



Single-Line ESD Protection Device

DESCRIPTION

- ◆ The ESDH5V0B is an ESD transient voltage suppression component which provides a very high level of protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD).
- ◆ 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.
- ◆ The ESDH5V0B is Bi-directional; Safely dissipate ESD strikes of Level 4, IEC61000-4-2, exceeding the maximum requirement.
- ◆ Using the MILSTD-883 (Method 3015) specification for Human Body Model (HBM) ESD, the device provides protection for contact discharges to greater than +/-10KV.

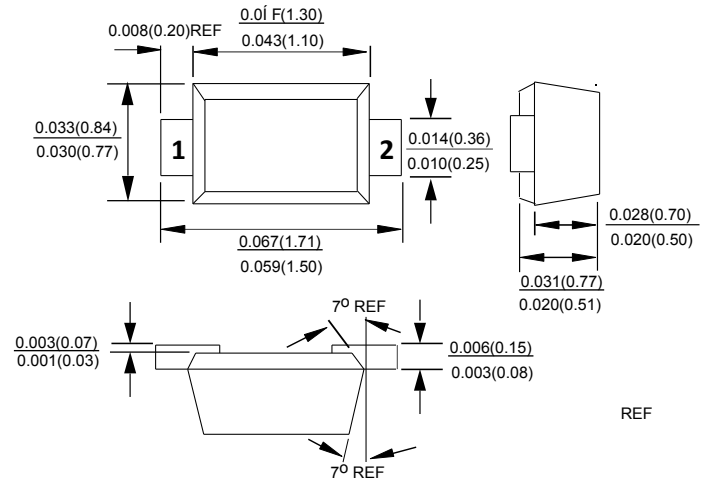
FEATURES

- ◆ 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
- ◆ Weight : 2mg (approximately)

APPLICATIONS

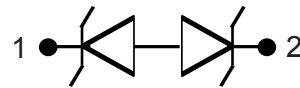
- ◆ Cellular Handsets and Accessories
- ◆ Cordless Phone
- ◆ PDA
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Digital Cameras
- ◆ MP3 Player

Package Outline SOD-523

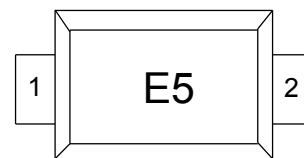


Unit : Inch (mm)

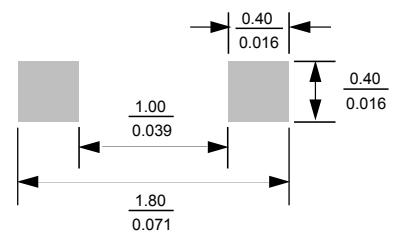
Pin Configuration (SOD-523)



Part Marking



Suggested Pad Layout



Unit : $\frac{\text{mm}}{\text{Inch}}$



Single-Line ESD Protection Device

ESDH5V0B

Crownpo Technology

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Peak Pulse Power (tp = 8/20 μs)	Ppk	75	W
Maximum Peak Pulse Current (tp = 8/20 μs)	Ipp	1	A
ESD per IEC 61000 – 4 – 2 (Air)	Vpp	±15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	Vpp	±8	KV
Operating Junction Temperature	Tj	-55 ~ 125	°C
Storage Temperature Range	TSTG	-55 ~ 150	°C
Lead Soldering Temperature	TL	260 (10sec)	°C

ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Reverse Stand – Off Voltage	VRWM				5	V
Reverse Breakdown Voltage	VBR	It = 1mA	6			V
Reverse Leakage Current	IR	VRWM = 5V , T=25°C			2	μA
Clamping Voltage	Vc	Ipp = 1A , tp = 8/20 μs			9	V
Junction Capacitance	Cj	Between I/O Pin and GND VR = 0V , f = 1MHz		15	20	pF

ORDERING INFORMATION

Part Number	Package	Part Marking
ESDH5V0B	SOD-523	E5



TYPICAL CHARACTERISTICS

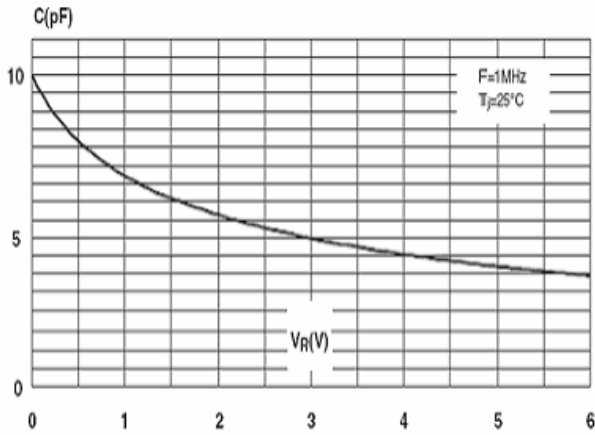


Fig 1 : Junction Capacitance V.S Reverse Voltage Applied

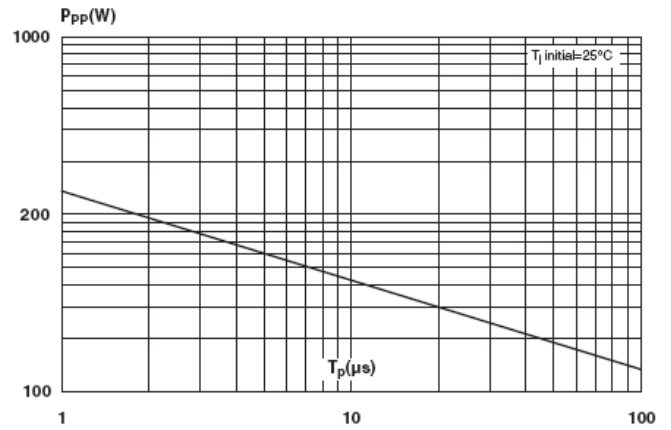


Fig 2 : Peak Plus Power V.S Exponential Plus Duration

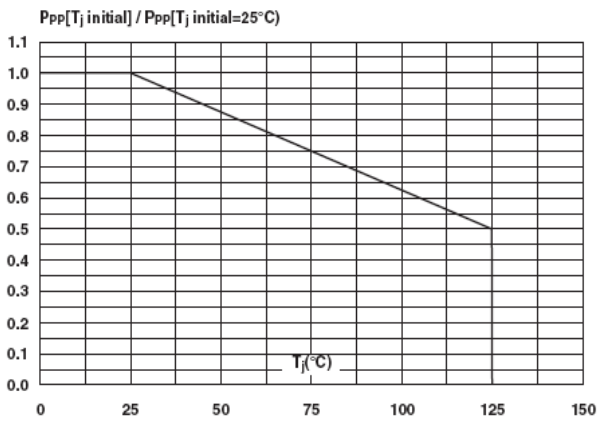


Fig 3 : Relative Variation of Peak Plus Power V.S Initial Junction Temperature

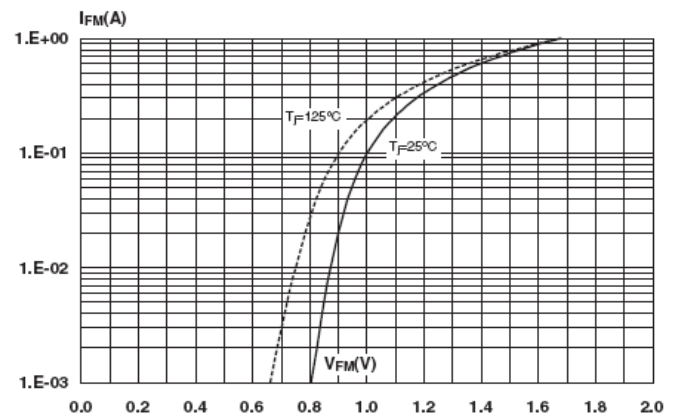


Fig 4 : Forward Voltage Drop V.S Peak Forward Current