

V_{RWM}	5	V
P_{PP}	200	W
I_{PP}	21.7	A

● Feature

High reliability
Small mold type

● Application

Surge Protection

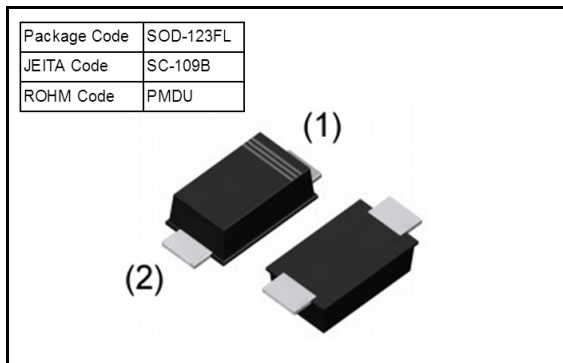
● Structure

Silicon Epitaxial Planar

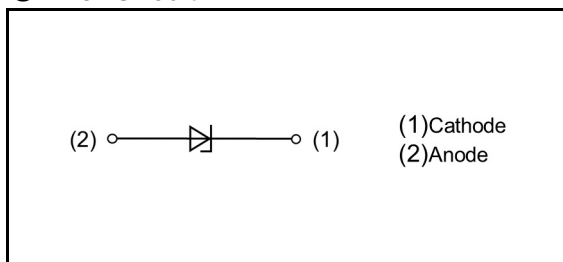
● Absolute Maximum Rating ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min.	Max.	Unit	
Peak Pulse Power	P _{pp}	tp=10/1000us	-	200	W	
Peak Pulse Current	I _{pp}	tp=10/1000us	-	21.7	A	
Power dissipation	P _D	on Glass-epoxy substrate	-	1	W	
Junction temperature	T _j	-	-	150	°C	
Storage temperature	T _{stg}	-	-65	150	°C	
ESD capability	V _{ESD}	IEC61000-4-2	Air	-	30	kV
			Contact	-	30	kV

● Outline



● Inner Circuit



● Packaging Specification

Packing	Embossed Tape
Reel Size(mm)	180
Taping Width(mm)	8
Quantity(pcs)	3000
Taping Code	TR
Marking	AW

● Characteristic (Ta = 25°C)

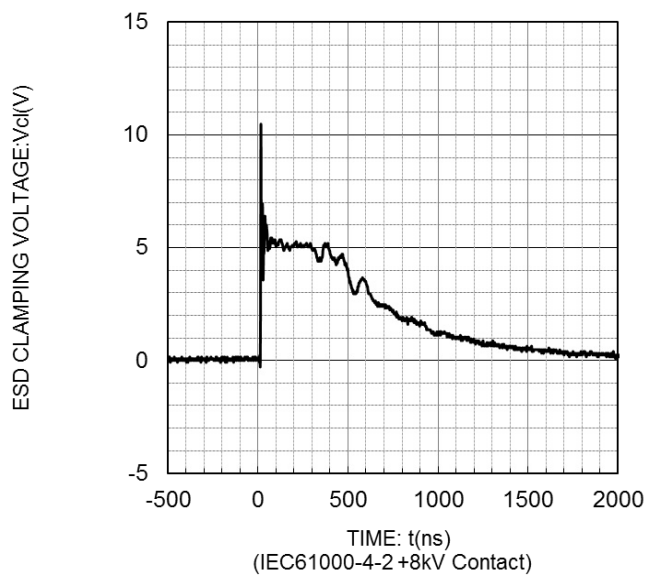
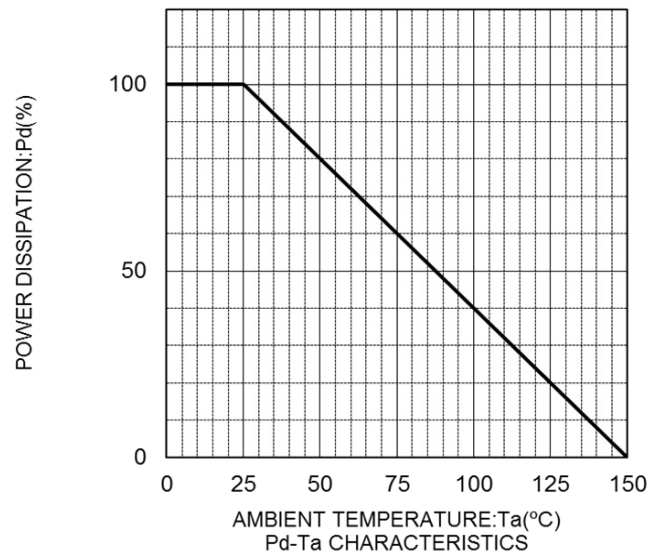
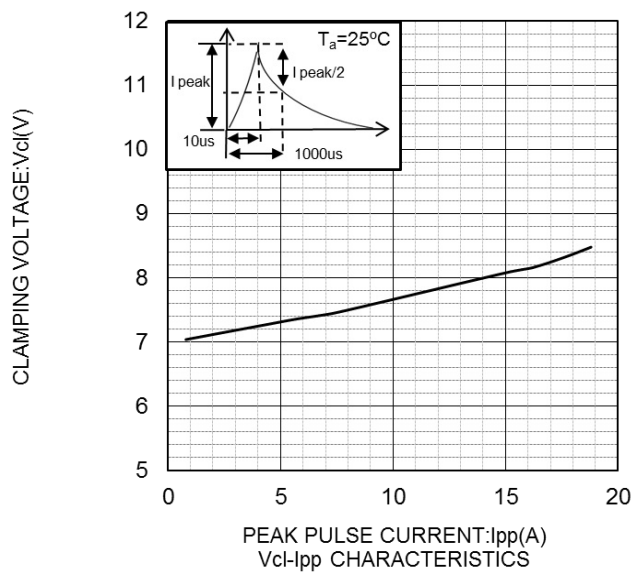
V _Z Rank(V)	Symbol						
	Breakdown voltage V _{BR} (V) ⁽¹⁾		Reverse Current I _R (μA)		Clamping voltage V _{CL} (V)		Reverse Stand-off voltage V _{RWM} (V)
	MIN	I _T (mA)	MAX	V _R (V)	MAX	I _{PP} (A)	MAX
5.0	6.40	40	5.0	5.0	9.2	21.7	5.0
6.0	6.67	40	26	6.0	10.3	19.4	6.0
6.5	7.72	40	20	6.5	11.2	17.9	6.5
7.0	7.78	40	3.0	7.0	12.0	16.7	7.0
7.5	8.33	40	0.1	7.5	12.9	15.5	7.5
8.0	8.89	40	0.1	8.0	13.6	14.7	8.0
9.0	10.0	40	0.1	9.0	15.4	13.0	9.0
10.0	11.1	20	0.1	10	17.0	11.8	10
11.0	12.2	20	0.1	11	18.2	11.0	11
12.0	13.3	20	0.1	12	19.9	10.1	12
13.0	14.4	20	0.1	13	21.5	9.3	13
14.0	15.6	20	0.1	14	23.2	8.6	14
15.0	16.7	20	0.1	15	24.4	8.2	15
16.0	17.2	20	0.1	16	26.0	7.7	16
17.0	18.9	20	0.1	17	27.6	7.2	17
18.0	20.0	20	0.1	18	29.2	6.8	18
20.0	22.2	10	0.1	20	32.4	6.2	20
22.0	24.4	10	0.1	22	35.5	5.6	22
24.0	26.7	10	0.1	24	38.9	5.1	24
26.0	28.9	10	0.1	26	42.1	4.8	26
28.0	31.1	10	0.1	28	45.4	4.4	28
30.0	33.3	10	0.1	30	48.4	4.1	30
33.0	36.7	10	0.1	33	53.3	3.8	33

Note(1) V_{BR} test time is 40ms.

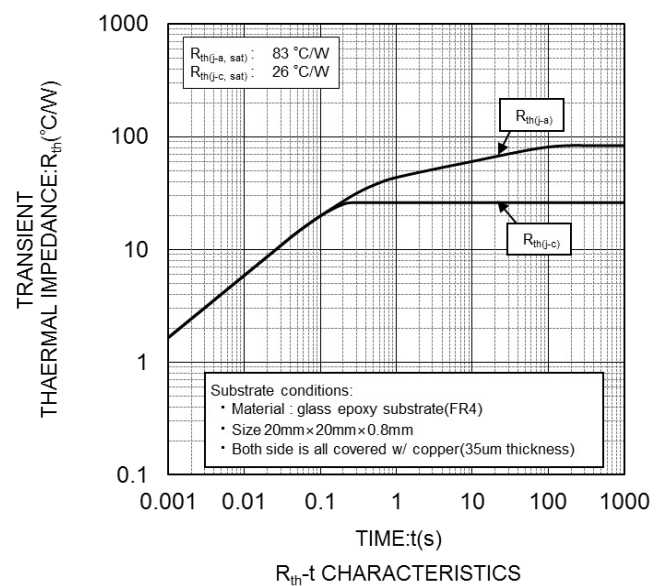
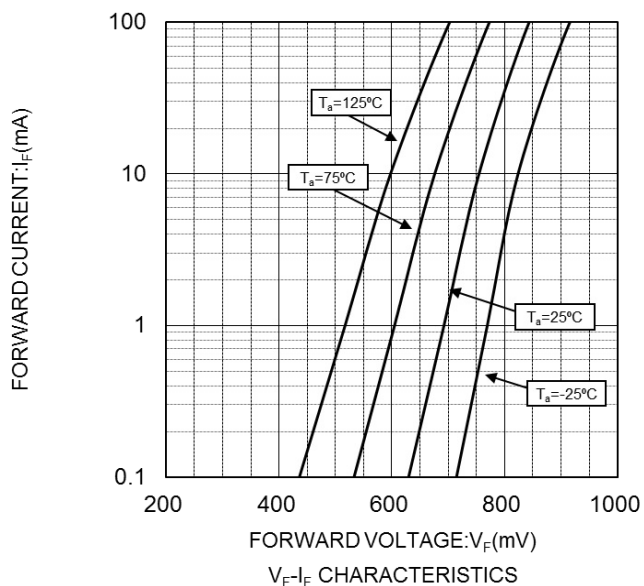
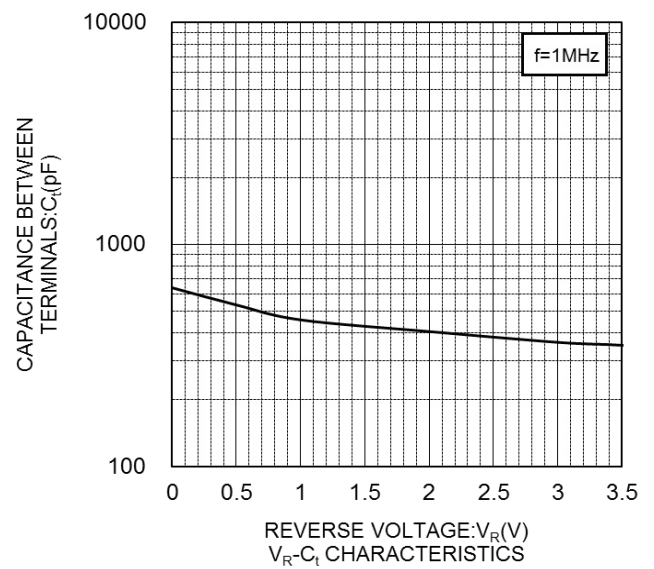
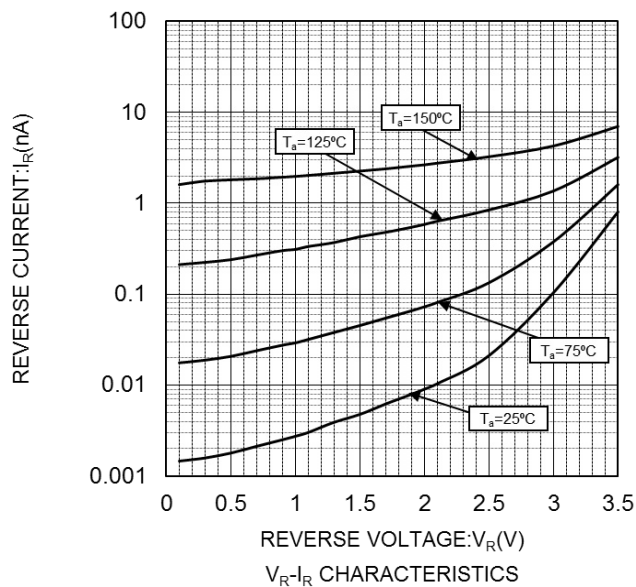
● Marking

V _Z Rank(V)	Marking	V _Z Rank(V)	Marking
5.0	AW	15.0	NW
6.0	BW	16.0	PW
6.5	CW	17.0	YW
7.0	DW	18.0	QW
7.5	EW	20.0	RW
8.0	FW	22.0	SW
9.0	GW	24.0	TW
10.0	HW	26.0	UW
11.0	JW	28.0	VW
12.0	KW	30.0	VW
13.0	LW	33.0	XW
14.0	MW		

● Characteristic Curves



● Characteristic Curves



● Appended figure

Procedure to obtain ESD Clamping Voltage
IEC61000-4-2 Spec

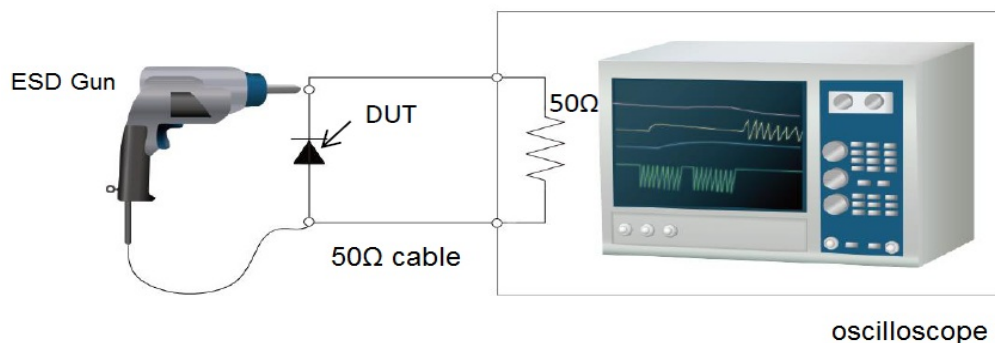
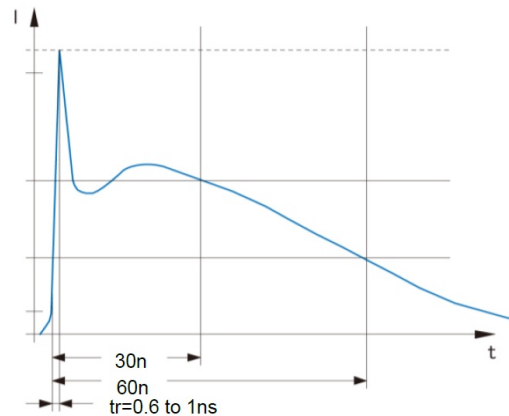
Level	Test Voltage (kV)	First Peak Current (A)	Current at 30ns (A)	Current at 60ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8



C_S :150pF R_d :330 Ω

simplified diagram in ESD machine

IEC61000-4-2 Waveform



1 Set up ESD Tester at IEC61000-4-2 condition.
(IEC61000-4-2 : C=150pF, R=330 Ω)

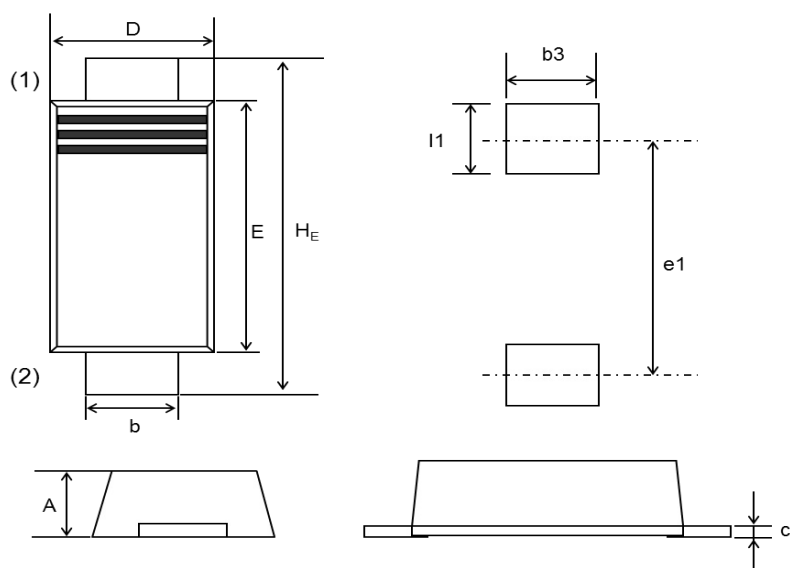
2 Mount a sample on the high frequency test board
with the SMA connector.

3 Connect the SMA connector to the oscilloscope
by 50 Ω cable.
Then, add the 10X-attenuator between test board
and the cable to protect the oscilloscope.

4 Discharge ESD in contact discharge mode at any voltage.
(normally 8kV Max.)

● Dimension

SOD-123FL, [SC-109B], (PMDU)

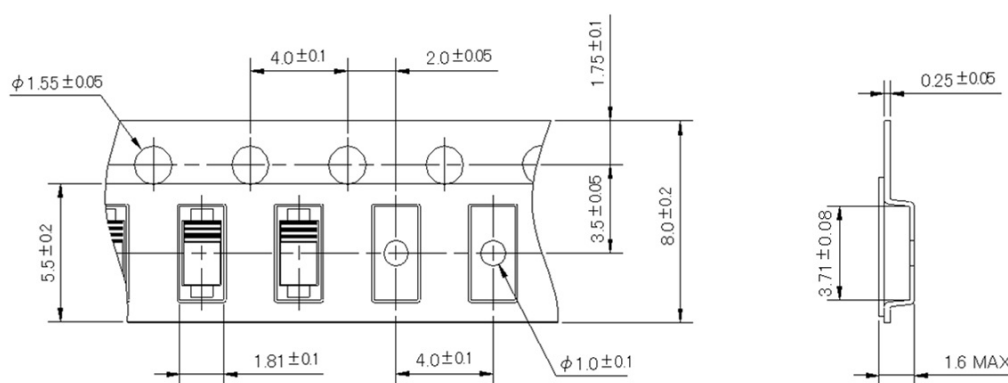


DIM	Millimeters			Inches		
	Min.	Average	Max.	Min.	Average	Max.
A	0.70	0.80	0.90	0.028	0.031	0.035
b	0.80	0.90	1.00	0.031	0.035	0.039
c	0.05	0.10	0.20	0.002	0.004	0.008
D	1.50	1.60	1.70	0.059	0.063	0.067
E	2.50	2.60	2.70	0.098	0.102	0.106
H _E	3.38	3.50	3.62	0.133	0.138	0.143
I1	-	0.85	-	-	0.033	-
b3	-	1.20	-	-	0.047	-
e1	-	3.05	-	-	0.120	-

(1) The marking bar indicates the cathode.

(2) The direction indicates the anode.

●Taping (Unit:mm)



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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA
CLASS III	CLASS III	CLASS II b	CLASS III
CLASS IV		CLASS III	

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 - [c] Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl₂, H₂S, NH₃, SO₂, and NO₂
 - [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
 - [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
 - [f] Sealing or coating our Products with resin or other coating materials
 - [g] Use of our Products without cleaning residue of flux (Exclude cases where no-clean type fluxes is used. However, recommend sufficiently about the residue.); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
 - [h] Use of the Products in places subject to dew condensation
4. The Products are not subject to radiation-proof design.
5. Please verify and confirm characteristics of the final or mounted products in using the Products.
6. In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse, is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
7. De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
8. Confirm that operation temperature is within the specified range described in the product specification.
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2. In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

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 - [b] the temperature or humidity exceeds those recommended by ROHM
 - [c] the Products are exposed to direct sunshine or condensation
 - [d] the Products are exposed to high Electrostatic
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4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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