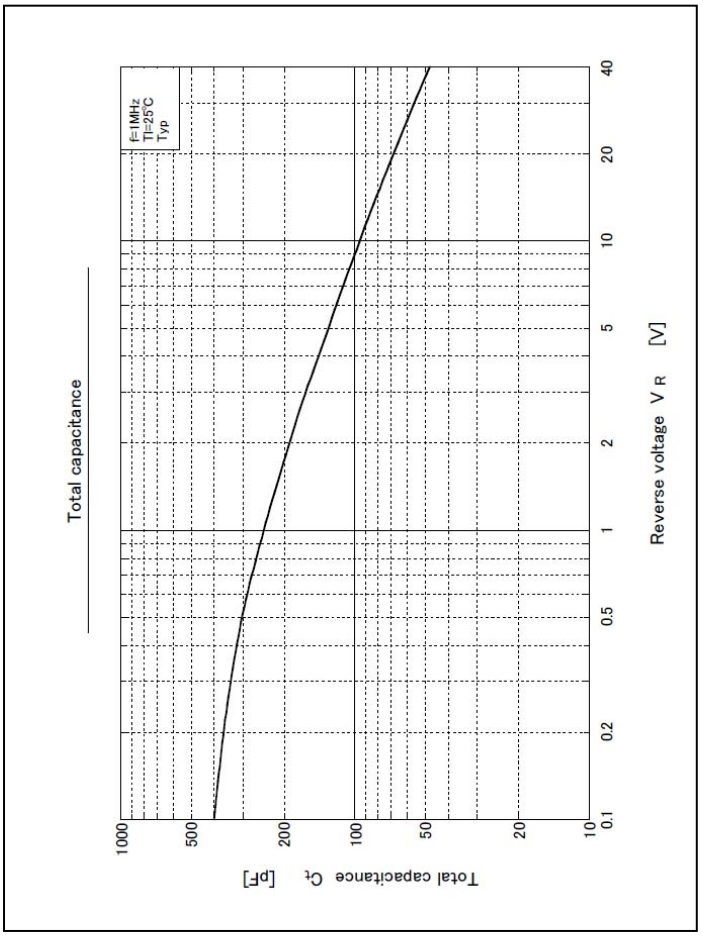
Type	Glass-epoxy
Size	90mm×150mm
Thickness	1mm
Conductor thickness	35μm
Pattern area	305.5mm²

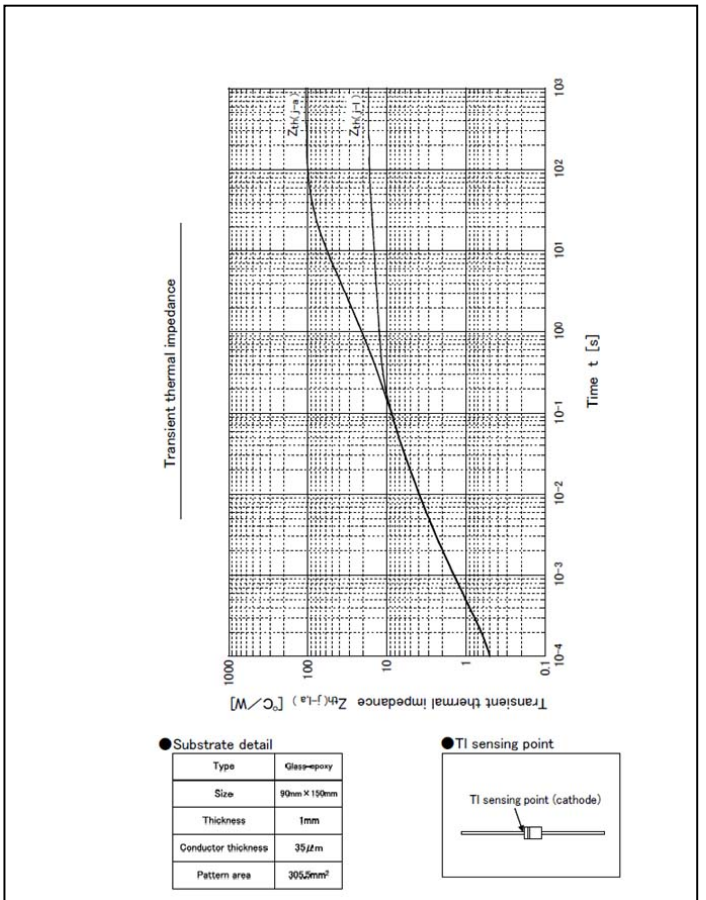
Surge forward current capability

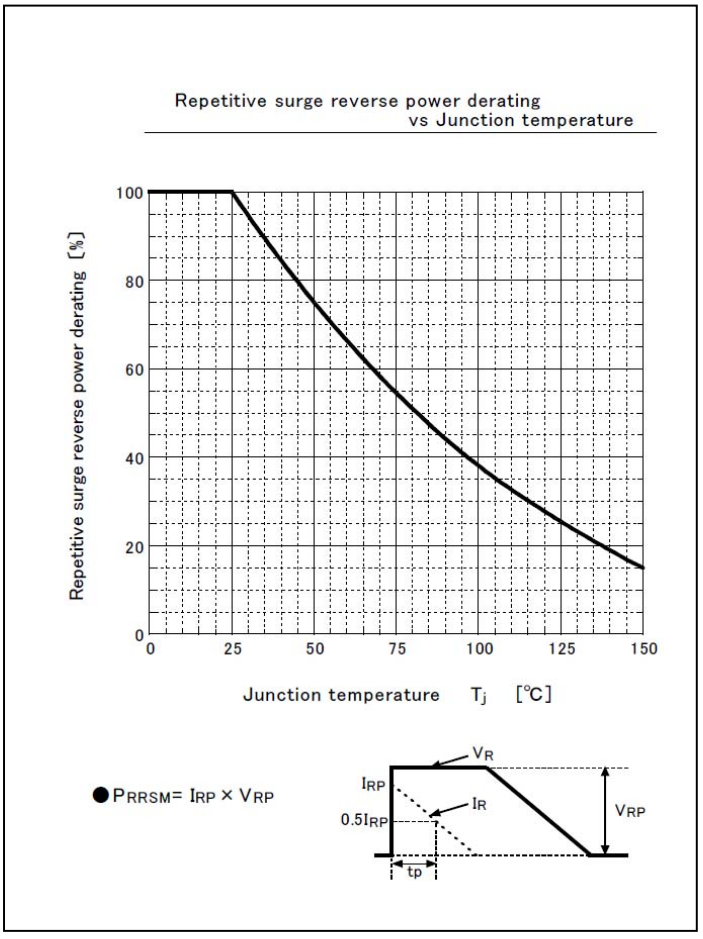


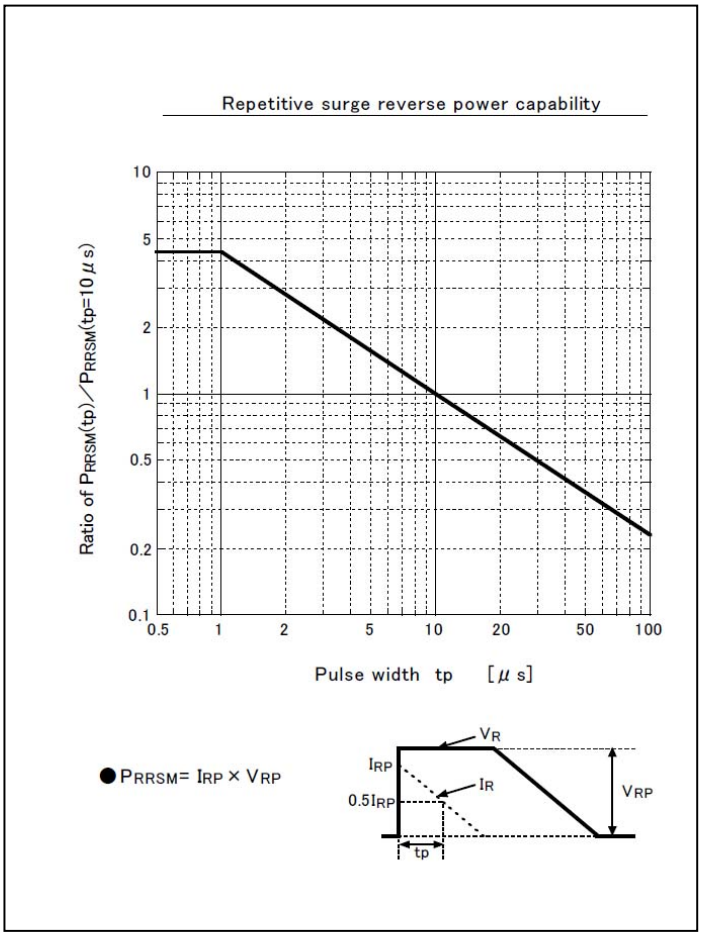
Surge forward current derating vs Junction temperature




Total capacitance
f=1MHz
Tl=25°C
Typ
Reverse voltage VR [V]
Total capacitance CT [pF]


Transient thermal impedance
Time t [s]
Transient thermal impedance Zth(j-a) [°C/W]
●Substrate detail
Type Glass-epoxy
Size 90mm×150mm
Thickness 1mm
Conductor thickness 35μm
Pattern area 305.5mm²
●Tl sensing point
Tl sensing point (cathode)


Repetitive surge reverse power derating
vs Junction temperature
Repetitive surge reverse power derating [%]
Junction temperature Tj [°C]
●PRRSM= IRP × VRP
VR
IRP
IR
0.5IRP
VRP
tp


Repetitive surge reverse power capability
Ratio of PRRSM(tp)／PRRSM(tp=10μs)
Pulse width tp [μs]
●PRRSM= IRP × VRP
VR
IRP
IR
0.5IRP
VRP
tp

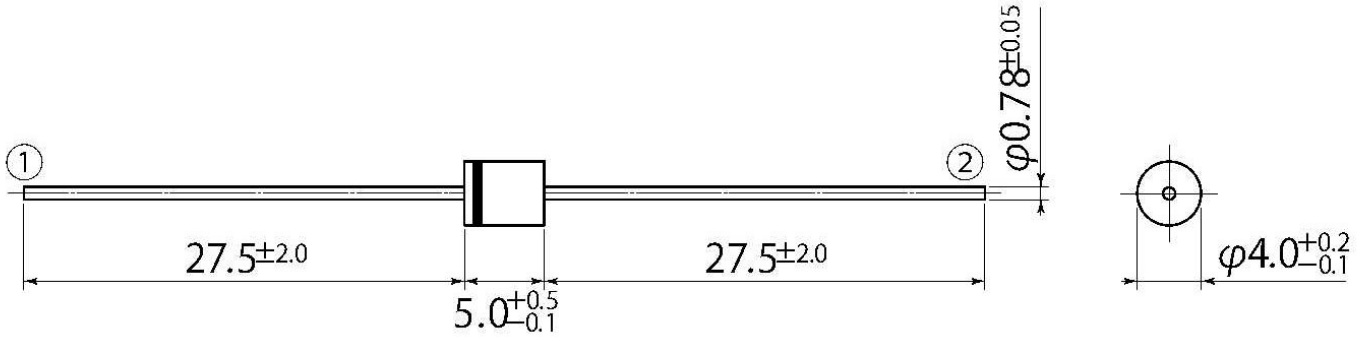
Outline Dimensions

unit:mm

scale: 2/1

A4

JEDEC Code	–
JEITA Code	–
House Name	AX078



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