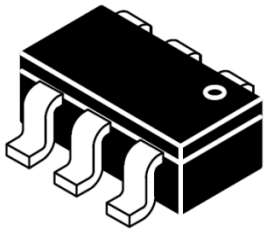
LC0502D6

2-Line Low Capacitance Uni-directional TVS Diode

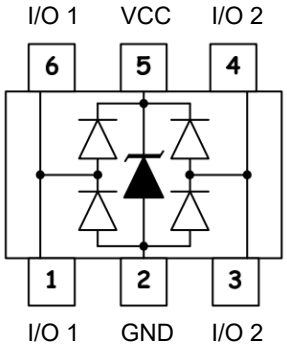
Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±17kV
    - Contact discharge: ±15kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- RoHS Compliant

Dimensions SOT-26



Pin Configuration



Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100 Base T

Mechanical Characteristics

- Package: SOT-26
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch
- Device Marking: 602

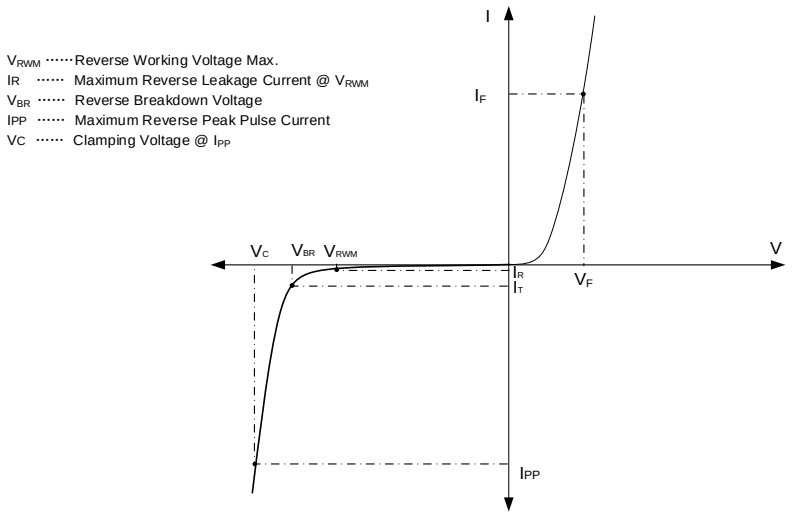
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs) any I/O pin to ground	Ppp	170	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±17	kV
ESD per IEC 61000−4−2 (Contact)		±15	
Operating Temperature Range	T_J	-40 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground			5	V
Breakdown Voltage	V_{BR}	I_T = 1mA, any I/O pin to ground	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, any I/O pin to ground			1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse), any I/O pin to ground			9.8	V
Clamping Voltage	V_C	I_{PP} = 8A (8 x 20μs pulse), any I/O pin to ground			21	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz, between I/O pins			0.6	pF
Junction Capacitance	C_J	VR = 0V, f = 1MHz, any I/O pin to ground			1.2	pF

Electrical Parameters(TA=25°C unless otherwise specified)



Note1：8/20μs pulse waveform.

Typical Performance Characteristics(TA=25°C unless otherwise specified)

Figure 1. 8 x 20 μs Waveform

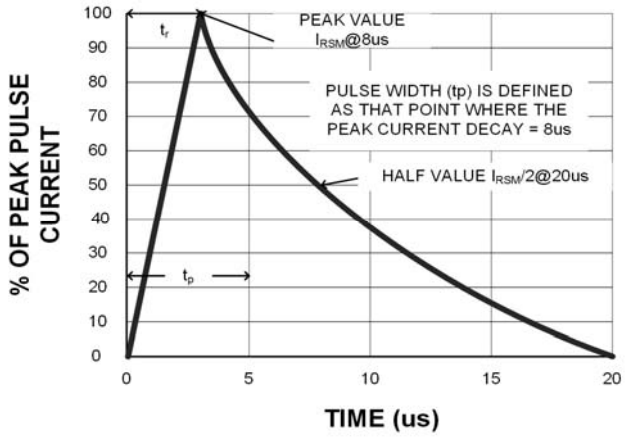


Figure 2. Power Derating Curve

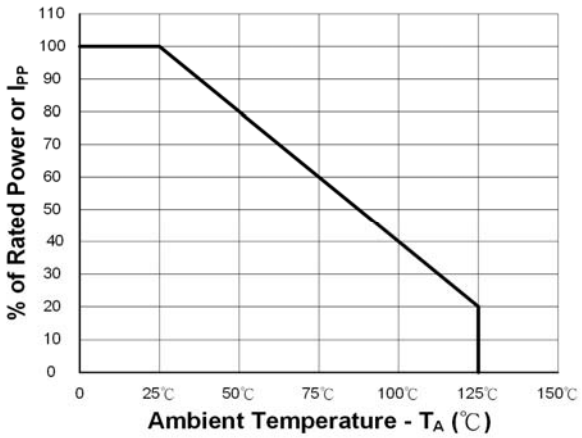


Figure 3. Clamping Voltage vs. Peak Pulse Current (tp=8/20 μs)

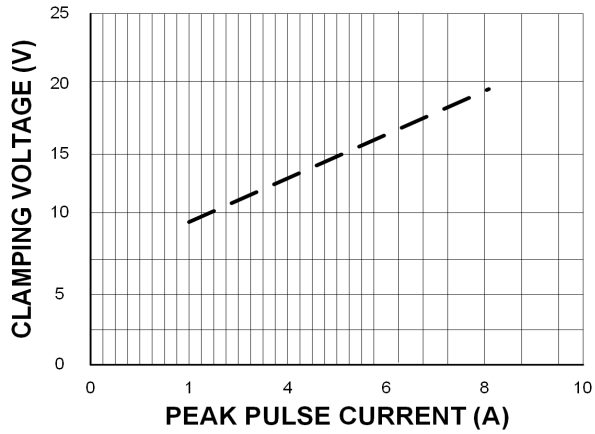


Figure 4. Typic Breakdown Voltage vs. Temperature

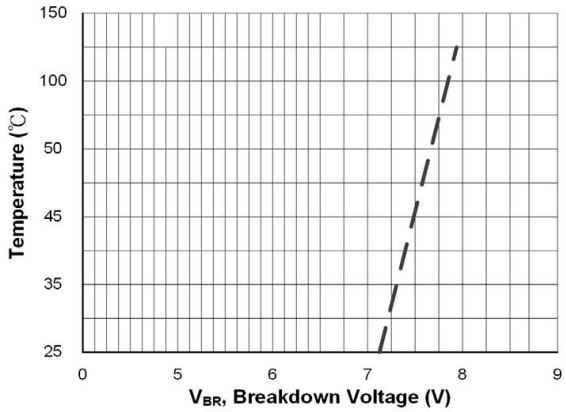


Figure 5. Typic Reverse Current vs. Temperature

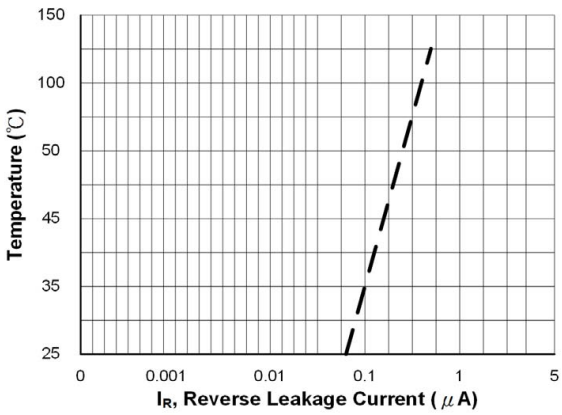
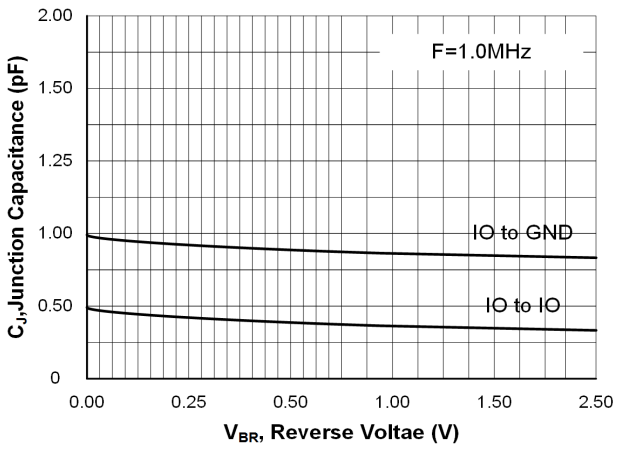
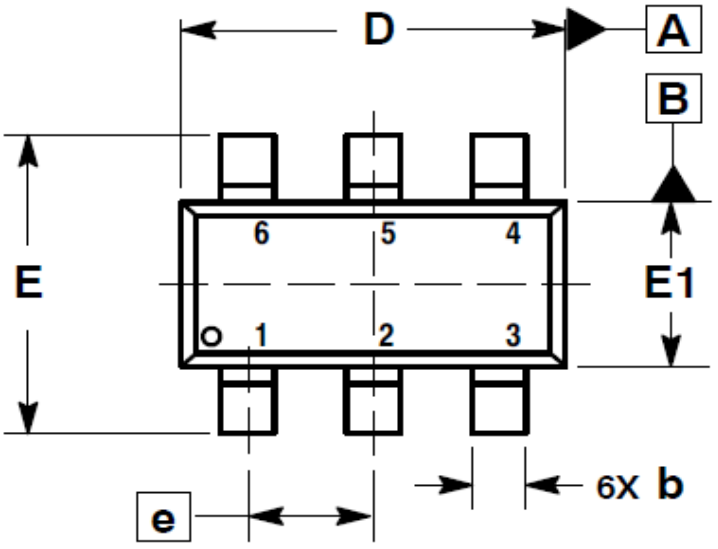


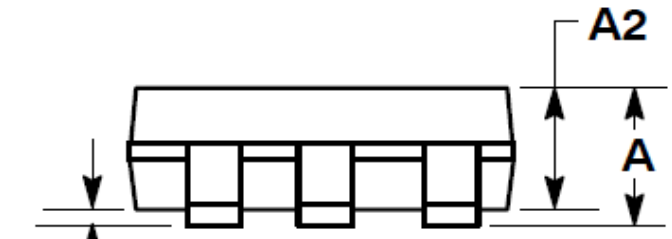
Figure 6. Typic Capacitance vs. Reverse Voltage

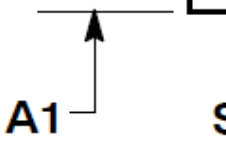


SOT-26 Package Outline Drawing



TOP VIEW





SIDE VIEW

	MILLIMETERS	
DIM	MIN	MAX
A	---	1.45
A1	0.00	0.15
A2	0.90	1.30
b	0.20	0.50
c	0.08	0.26
D	2.70	3.00
E	2.50	3.10
E1	1.30	1.80
e	0.95 BSC	
L	0.20	0.60
L2	0.25 BSC	

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