

# ESD0502TL

## ESD0502TL Ultra Low Capacitance TVS/ESD Protection Diode

### General description

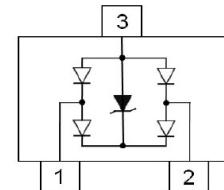
Silicon Protection Diode in a SOT-23 Package.

### FEATURES

- 60 Watt peak pulse power ( $t_p=8/20$ )
- Low Leakage Current
- Low clamping voltage
- Ultra Low capacitance ( $C_j=0.2$  pF typ.)
- Protection two data line
- IEC 61000-4-2 8Kv Contact /15Kv air.
- IEC 61000-4-4 EFT 40A(5/50nS)



Package : SOT-23



### Absolute Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
P <sub>pp</sub>	Peak pulse power	60	W
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Junction Temperature	-55 to +125	°C
ESD	IEC61000-4-2 Air Discharge Contact Discharge	20 20	KV
EFT	IEC61000-4-4	40	A

### Device Marking:

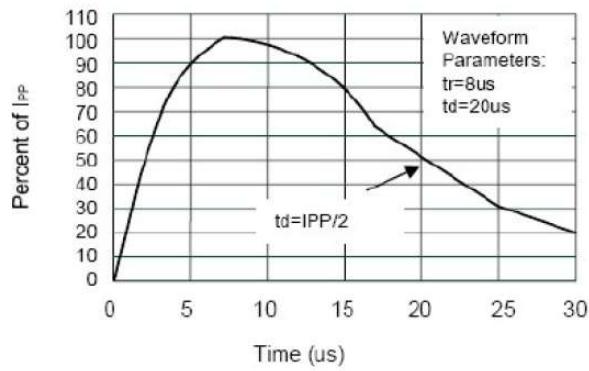
Device Type	Marking	Shipping
ESD0520TL	52L	3,000/Reel

### ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C)

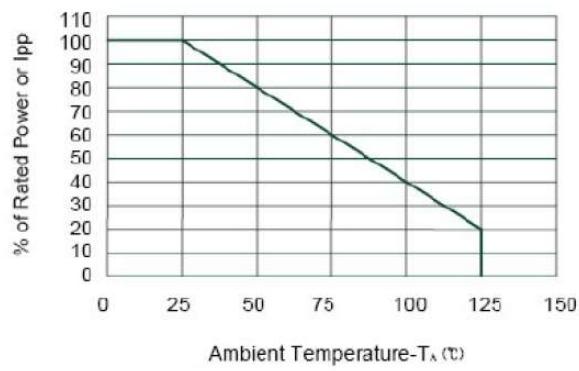
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage	I/O to GND			5.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA Between I/O and GND	6.0			V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V Between I/O and GND			100	nA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs Between I/O and GND			10	V
		I <sub>PP</sub> = 4A, t <sub>p</sub> = 8/20μs Between I/O and GND			15	V
V <sub>F</sub>	Forward Voltage	I <sub>T</sub> = 10mA Between I/O and GND			1.2	V
C <sub>T</sub>	Total Capacitance	V <sub>R</sub> = 0V, f = 1MHz Between I/O and GND		0.4		pF
		V <sub>R</sub> = 0V, f = 1MHz Between I/O and I/O		0.2		pF

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## ELECTRICAL CHARACTERISTICS CURVE

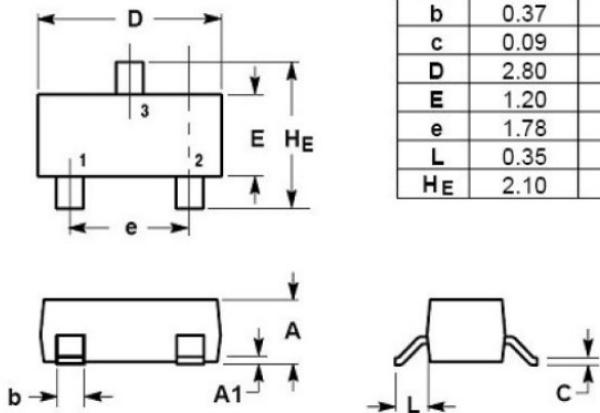


Pulse Waveform



Power Derating Curve

## SOT-23 PACKAGE OUTLINE DIMENSIONS



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
<b>A</b>	0.89	1.00	1.11	0.035	0.040	0.044
<b>A<sub>1</sub></b>	0.01	0.06	0.10	0.001	0.002	0.004
<b>b</b>	0.37	0.44	0.50	0.015	0.018	0.020
<b>c</b>	0.09	0.13	0.18	0.003	0.005	0.007
<b>D</b>	2.80	2.90	3.04	0.110	0.114	0.120
<b>E</b>	1.20	1.30	1.40	0.047	0.051	0.055
<b>e</b>	1.78	1.90	2.04	0.070	0.075	0.081
<b>L</b>	0.35	0.54	0.69	0.014	0.021	0.029
<b>H<sub>E</sub></b>	2.10	2.40	2.64	0.083	0.094	0.104

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