

L034BT26

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4-Line SMD Low Capacitance TVS For ESD Protection 3.3V

Features

- Package optimized for high-speed lines.
- Provides protection for four line paris.
- Low operating and clamping voltage.
- Each I/O pin can withstand over 1000 ESD strikes for $\pm 8\text{kV}$ contact discharge.
- Provide transient protection:
 - IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact).
 - IEC 61000-4-4 (EFT) 40A (5/50ns)
 - IEC 61000-4-5 (Surge) 12A (8/20 μs)
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. L034BT26-H

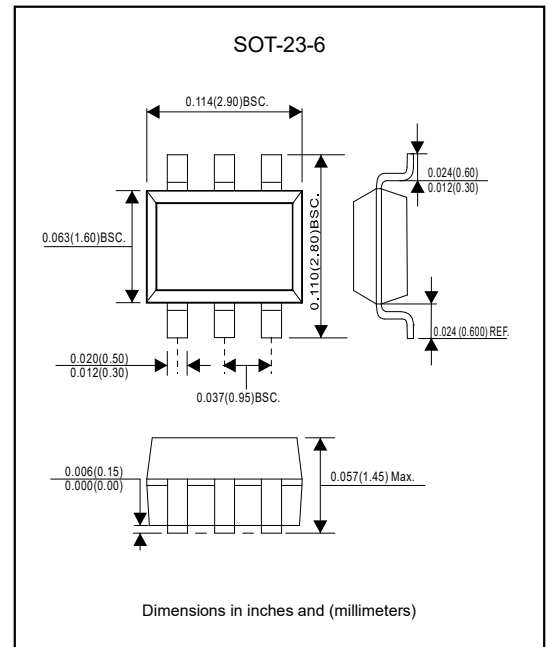
Applications

- 10/100/1000M ethernet ports
- Wan/Lan equipment.
- Desktops, servers and notebooks.
- Cellular phones.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, SOT-23-6.
- Mounting Position : Any.

Package outline



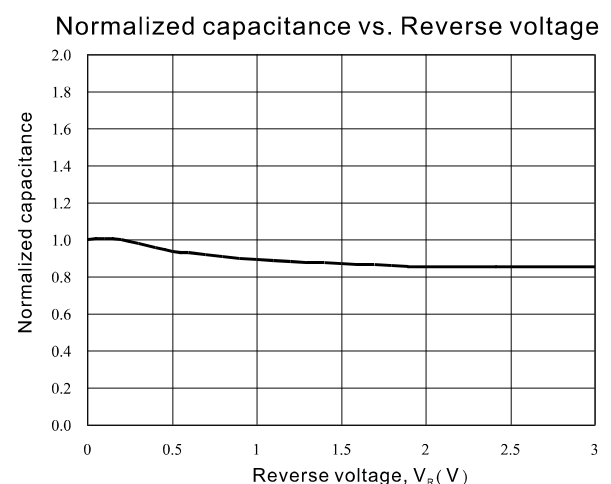
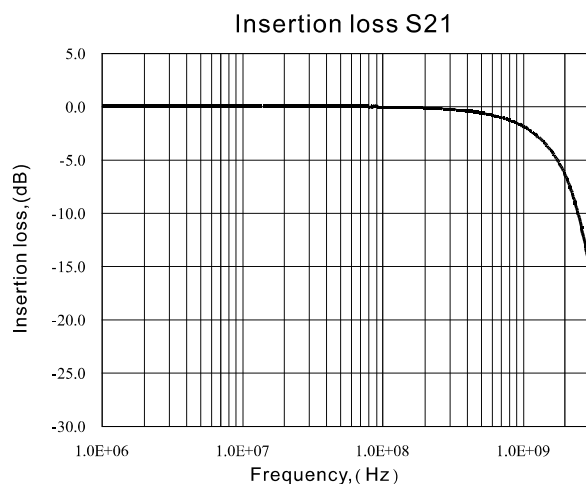
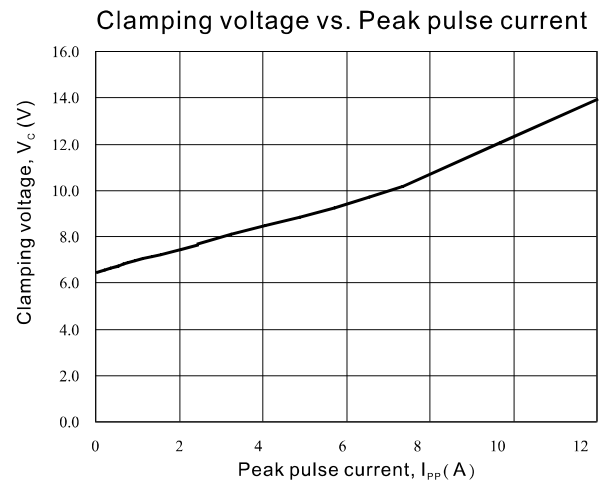
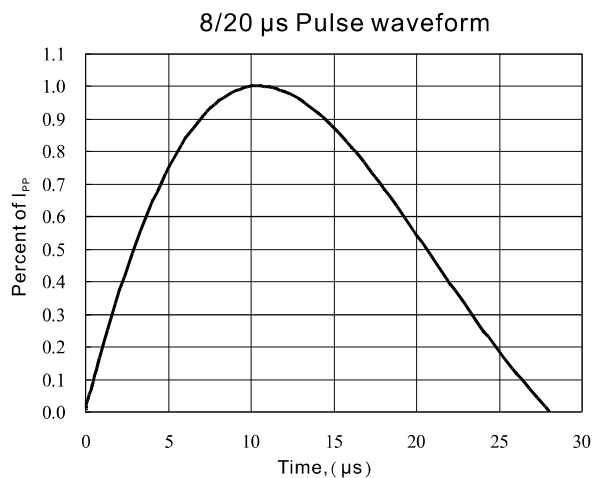
Maximum ratings (at $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Units
Peak pulse power (8/20 μs)	P_{PP}	180	W
Peak pulse current (8/20 μs)	I_{PP}	12	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2(Contact)			
Operating temperature range	T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

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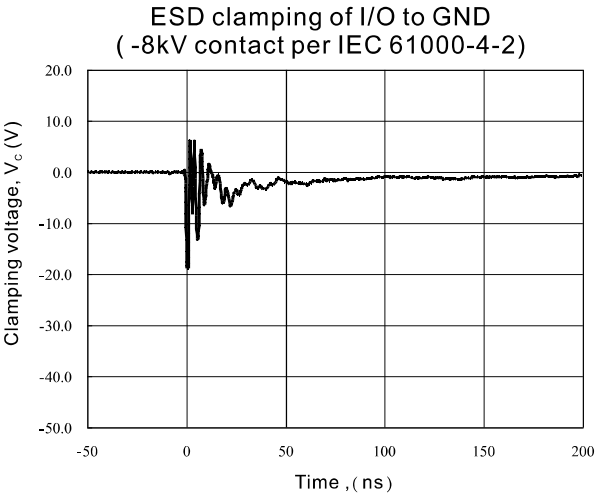
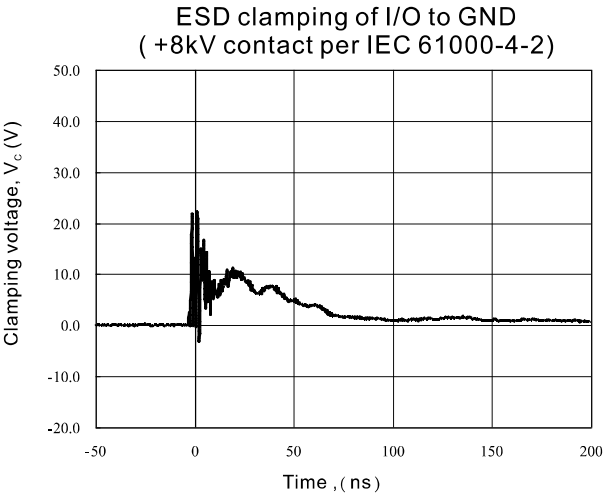
Electrical characteristics (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Units
Reverse working voltage		V_{RWM}			3.3	V
Reverse leakage current	$V_{RWM}=3.3\text{V}, T=25^\circ\text{C}$	I_R		0.01	0.1	μA
Trigger voltage	$I_{t1}=1\mu\text{A}$	V_{t1}	6	7.2	8	V
Holding voltage	$I_h=10\text{mA}$	V_h	4		5	V
Clamping voltage	$I_{pp}=1\text{A}, t_p=8/20\mu\text{s}$ (Each line)	V_c			8	V
	$I_{pp}=5\text{A}, t_p=8/20\mu\text{s}$ (Each line)				10	
	$I_{pp}=12\text{A}, t_p=8/20\mu\text{s}$ (Each line)				15	
Parasitic capacitance	$V_R=0\text{V}, f=1\text{MHz}$ (Between I/O pins and ground)	C_{ESD}		1.5	2	pF
	$V_R=0\text{V}, f=1\text{MHz}$ (Between I/O pins)			0.8	1	

Rating and characteristic curves

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Rating and characteristic curves



Pinning information

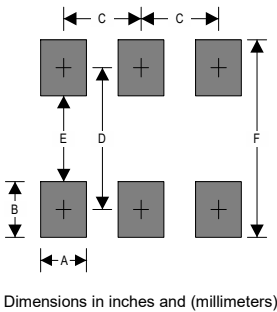
Pin Configuration	Simplified outline	Circuit Diagram
I/O: 1,3,4,6 NC: 5 GND: 2		

Marking

Type number	Marking code
L034BT26	S314V ΣΣΣΣ

Note : "ΣΣΣΣ" is Internal control code.

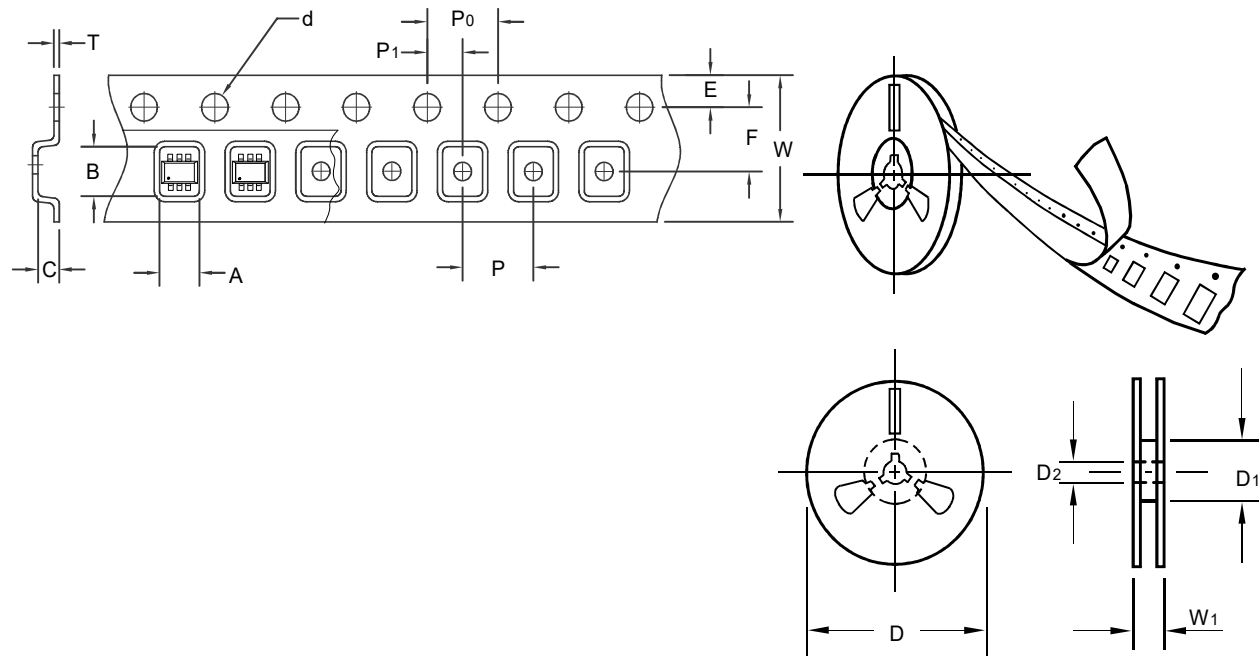
Suggested solder pad layout



PACKAGE	A	B	C	D	E	F
SOT-23-6	0.024 (0.60)	0.043 (1.10)	0.037(0.95)	0.098(2.50)	0.055(1.40)	0.142(3.60)

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Packing information



unit:mm

Item	Symbol	Tolerance	SOT-23-6
Carrier width	A	0.1	3.17
Carrier length	B	0.1	3.23
Carrier depth	C	0.1	1.37
Sprocket hole	d	0.1	1.55
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	60.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.05	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.05	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W1	max	13.10

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

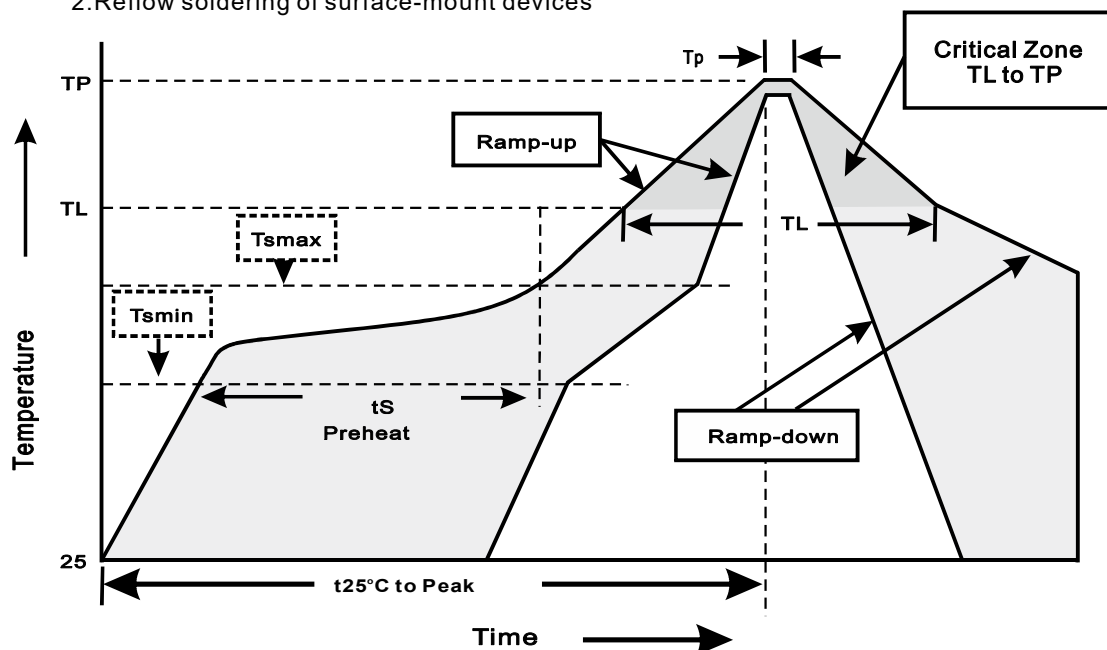
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Reel packing

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-23-6	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)	$<3^{\circ}\text{C}/\text{sec}$
Preheat -Temperature Min(T_{min}) -Temperature Max(T_{max}) -Time(min to max)(t_s)	150°C 200°C $60\sim 120\text{sec}$
T_{max} to T_L -Ramp-upRate	$<3^{\circ}\text{C}/\text{sec}$
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C $60\sim 260\text{sec}$
Peak Temperature(T_P)	$255^{\circ}\text{C}-0/+5^{\circ}\text{C}$
Time within 5°C of actual Peak Temperature(t_P)	$10\sim 30\text{sec}$
Ramp-down Rate	$<6^{\circ}\text{C}/\text{sec}$
Time 25°C to Peak Temperature	$<6\text{minutes}$