

L054BT26C

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L054BT26C

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) $\pm 15\text{kV}$ (Air), $\pm 15\text{kV}$ (Contact).
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates halogen-free parts, ex.L054BT26C-H.

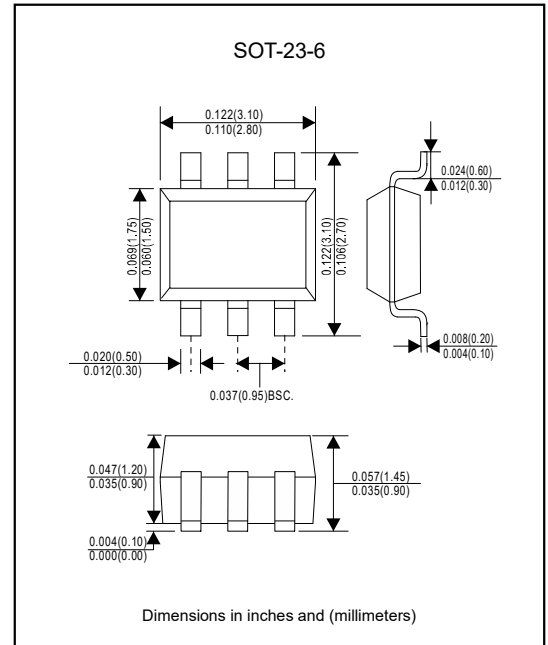
Applications

- 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.
- Mounting Position : Any.

Package outline



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

Parameter	Symbol	Ratings	Unit
Peak pulse power (8/20 μs)	P_{PK}	80	W
Peak pulse current (8/20 μs)	I_{PP}	4	A
ESD per IEC61000-4-2 (Air)	V_{ESD}	± 15	kV
ESD per IEC61000-4-2 (Contact)		± 15	
Operating temperature	T_J	+125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

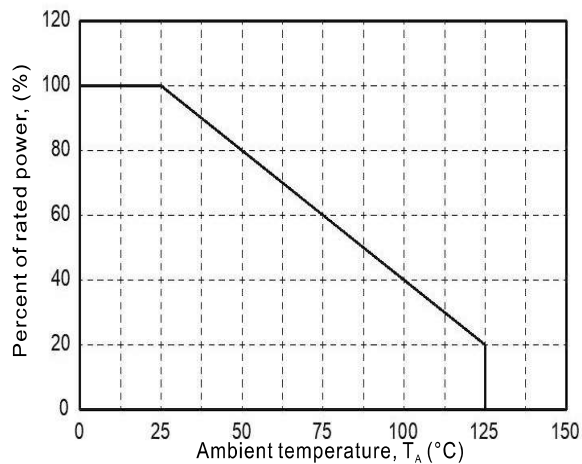
Electrical Characteristics (at $T=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse working voltage		V_{RWM}			5	V
Reverse leakage current	$V_{RWM}=5\text{V}$	I_R			5	μA
Reverse breakdown voltage	$I_R=1\text{mA}$	V_{BR}	6			V
Forward voltage	$I_F=10\text{mA}$	V_F		0.8	1	V
Clamping voltage	$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$	V_C		12	15	V
Junction capacitance	$V_R=0\text{V}$, $f=1.0\text{MHz}$ (Between I/O pins)	C_J		0.5		pF
	$V_R=0\text{V}$, $f=1.0\text{MHz}$ (I/O pins and GND)			1		

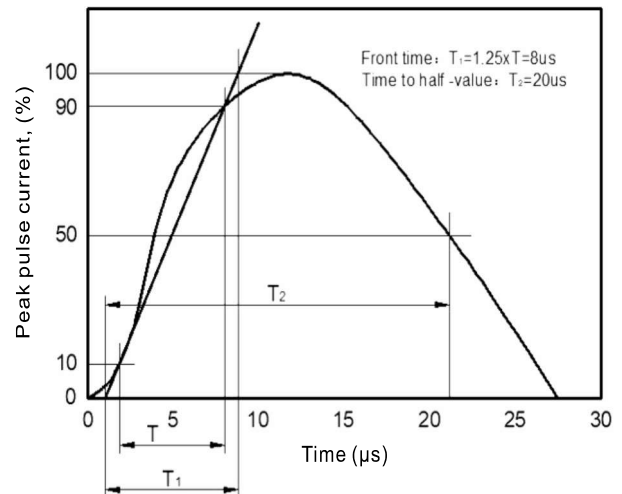
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Rating and characteristic curves

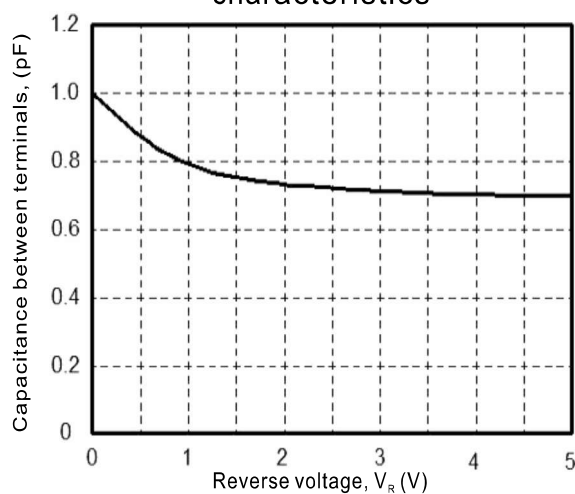
Power rating derating curve



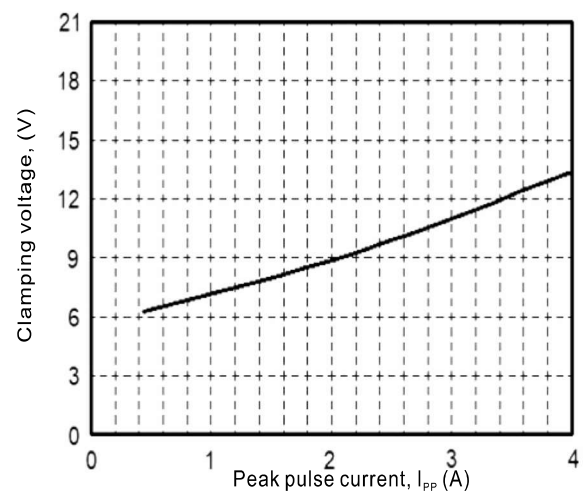
Pulse waveform



Capacitance between terminals characteristics

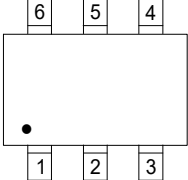
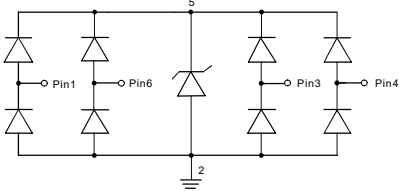


Clamping voltage vs. Peak pulse current



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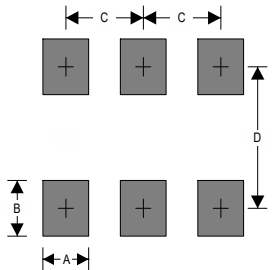
Pinning information

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

Marking

Type number	Marking code
L054BT26C	V05

Suggested solder pad layout

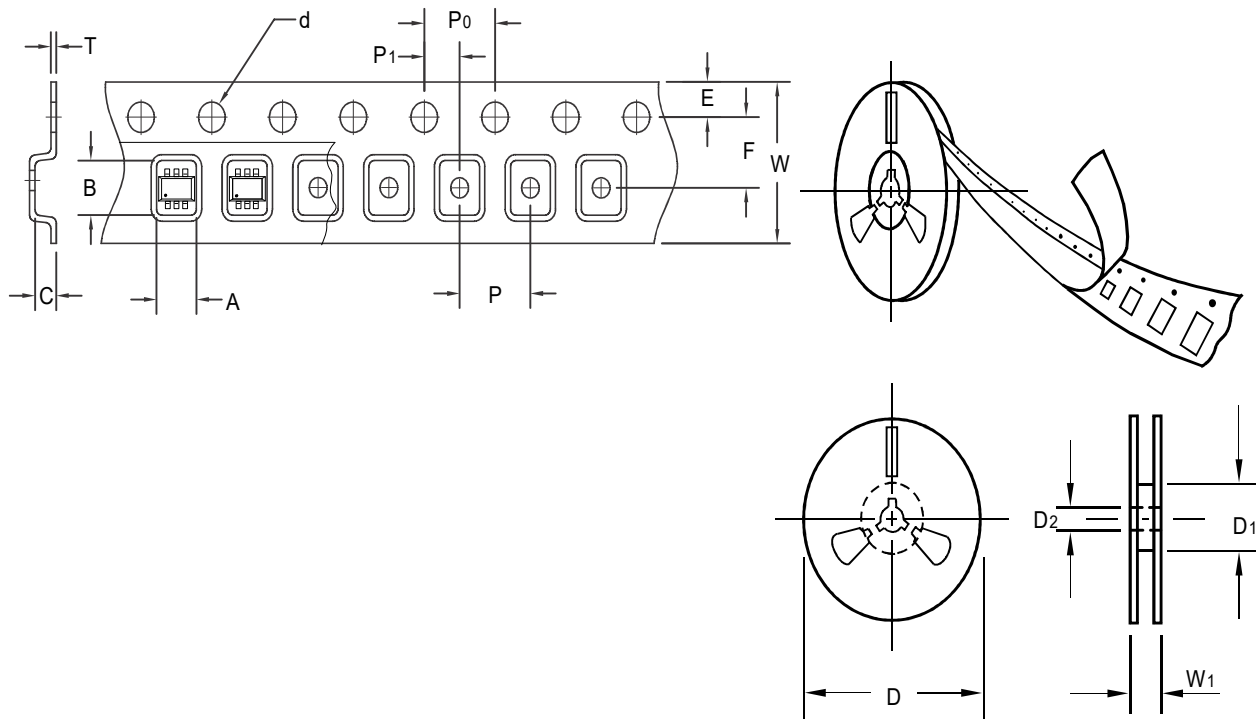


Dimensions in inches and (millimeters)

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

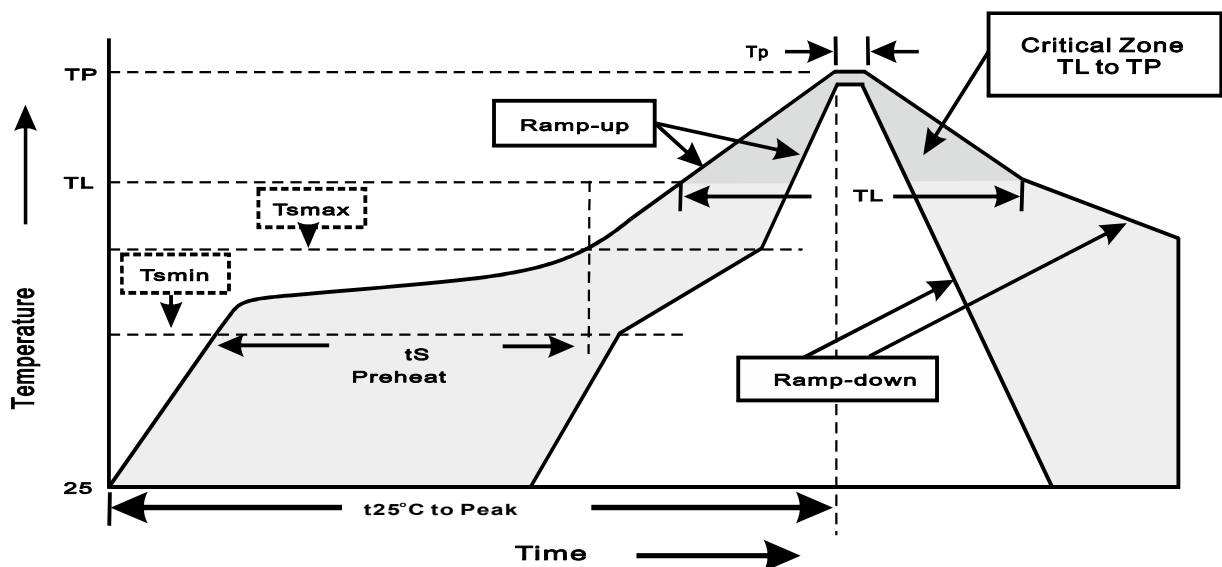
Item	Symbol	Tolerance	SOT-23-6
Carrier width	A	0.1	3.23
Carrier length	B	0.1	3.17
Carrier depth	C	0.1	1.37
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D ₁	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	53.40
Feed hole diameter	D ₂	0.5	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	P ₀	0.1	4.00
Embossment center	P ₁	0.05	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.00
Reel width	W ₁	1.0	12.30

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

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

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



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	$<6\text{minutes}$