

JEB03CX Bidirectional Low capacitance TVS Diode**Features and benefits**

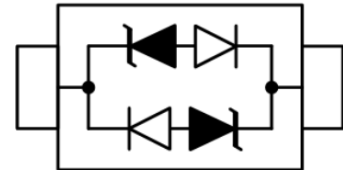
- ✧ 350 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ✧ Protects one bi-directional I/O line or power line
- ✧ Low clamping voltage
- ✧ Working voltages : 3.3V
- ✧ Low leakage current
- ✧ ROHS compliant

Application information

- ✧ Super speed I/O signal line
- ✧ RJ45 port, PHY signal line
- ✧ Consumer electronics DC power supply
- ✧ Low frequency signal transmission line (RS232, RS485, etc.)

Protection solution to meet

- ✧ IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 20A (8/20 μs)

Pin Information and Graphic symbol**SOD-323****symbol****Mechanical Characteristics**

- ✧ SOD-323 Package
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Weight 5 Milligrams (Approximate)
- ✧ Quantity Per Reel : 3,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code: CA1

Absolute Maximum Ratings ($T_A=25^\circ C$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	$^\circ C$
Operating junction temperature range	T_j	-55 to +125	$^\circ C$
Lead Soldering Temperature	T_L	260 (10 sec.)	$^\circ C$
Peak pulse power dissipation on 8/20 μs waveform	P_{pp}	350	W
ESD per IEC 61000-4-2 (Air)	V_{ESD}	+/- 15	kV
ESD per IEC 61000-4-2 (Contact)		+/- 8	

Electrical Characteristics (TA=25°C)

Part Number	Marking	V _R	I _R @ V _R	V _{BR} @ I _T =1mA	V _C @1A	V _C @I _{PP}	I _{PP} ^①	C _j @ 0V,1MHZ	C _j @ 0V,1MHZ
		V	μA	min(V)	max(V)	max(V)	A	typ (pF)	max (pF)
JEB03CX	CA1	3.3	1	4.0	6.5	17.5	20	1.0	1.3

① Surge waveform: 8/20μs

V_R : Stand-off Voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown Voltage

V_C: Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{pp}

I_R: Reverse Leakage Current

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25 °C, unless otherwise noted)

FIG.1:V- I curve characteristics (Bi-directional)

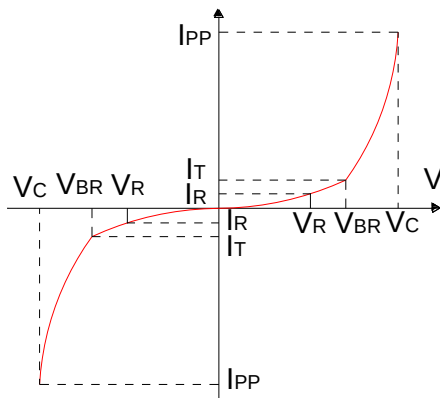


FIG.2: Pulse waveform

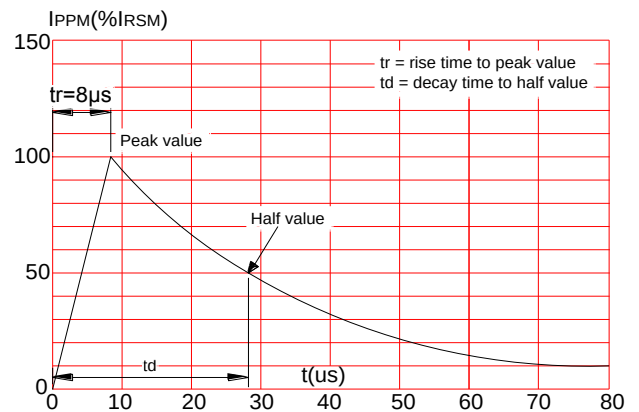


FIG.3: Pulse derating curve

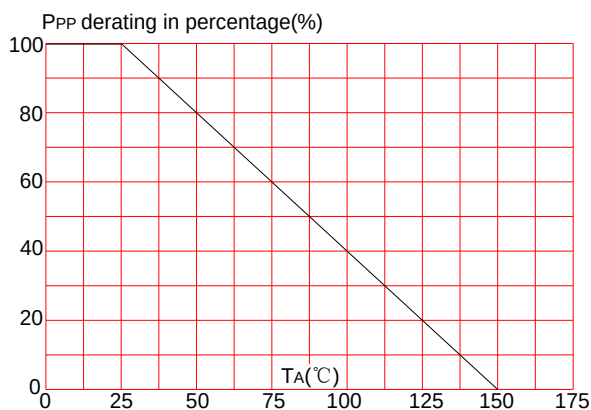
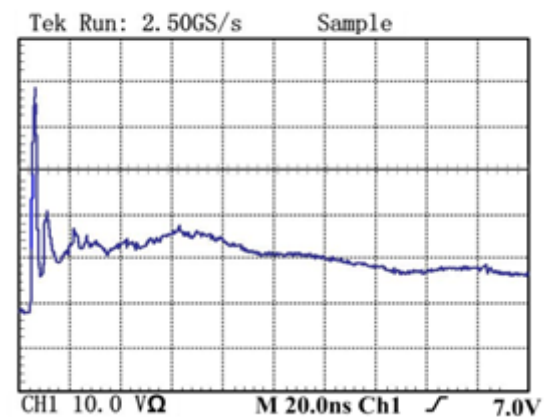
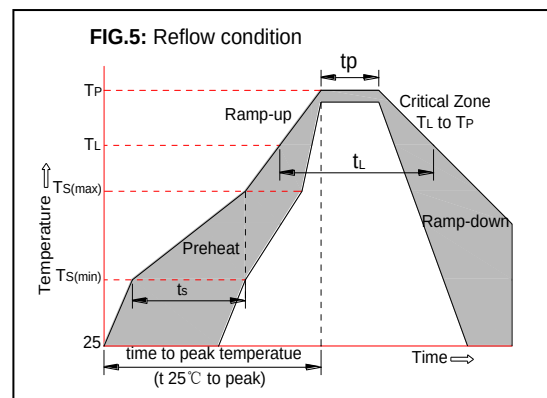
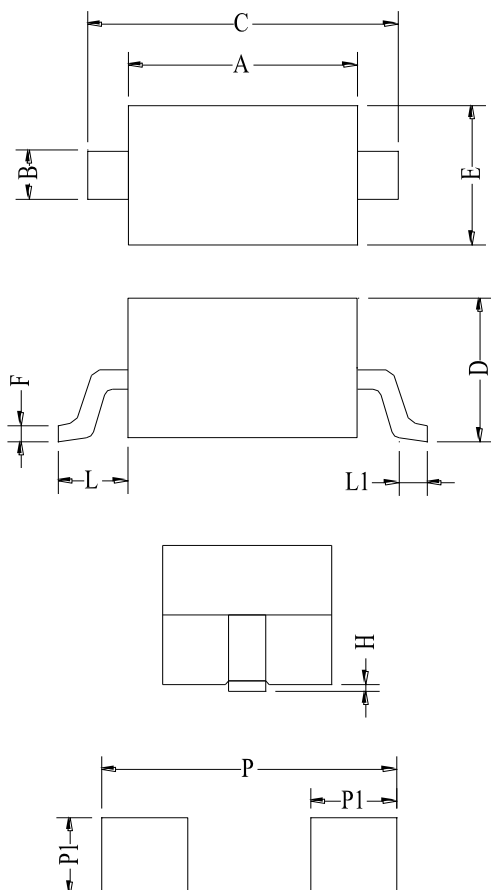


FIG.4:ESD Clamping(8KV Contact)



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.5)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

**PACKAGE MECHANICAL DATA**

Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004
P1	0.8		0.031	
P	3.0		0.118	