

L054BT26D-H

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4-Channel Low Capacitance TVS For ESD Protection Array : 5.0V

Features

- UP to 4 lines protects.
- Low leakage current.
- Complies with following standards:
IEC61000 -4-2 (ESD) $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact).
- Lead-free parts meet RoHS requirements.

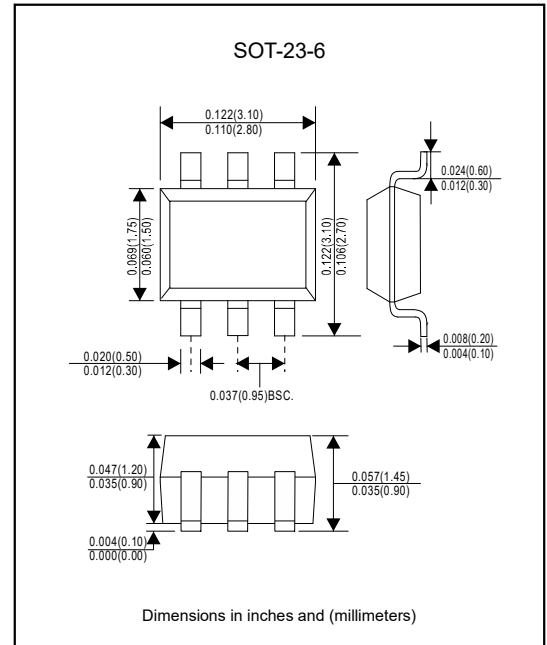
Applications

- Automotive application.
- CAN Bus.
- Electronic control units, body control units, and ADAS control units.
- Power train control units.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant.
- Case : Molded plastic, SOT-23-6.
- Weight : Approximated 15mg.

Package outline



Maximum ratings (At T=25°C, RH=45%~75% unless otherwise noted)

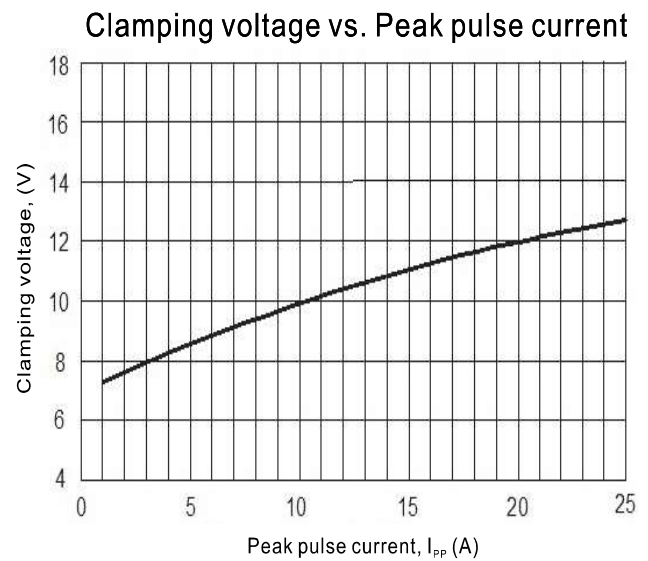
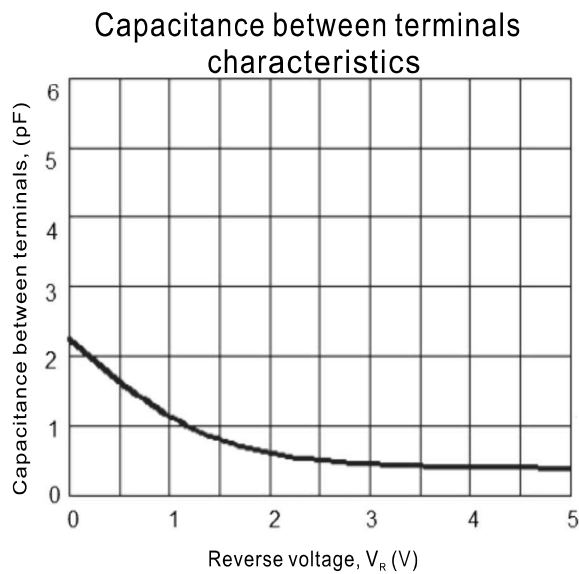
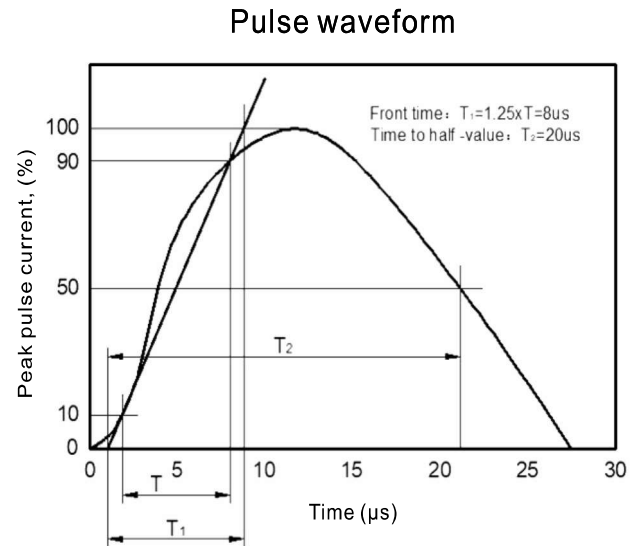
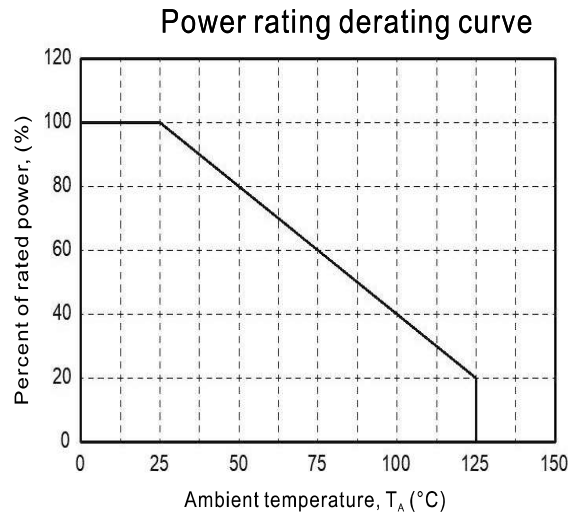
Parameter	Symbol	Ratings	Unit
Peak pulse power (8/20 μ s)	P_{PK}	375	W
Peak pulse current (8/20 μ s)	I_{PP}	25	A
ESD per IEC61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC61000-4-2 (Contact)		± 30	
Operating temperature	T_J	+125	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Electrical Characteristics (at T=25°C, RH=45%~75% unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse working voltage		V_{RWM}			5	V
Reverse leakage current	$V_{RWM}=5V$	I_R			1	μA
Reverse breakdown voltage	$I_R=1mA$	V_{BR}	5.6		10	V
Clamping voltage	$I_{PP}=1A, t_p=8/20\mu s$ (I/O pin to GND)	V_C		6.5/8.1		V
	$I_{PP}=5A, t_p=8/20\mu s$ (I/O pin to GND)			7.7/9.3		
	$I_{PP}=25A, t_p=8/20\mu s$ (I/O pin to GND)			11.6/13.2	15	
Clamping voltage	$I_{PP}=1A, t_p=8/20\mu s$ (VCC pin to GND)	V_C		6.5/8.1		V
	$I_{PP}=35A, t_p=8/20\mu s$ (VCC pin to GND)			11.4/13	15	
Junction capacitance	$V_R=0V, f=1.0MHz$ (Between I/O pins)	C_J		1.7	3.0	pF
	$V_R=0V, f=1.0MHz$ (I/O pins and GND)			2.1	4.5	

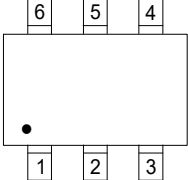
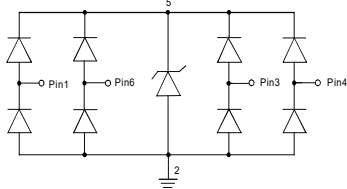
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Rating and characteristic curves



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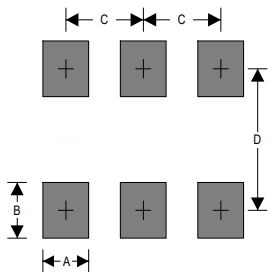
Pinning information

Pin Configuration	Simplified outline	Circuit Diagram
Pin1,3,4,6 I/O Pin5 VCC Pin2 GND		

Marking

Type number	Marking code
L054BT26D-H	SRV05

Suggested solder pad layout

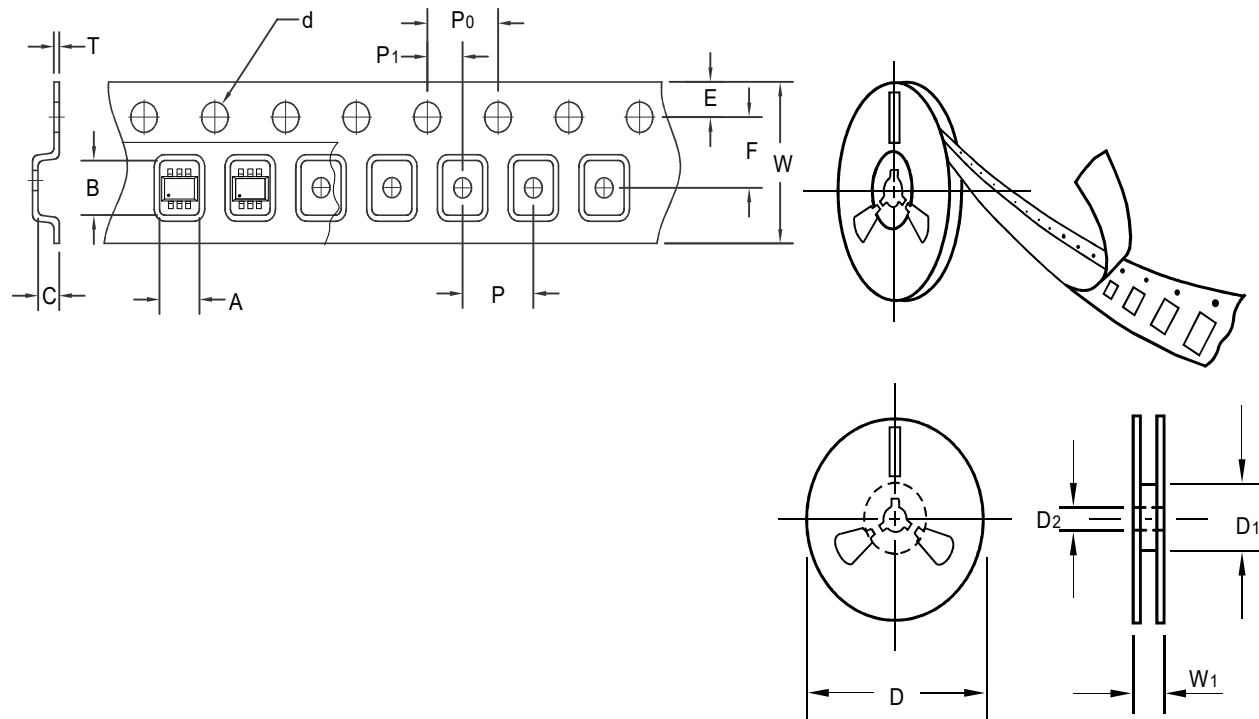


Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D
SOT-23-6	0.024 (0.60)	0.043 (1.10)	0.037(0.95)	0.098(2.50)

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Packing information



unit:mm

Item	Symbol	Tolerance	SOT-23-6
Carrier width	A	0.1	3.23
Carrier length	B	0.1	3.17
Carrier depth	C	0.1	1.37
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	53.40
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	0.25
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30

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

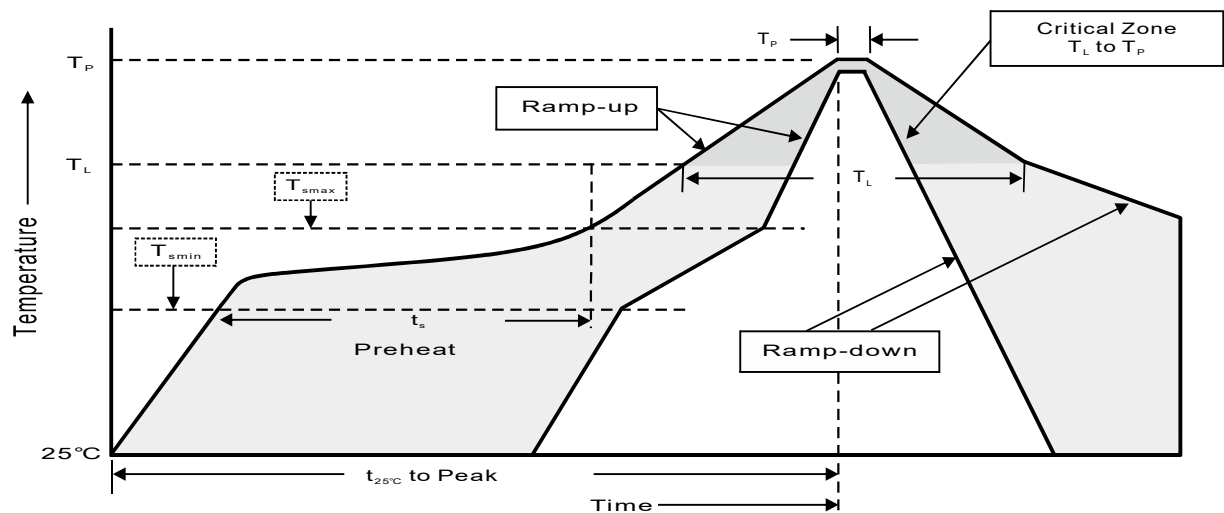
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Reel packing

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 °C/sec
Preheat - Temperature Min (T_{min}) - Temperature Max (T_{max}) - Time (Min to Max) (t_s)	150°C 200°C 60 ~ 120 sec
T_{smax} to T_L - Ramp-up rate	< 3 °C/sec
Time maintained above : - Temperature (T_L) - Time (T_L)	217°C 60 ~ 260 sec
Peak temperature (T_p)	255 °C -0/+5°C
Time with 5°C of actual peak temperature (T_p)	10 ~30 sec
Ramp-down rate	< 6 °C/sec
Time 25°C to peak temperature	< 6 minutes