

L034BT2626

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4-Channel Low Capacitance ESD Protection Diodes Array: 3.3V

Features

- Low operating and clamping voltage.
- IEC61000-4-2 (ESD) $\pm 30\text{KV}$ (Air), $\pm 30\text{KV}$ (Contact).
- IEC61000-4-4 (FET) 40A (5/50ns).
- IEC61000-4-5 (Surge) 25A (8/20 μs).
- RoHS Compliant
- Suffix "-H" indicates Halogen-free parts, ex. L034BT2626-H

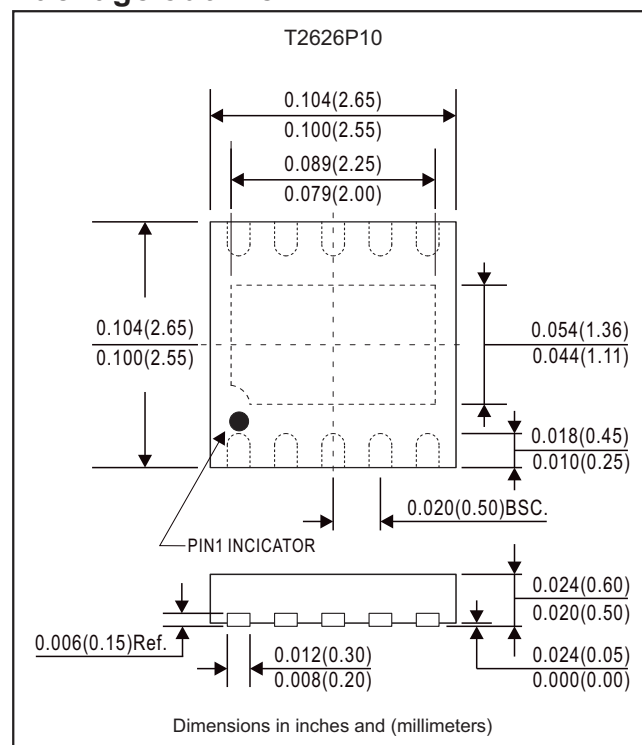
Applications

- 10/100/1000M Ethernet Ports.
- WAN/LAN Equipment.
- Desktops Servers and Notebooks.
- Cellular Phones.
- Switching System.
- Audio/Video Inputs.

Mechanical data

- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated
- Case : Molded plastic, T2626P10
- Mounting Position : Any
- Weight : 0.008 grams (Approximate)

Package outline



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

PARAMETER	SYMBOL	Value	UNIT
IEC 61000-4-2 (ESD) Air Contact	V_{ESD}	± 30 ± 30	kV
Peak pulse current (According to IEC 61000-4-5)	I_{PP}	25	A
Peak pulse power (According to IEC 61000-4-5)	P_{PP}	450	W
Operating Junction Temperature Range	T_J	-55to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

PARAMETER	CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage		V_{RWM}			3.3	V
Trigger Voltage	$I_{\text{t1}}=1\text{mA}$	V_{t1}	3.5	4.2	5.0	V
Holding Voltage	$I_{\text{h}}=10\text{mA}$	V_{h}	3.3		4.5	V
Reverse Leakage Current	$V_{\text{RWM}}=3.3\text{V}$, $T = 25^\circ\text{C}$	I_{R}		0.1	0.5	μA
Junction Capacitance	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$, I/O pins to GND	C_J		3.8	5.0	pF
	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$, Between I/O pins			2.0	2.5	
Clamping Voltage (Note 1)	$I_{\text{PP}}=1\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin to GND	V_{C}			5.5	V
	$I_{\text{PP}}=10\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin to GND				8.5	
	$I_{\text{PP}}=25\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin to GND				16.0	

Note:

1. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
2. I/O pins are pin1,3,7,9.

Rating and characteristic curves(L034BT2626)

Figure 1. 8/20us Pulse Waveform

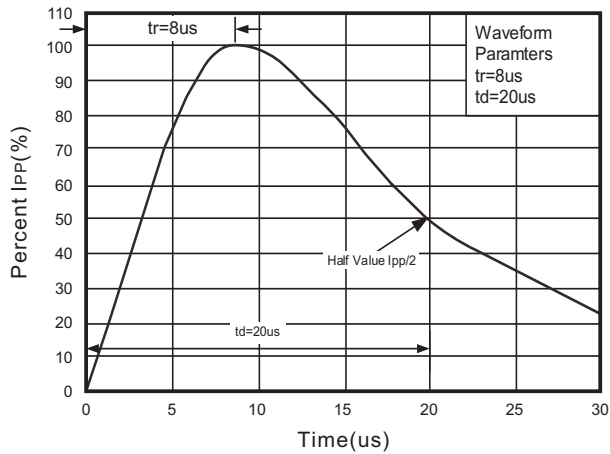


Fig.2 Clamping Voltage VS. Peak Pulse Current

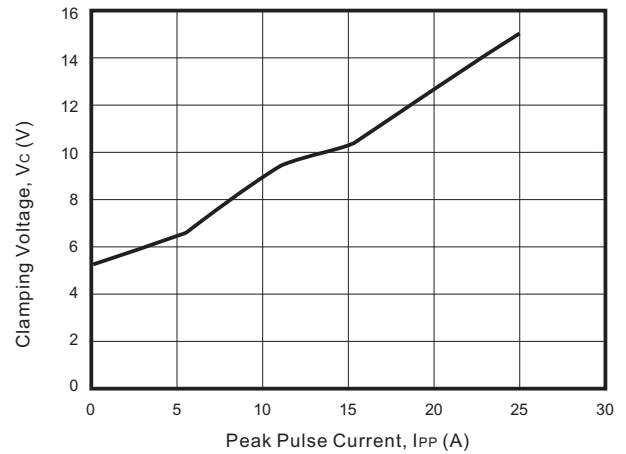


Fig.3 INSERTION LOSS S21 of I/O to GND

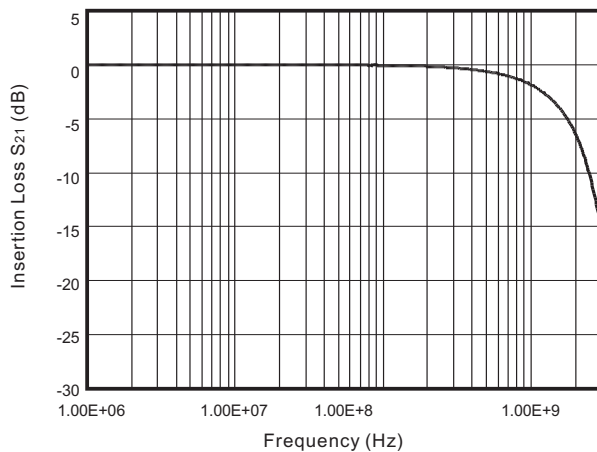


Fig.4 NORMALIZED CAPACITANCE VS. REVERSE VOLTAGE

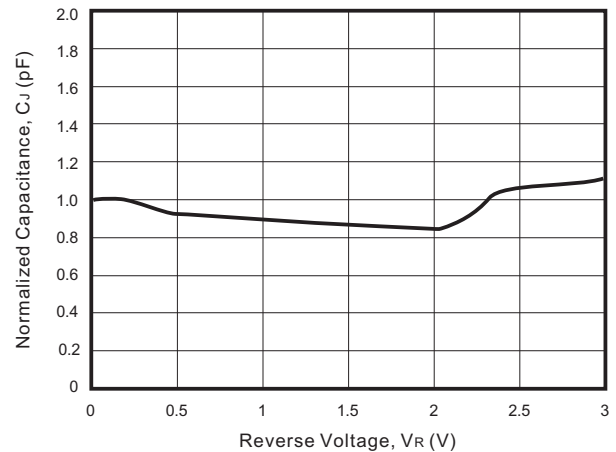


Fig.5 ESD CLAMPING OF I/O TO GND
(+8KV CONTACT PER IEC 61000-4-2)

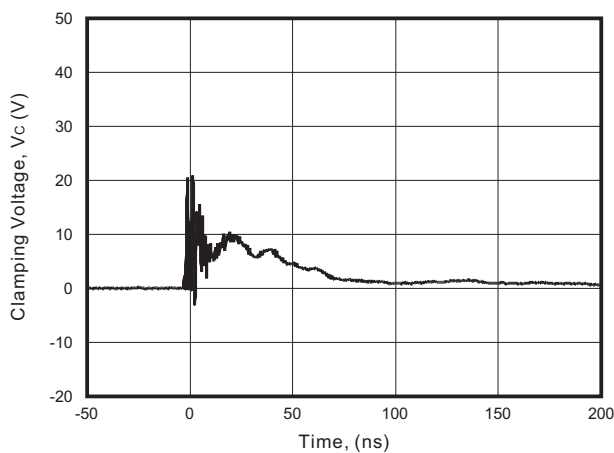
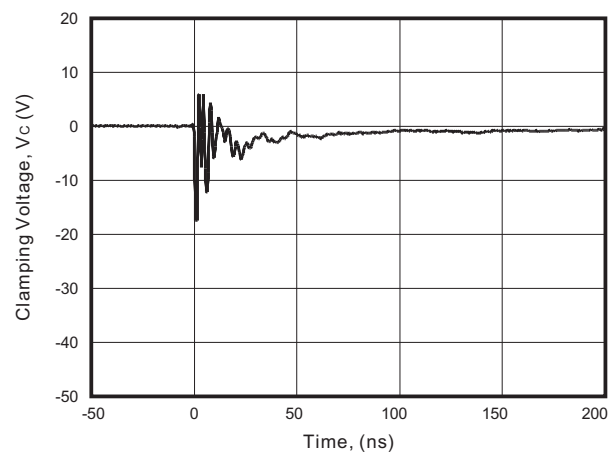


Fig.6 ESD CLAMPING OF I/O TO GND
(-8KV CONTACT PER IEC 61000-4-2)



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Pinning information

Pin Configuration	Simplified outline	Circuit Diagram
1,3,7,9 Input/Output Lines 2,4,6,8,10 No Connect 5 No Connect (Do not connect this pin to a DC supply) Center Tab Ground		

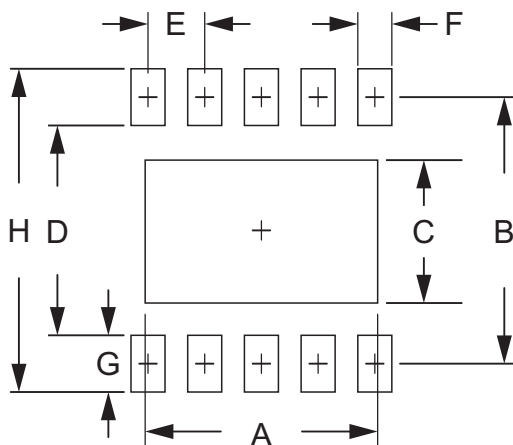
Marking

Type number	Marking code
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Note:

1. P/N code: "S3314P"
2. L/N code: "XXX"
3. Internal code: "Y"

Suggested solder pad layout

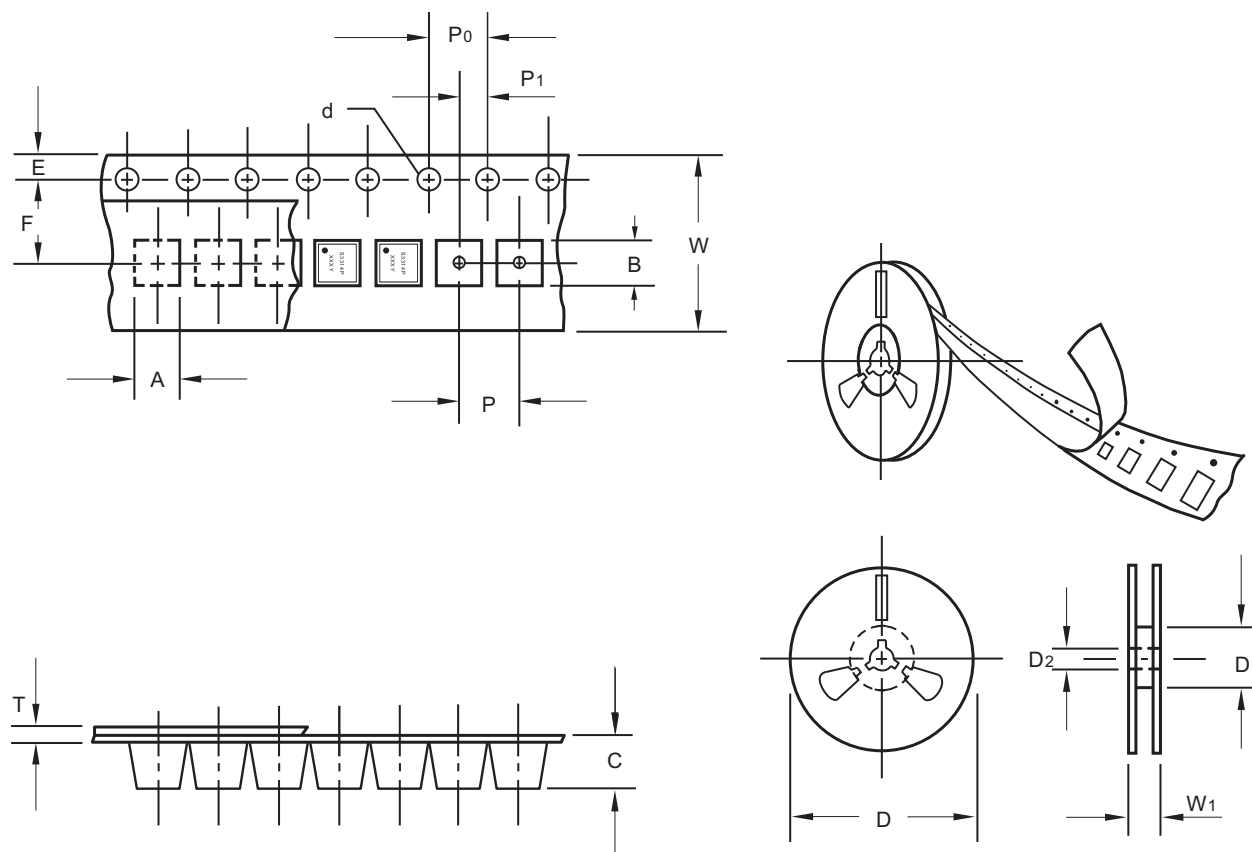


PACKAGE	T2626P10
A	0.081 (2.05)
B	0.100 (2.50)
C	0.050 (1.26)
D	0.073 (1.85)
E	0.020 (0.50)
F	0.012 (0.30)
G	0.025 (0.65)
H	0.124 (3.15)

Dimensions in inches and (millimeters)

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Packing information



unit:mm

Item	Symbol	Tolerance	T2626P10
Carrier width	A	0.05	2.74
Carrier length	B	0.05	2.74
Carrier depth	C	0.05	0.72
Sprocket hole	d	0.1	1.50
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	0.2	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	P0	0.1	4.00
Embossment center	P1	0.05	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	+0.3/-0.1	8.00
Reel width	W1	1.0	9.00

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

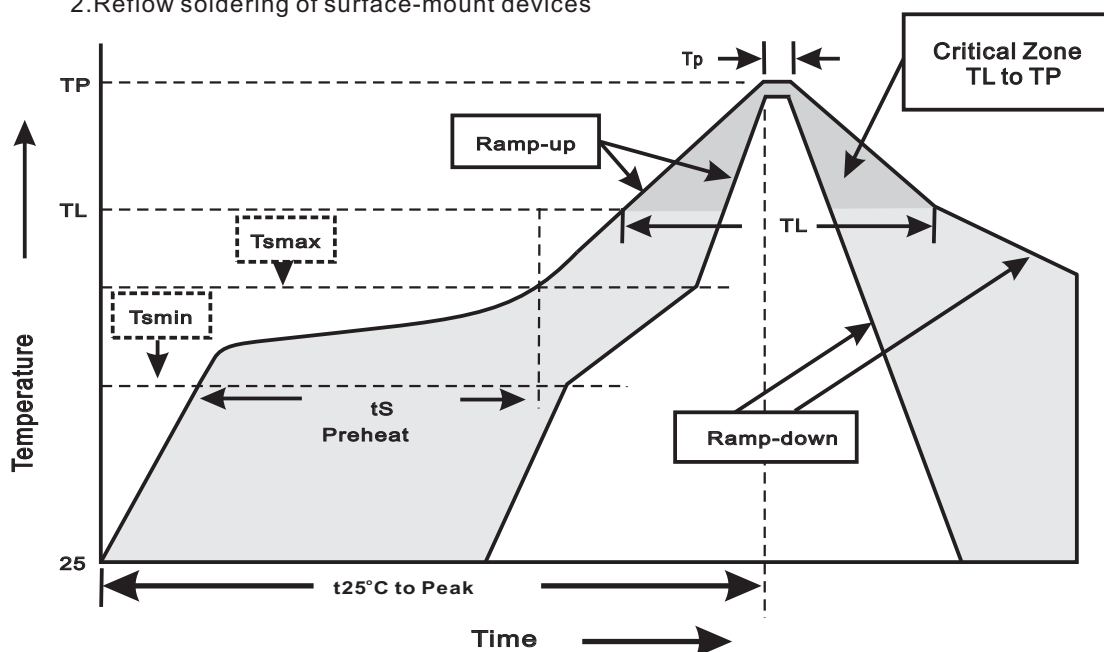
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Reel packing

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)
T2626P10	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(T _{smmin}) -Temperature Max(T _{smmax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smmax} 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