

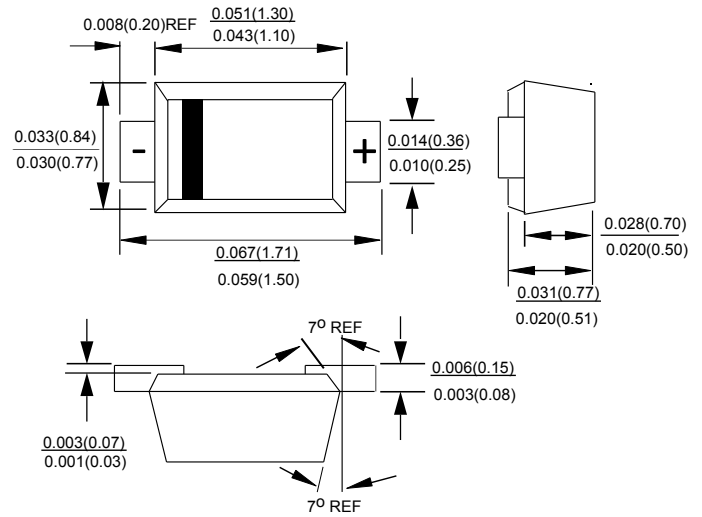


Single-Line ESD Protection Array

DESCRIPTION

- ◆ The ESDH5V0U are designed by TVS device that is to protect sensitive electronics from damage or latch-up due to ESD. They are designed for use in applications where board space is at a premium.
- ◆ ESDH5V0U will protect single line, and may be used on line where the signal polarities swing above and below ground.
- ◆ ESDH5V0U offer desirable characteristics for board level protection including fast response time, low operating and clamping voltage, and no device degradation.
- ◆ ESDH5V0U may be used to meet the immunity requirements of IEC 61000-4-2, level 4.
- ◆ The small SOD-523 package makes them ideal for use in portable electronics such as cell phones, PDA's, notebook computers, and digital cameras.

SOD-523 PACKAGE OUTLINE

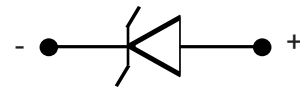


Unit : Inch (mm)

FEATURE

- ◆ Transient protection for data lines to IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Protects single I/O lines
- ◆ Working voltage: 5V
- ◆ Low leakage current
- ◆ Low operating and clamping voltages

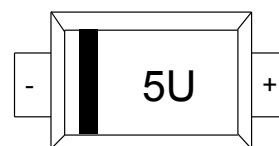
Pin Configuration (SOD-523)



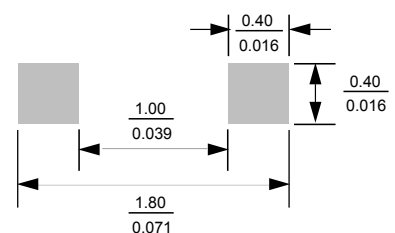
APPLICATIONS

- ◆ Cellular Handsets and Accessories
- ◆ Cordless Phone
- ◆ PDA
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Digital Cameras
- ◆ MP3 Player

Part Marking



Suggested Pad Layout



Unit : mm / Inch



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ABSOLUTE MAXIMUM RATINGS

(T_A=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Peak Pulse Power (t _p = 8/20 μs)	P _{PK}	135	W
Maximum Peak Pulse Current (t _p = 8/20 μs)	I _{PP}	10	A
ESD per IEC 61000 – 4 – 2 (Air)	V _{PP}	±15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	V _{PP}	±8	KV
Operating Junction Temperature	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Soldering Temperature	T _L	260 (10sec)	°C

ELECTRICAL CHARACTERISTICS

(T_A=25°C Unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Reverse Stand – Off Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _t = 1mA	6		7.6	V
Reverse Leakage Current	I _R	V _{RWM} = 5V , T=25°C			1	μA
Clamping Voltage	V _C	I _{pp} = 10A , t _p = 8/20 μs			13.5	V
Junction Capacitance	C _j	Between I/O Pin and GND V _R = 0V , f = 1MHz			80	pF

ORDERING INFORMATION

Part Number	Package	Part Marking	7" Reel Packing
ESDH5V0U	SOD-523	5U	3000 pcs



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TYPICAL CHARACTERISTICS

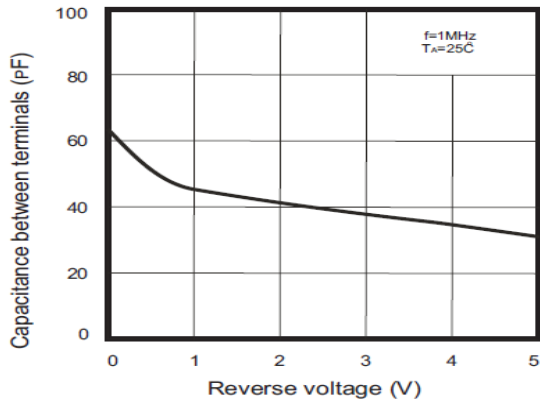


Fig 1 : Junction Capacitance V.S Reverse Voltage Applied

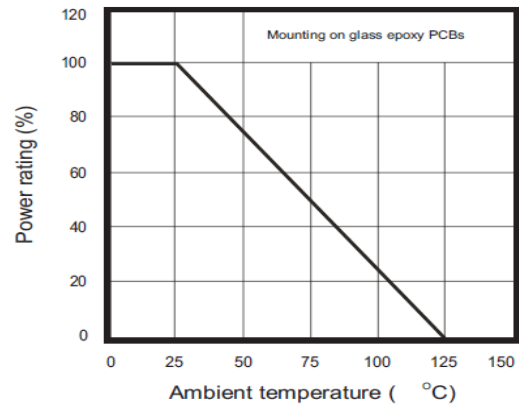


Fig 2 : Peak Plus Power V.S Exponential Plus Duration

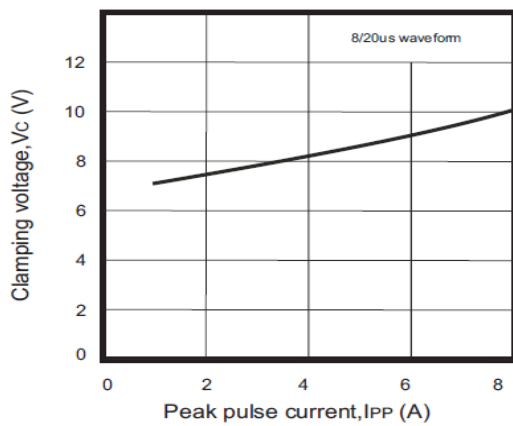


Fig 3 : Clamping Voltage VS Peak Pulse Current

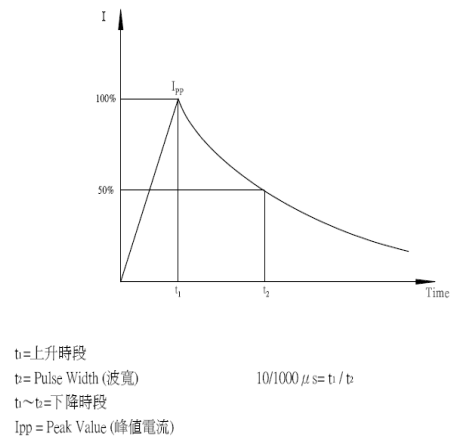


Fig 4 : Forward Voltage Drop V.S Peak Forward Current