



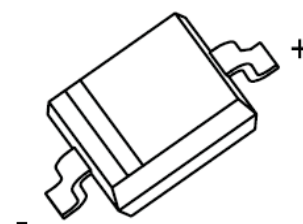
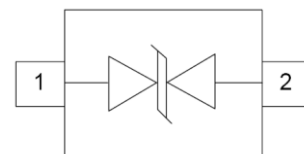
SD03C Bi-directional ESD Protection Diode

Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 30 kV (air), ± 30 kV (contact)
- 500 Watts peak pulse power ($t_p = 8/20\mu s$)
- Low clamping voltage
- Working voltage: $V_{RWM} = 3.3V$
- Low reverse clamping voltage

Mechanical Data

- Case: SOD-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOD-323

Maximum Ratings (@ $T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	V_{ESD-A}	± 30	kV
IEC 61000-4-2; ESD (Contact)	V_{ESD-C}	± 30	kV
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	500	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	40	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	420	$^\circ C/W$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	259	$^\circ C/W$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	279	$^\circ C/W$
Junction Temperature Range	T_J	-55 ~ +125	$^\circ C$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ C$

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B



Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V_{RWM}		-	-	3.3	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	3.8	-	5.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$	-	-	1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	6	V
		$I_{PP} = 40\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	12.5	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$	-	50	75	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

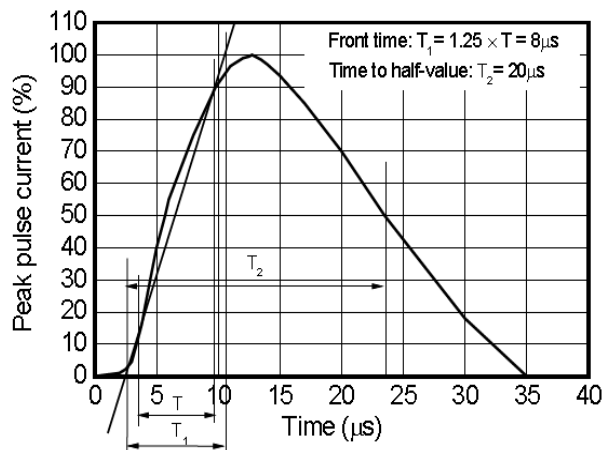


Fig 1 8/20 μs waveform per IEC61000-4-5

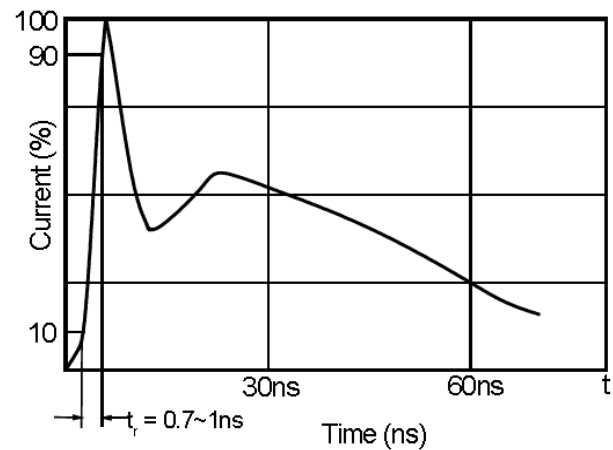


Fig 2 ESD pulse waveform according to IEC61000-4-2

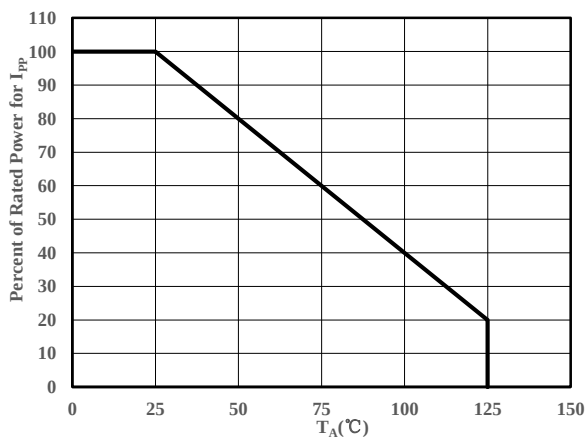


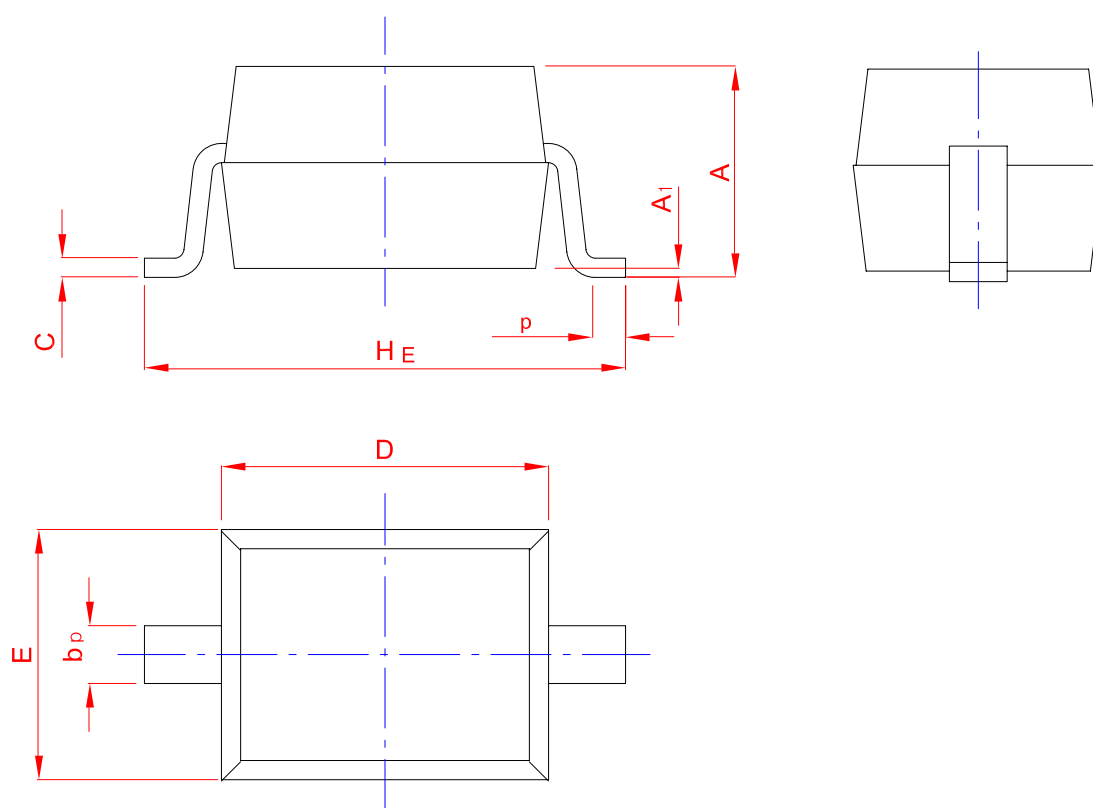
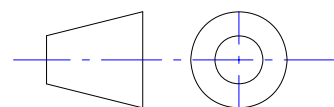
Fig 3 Power Derating Curve



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b _p	C	D	E	H _E	A ₁	L _p
mm	1.00 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30	0.10 0.01	0.50 0.20