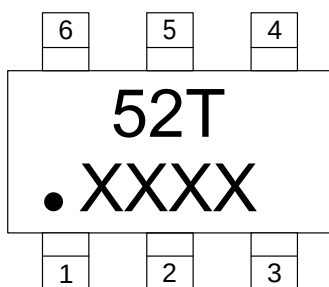


Features

- Transient protection for high-speed data lines
IEC61000-4-2 (ESD) $\pm 25\text{kV}$ (Air)
 $\pm 25\text{kV}$ (Contact)
IEC61000-4-5 (Lightning) 5.0A (8/20 μs)
- Small package saves board space
- Low capacitance: 0.35pF@0V (Typical) (I/O-I/O)
0.80pF@0V(Typical)(I/O-GND)
- Low leakage current: 0.01 μA @ V_{RWM} (Maximum)
- Low clamping voltage

Marking Codes



Note:

- (1) "52T" is part number, fixed.
- (2) "XXXX" is the identification number.

Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TT0552TLX	5.0V	3,000	7 Inch

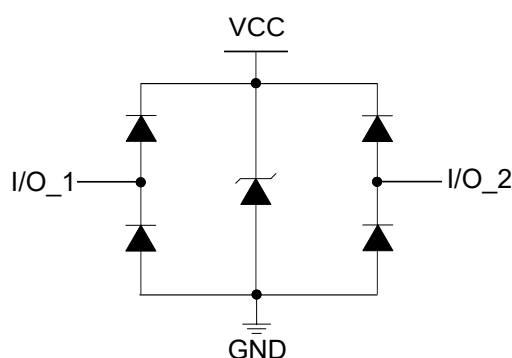
Applications

- Portable instrumentation
- Notebooks, Desktops and Servers
- 10/100 Ethernet
- High speed data lines:
 - USB 2.0/3.0 (Gen 1)
 - HDMI 1.3/1.4
 - SATA and eSATA

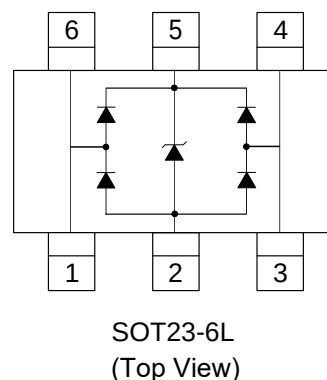
Mechanical Characteristics

- Package: SOT23-6L
- Marking: Part number
- Packaging: Tape and Reel
- ROHS compliant
- Moisture Sensitivity Level (MSL Level-3)

Circuit Diagram



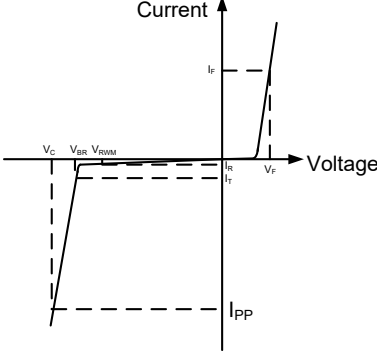
Pin Configuration



Absolute Maximum Rating

Symbol	Parameter	Value	Units
I_{PP}	Peak Pulse Current (8/20 μ s)	5	A
V_{ESD}	ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	± 25 ± 25	kV
T_{OPT}	Operating Temperature	-55/+125	°C
T_{STG}	Storage Temperature	-55/+150	°C

Electrical Characteristics (T = 25°C)

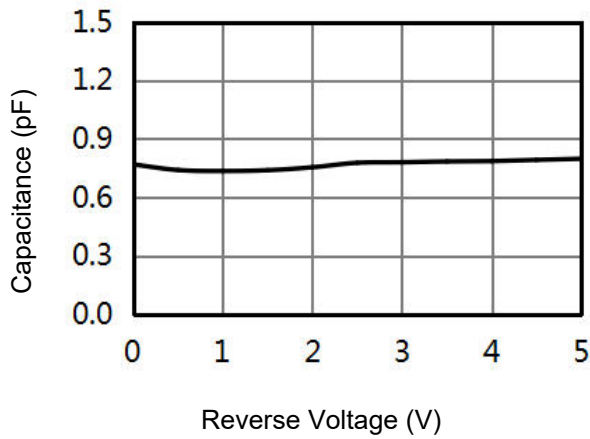
Symbol	Parameter	Diagram
V_{RWM}	Nominal Reverse Working Voltage	
I_R	Reverse Leakage Current @ V_{RWM}	
V_{BR}	Reverse Breakdown Voltage @ I_T	
I_T	Test Current for Reverse Breakdown	
V_C	Clamping Voltage @ I_{PP}	
I_{PP}	Maximum Peak Pulse Current	
C_{ESD}	Parasitic Capacitance	
I_F	Forward Current	
V_F	Forward Voltage @ I_F	

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				5.0	V
I_R	$V_{RWM} = 5.0V$, T = 25°C		0.01	0.1	μA
V_{BR}	$I_T = 1mA$	6.0			V
V_C	$I_{PP} = 1A$, $t_p = 8/20\mu s$ Between I/O and GND		8.4		V
	$I_{PP} = 5A$, $t_p = 8/20\mu s$ Between I/O and GND		10.3		V
V_C	$I_{PP} = 8.0A$, $t_p = 100ns^{(1)}$		10.1		V
	$I_{PP} = 16.0A$, $t_p = 100ns^{(1)}$		12.0		V
R_{dyn}	$I_{PP} = 12.0A$, $t_p = 100ns^{(1)}$		0.25		Ω
C_{ESD}	$V_R = 0V$, f = 1MHz Between I/O and GND		0.80		pF
	$V_R = 0V$, f = 1MHz Between I/O and I/O		0.35		pF

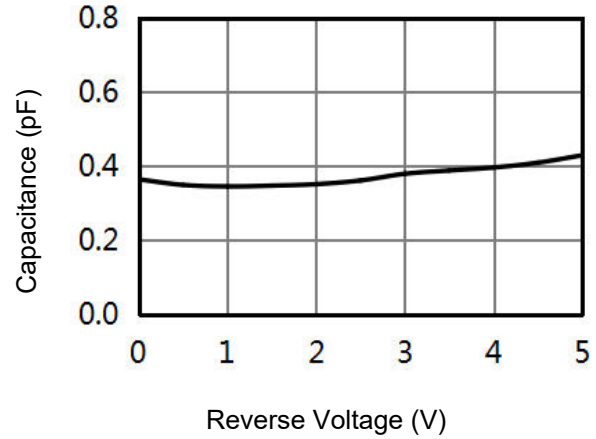
Notes:(1)Measurements performed using a 100ns Transmission Line Pulse(TLP) system,Between I/O and GND.

Typical Performance Characteristics

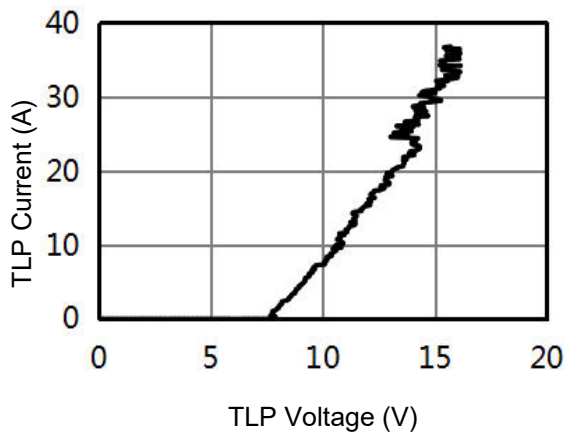
Capacitance vs Reverse Voltage I/O to GND



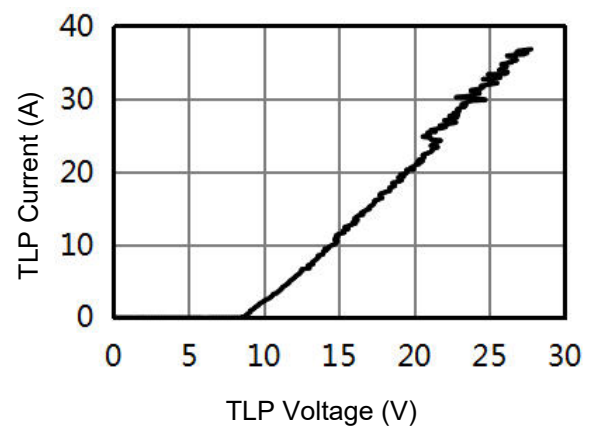
Capacitance vs Reverse Voltage I/O to I/O



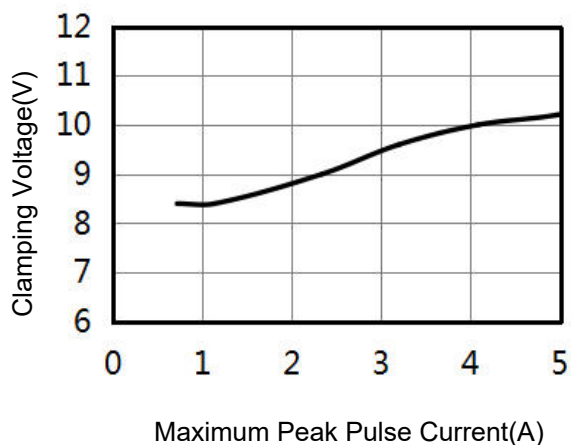
TLP Measurement of I/O to GND



TLP Measurement of I/O to I/O

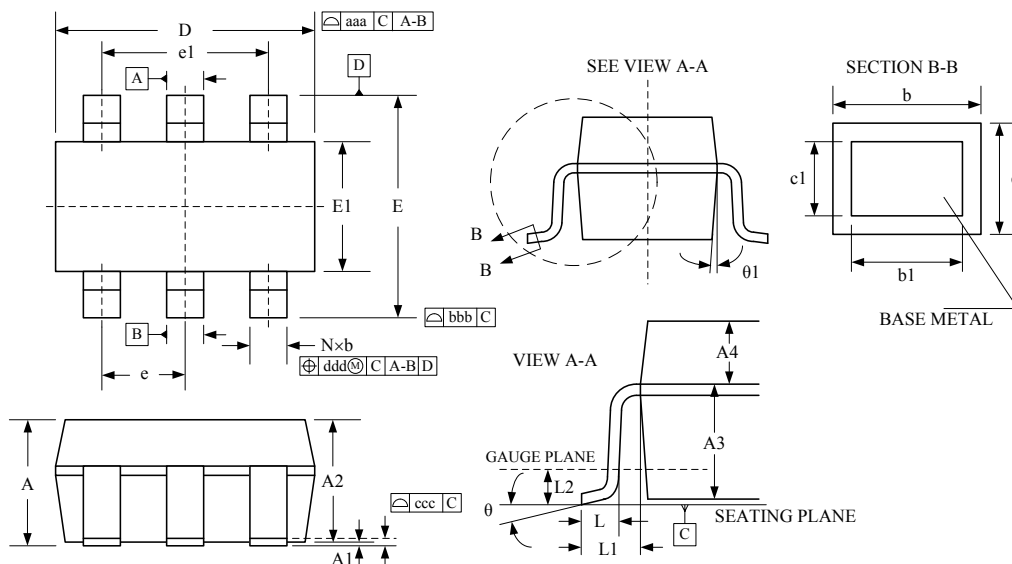


8/20us Current I/O to GND



Package Outline

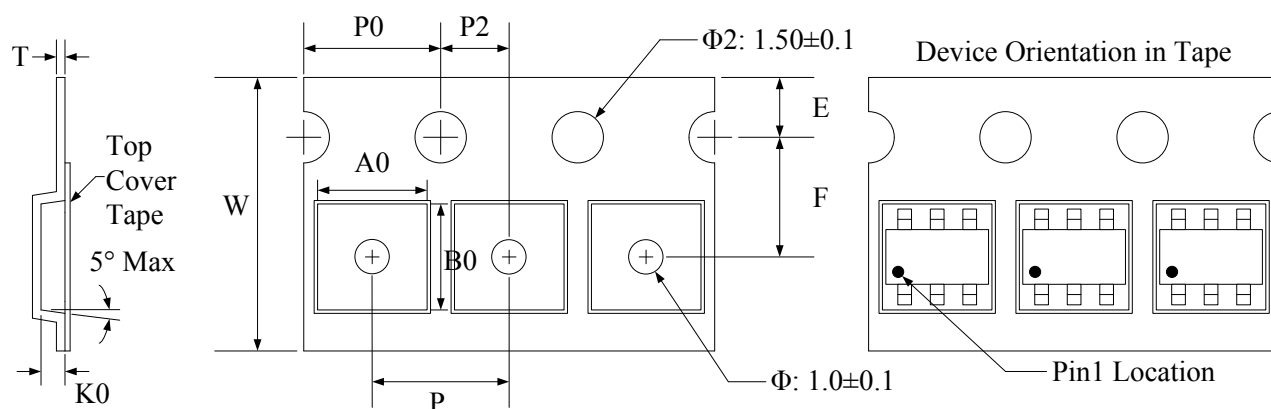
□ SOT23-6L package



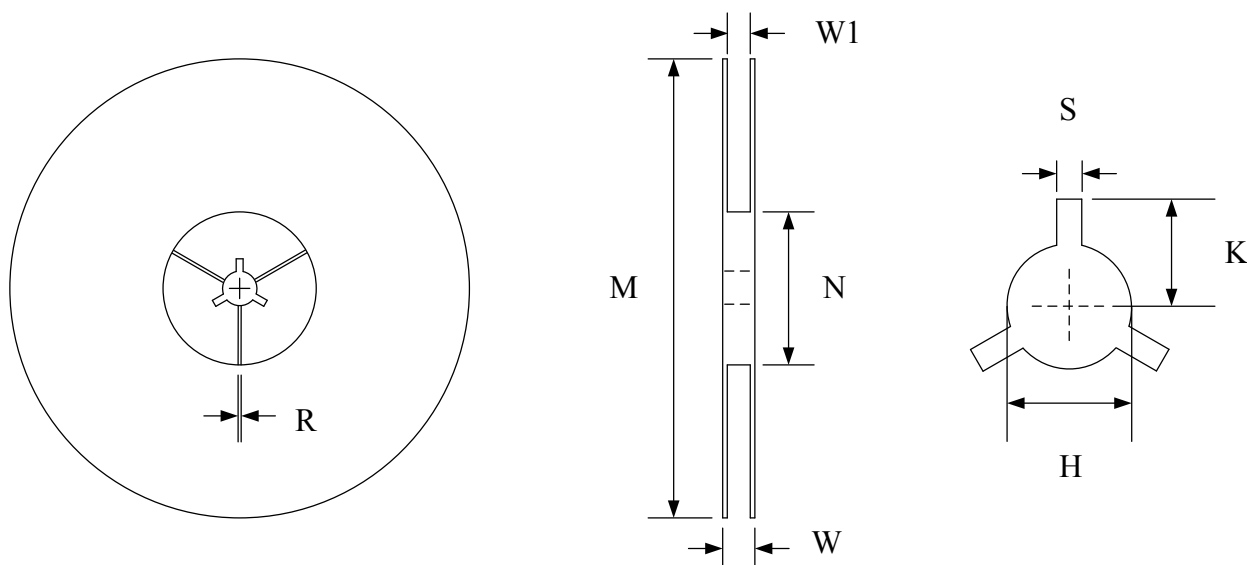
Package Dimensions (Controlling dimensions are in millimeters)

Symbol	Dimensions (mm)			Dimensions (Inches)		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
A	—	—	1.450	—	—	0.057
A1	0.000	—	0.150	0.000	—	0.006
A2	0.900	1.200	1.300	0.035	0.047	0.012
A3	0.637	0.787	0.837	0.025	0.031	0.033
A4	0.263	0.413	0.463	0.010	0.016	0.018
b	0.300	—	0.500	0.012	—	0.020
b1	0.300	0.400	0.450	0.012	0.016	0.018
c	0.080	—	0.220	0.003	—	0.009
c1	0.080	0.130	0.200	0.003	0.005	0.008
D	2.90 BSC			0.114 BSC		
e	0.95 BSC			0.037 BSC		
e1	1.90 BSC			0.075 BSC		
E	2.80 BSC			0.110 BSC		
E1	1.60 BSC			0.063 BSC		
L	0.300	0.450	0.600	0.012	0.018	0.024
L1	0.600 REF			0.024 REF		
L2	0.250 BSC			0.010 BSC		
θ	0°	4°	8°	0°	4°	8°
θ1	5°	10°	15°	5°	10°	15°
aaa	0.150			0.006		
bbb	0.200			0.008		
ccc	0.100			0.004		
ddd	0.100			0.004		

Tape and Reel Specification



Symbol	W	A0	B0	K0	E	F	P	P0	P2	T
Dimensions (mm)	8.00 ± 0.3 -0.1	3.23 ± 0.05	3.17 ± 0.05	1.37 ± 0.05	1.75 ± 0.1	3.5 ± 0.05	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	0.25 ± 0.02



Symbol	Reel Size	M	N	W	W1	H	S	K	R
Dimensions (mm)	$\Phi 178$	178.0 ± 1.0	60.0 ± 1.0	11.5 ± 0.5	9.0 ± 0.5	13.0 ± 0.5	2.0 ± 0.1	11.0 ± 0.2	1.0 ± 0.05