

1-Line , Bi-directional, Transient Voltage Suppressors

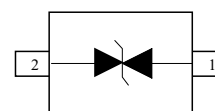
Descriptions

The ESD5B005TA is a bi-directional TVS (Transient Voltage Suppressor). It is specifically designed to protect sensitive electronic components that may be subjected to ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. It is particularly well-suited for cellular phones, portable device, digital cameras, power supplies and many other portable applications because of its small package and low weight.



SOD-523

The ESD5B005TA is available in SOD-523 package. Standard products are Pb-free and Halogen-free.



Circuit diagram

Features

- Stand-off voltage: $\pm 5V$ Max
- Transient protection for each line according to
IEC61000-4-2 (ESD): $\pm 15kV$ air discharge $\pm 8kV$ contact discharge
IEC61000-4-4 (EFT): 40A (5/50ns)
- Solid-state silicon technology
- Low leakage current

Applications

- Cell phone handsets and accessories
- Personal Digital Assistants (PDAs)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Digital Cameras
- Car entertainment systems, car dashboard

Order information

Device	Package	Shipping	Mark
ESD5B005TA	SOD-523	5000/Tape&Reel	5B

Absolute maximum ratings

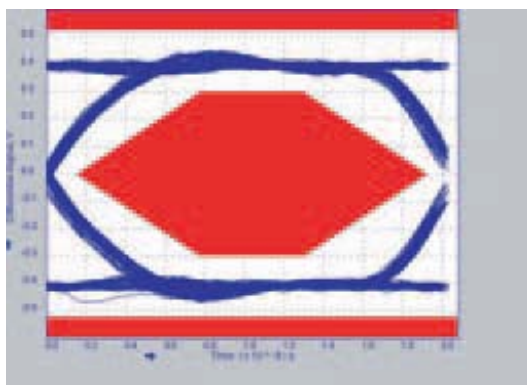
Parameter	Symbol	Rating	Unit
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	1	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 15	kV
ESD according to IEC61000-4-2 contact discharge		± 8	
Operation junction temperature	T_J	-55~150	°C
Lead temperature	T_L	260	°C
Storage temperature	T_{STG}	-55~150	°C

Electrical characteristics (TA=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				5	V
Reverse leakage current	I_R	$V_{RWM} = 5 \text{ V}$			1	nA
Reveres breakdown voltage	V_{BR}	$I_T = 1\text{mA}$	7		10	V
Clamping voltage	V_C	$I_{PP} = 1\text{A}$ $t = 8/20 \mu s$	17	18	19	V
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$	$0.5 \pm 30\%$			pF

USB eye map

USB 2.0 Eye Diagram



USB 2.0 Eye Diagram ESD5B005TA

