L362BT23

List

L362BT23

Surface Mount Low Capacitance TVS
For ESD Protection : 36V

Features

- Protects two data lines.
- Each I/O pin can withstand over 1K ESD strikes for ±8kV contact discharge.
- Transient protection for high-speed data lines:
  IEC61000-4-2 (ESD) ±15kV (Air), ±8kV (Contact).
  IEC61000-4-4 (EFT) 40A (5/50ns).
- Cable discharge event (CDE).
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free part, ex.L362BT23-H.

Applications

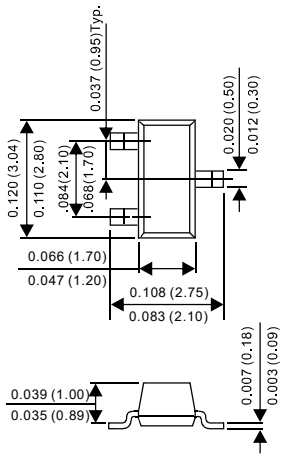
- Serial ATA.
- PCI express.
- Desktops, servers and notebooks.
- MDDI ports.
- Display ports.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, SOT-23.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Mounting Position : Any.

Package outline

SOT-23



Dimensions in inches and (millimeters)

Maximum ratings (At T_A=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Units
Peak pulse current (t_p=8/20μs)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±15	KV
ESD per IEC 61000-4-2 (Contact)		±8	
Charged device model	CDM	±1000	V
Machine model	MM	±200	V
Operating temperature	T_{OPT}	-55 to +125	°C
Storage temperature	T_{STG}	-55 to +150	°C

Electrical characteristics (At T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Units
Reverse working voltage		V_{RWM}			36	V
Reverse leakage current	V_{RWM}=36V,T=25°C (Between I/O and GND)	I_R		0.1	1	μA
Reverse breakdown voltage	I_T=1mA (Between I/O and GND)	V_{BR}	37		45	V
Clamping voltage	I_{PP}=1A, t_p=8/20μs (Between I/O and GND)	V_C		48		V
Parasitic capacitance	V_R=0V, f=1.0MHz (Between I/O and GND)	C_{ESD}		6		pF

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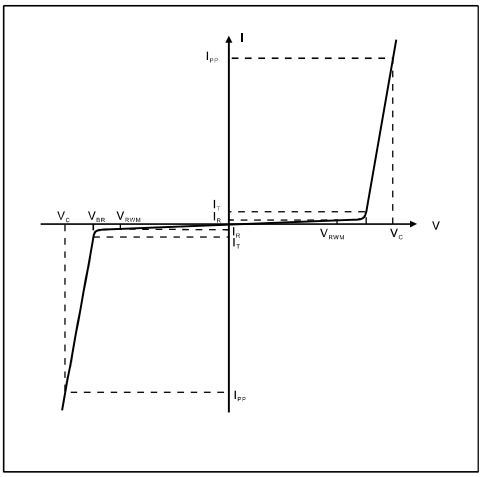
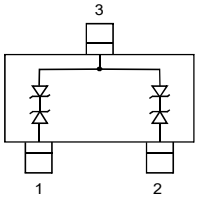
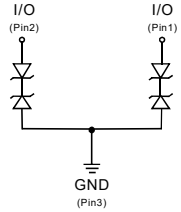
Rating and characteristic curves

Symbol	Parameter
V_{RWM}	Nominal reverse working voltage
I_R	Reverse leakage current @V_{RWM}
V_{BR}	Reverse breakdown voltage @I_T
I_T	Test current for reverse breakdown
V_C	Clamping voltage @I_{PP}
I_{PP}	Maximum peak pulse current
C_{ESD}	Parasitic capacitance
V_R	Reverse voltage
f	Small signal frequency



Pinning information

Pin	Pin Configuration	Circuit Diagram
Bi-Directional		

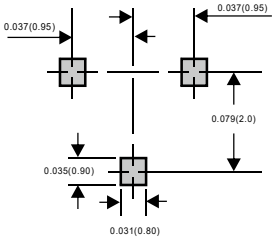
Marking

Type number	Marking code
L362BT23	HBΣΣΣ

Note: 1. "HB" is part number,fixed.
2. "ΣΣΣ" is the internal control code.

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)

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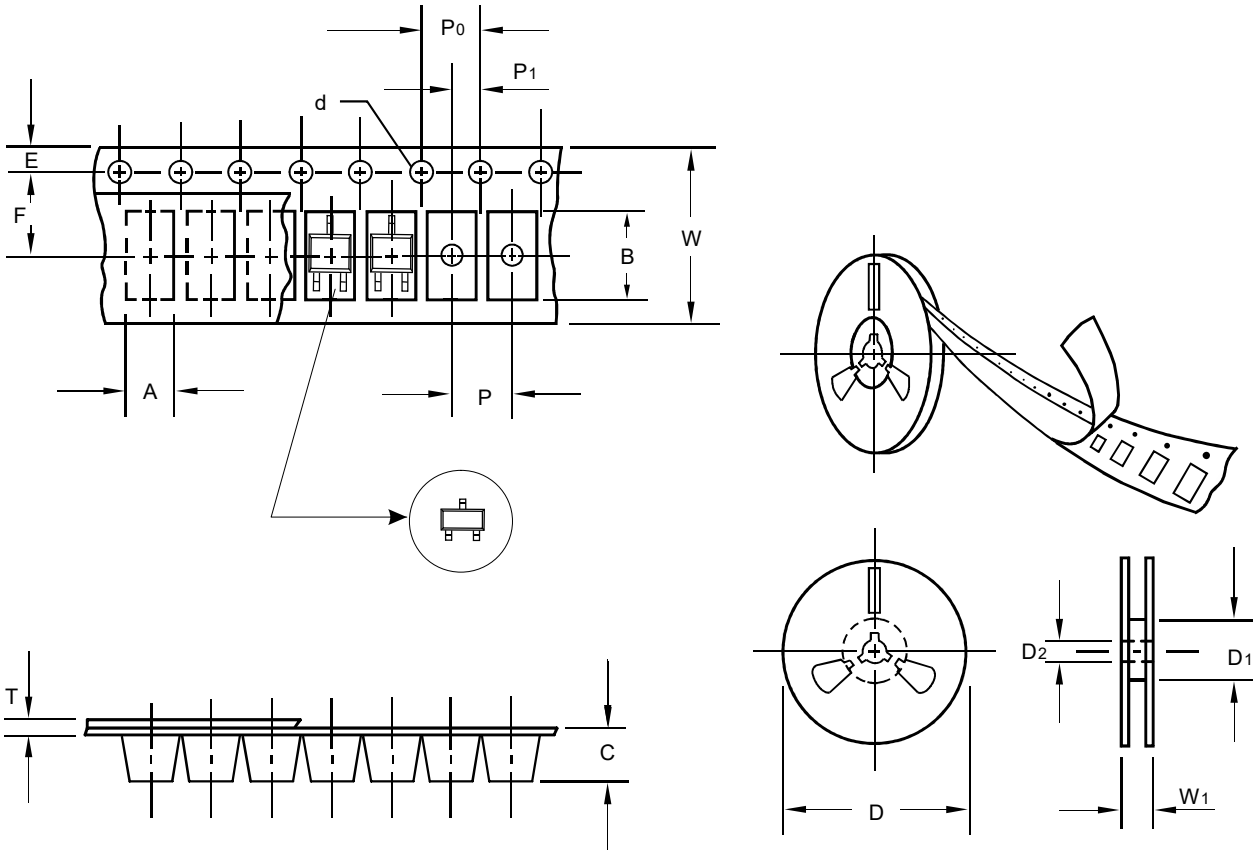
Packing information



unit:mm

Item	Symbol	Tolerance	SOT-23
Carrier width	A	0.1	3.15
Carrier length	B	0.1	2.77
Carrier depth	C	0.1	1.22
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D_1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W_1	1.0	11.40

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

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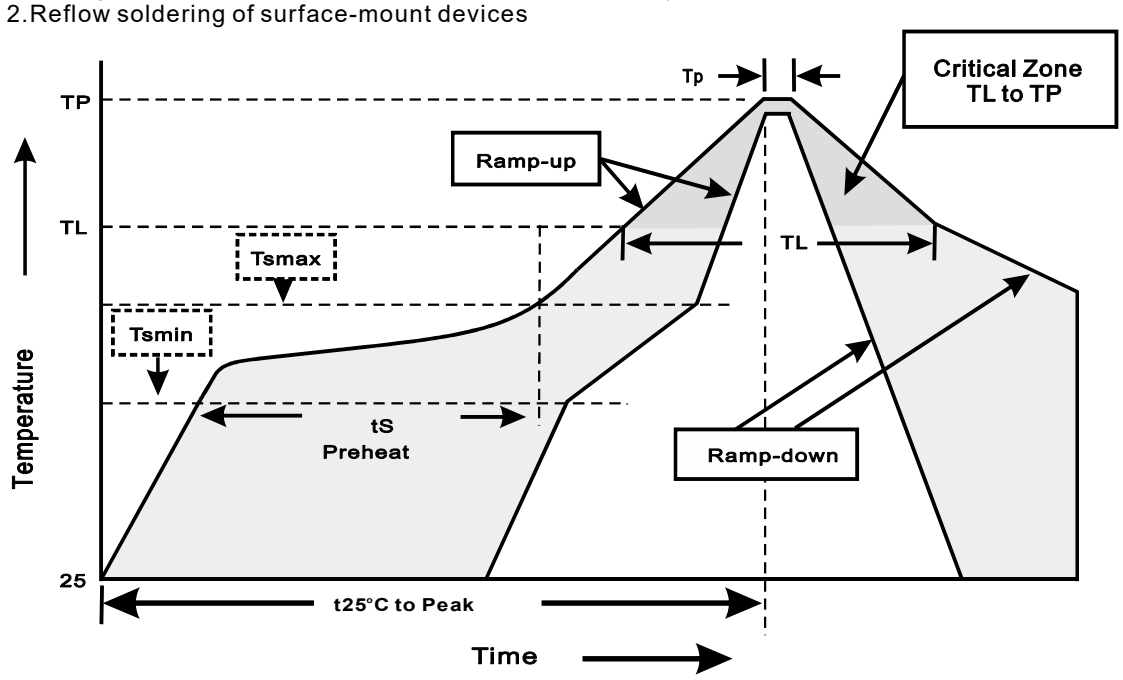
Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)
SOT-23	7"	3,000	4.0	30,000	183*123*183	178	382*257*387	240,000

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes