

0402 Low-Capacitance ESD Protection Diodes

Features:

- Ultra small single ESD diode in a 0402 molded Plastic package (1mm x 0.6mm x 0.46mm)
- ESD protection to over **20kV** contact discharge per IEC-61000
- Protects 5.3V AC (bi-directional) signals
- Can handle multiple ESD strikes
- Diode input capacitance as low as 0.6pF
- RoHS compliant parts available

Applications:

- MP3 Players
- Digital Cameras and camcorders
- LCD Backlight
- Mobile Handsets
- PDA
- LED modules
- Digital TV and Set-top Boxes
- Other Portable Electronic Components

Product Description:

The OnChip ESD0402-5V3LC is an ultra small ESD protection Diode specifically designed for portable electronics. It provides a high level of protection for components that may be subjected to electrostatic discharge (ESD). The back-to-back configuration provides symmetrical ESD protection in cases where nodes with AC signals are present. This bi-directional device is designed and characterized to safely dissipate ESD strikes that are as high as 8kV when tested per IEC-61000 specifications for Human Body Model (HBM). The chip is housed in a miniature molded IC package with a 0402 foot-print. The device is in full RoHS compliance.

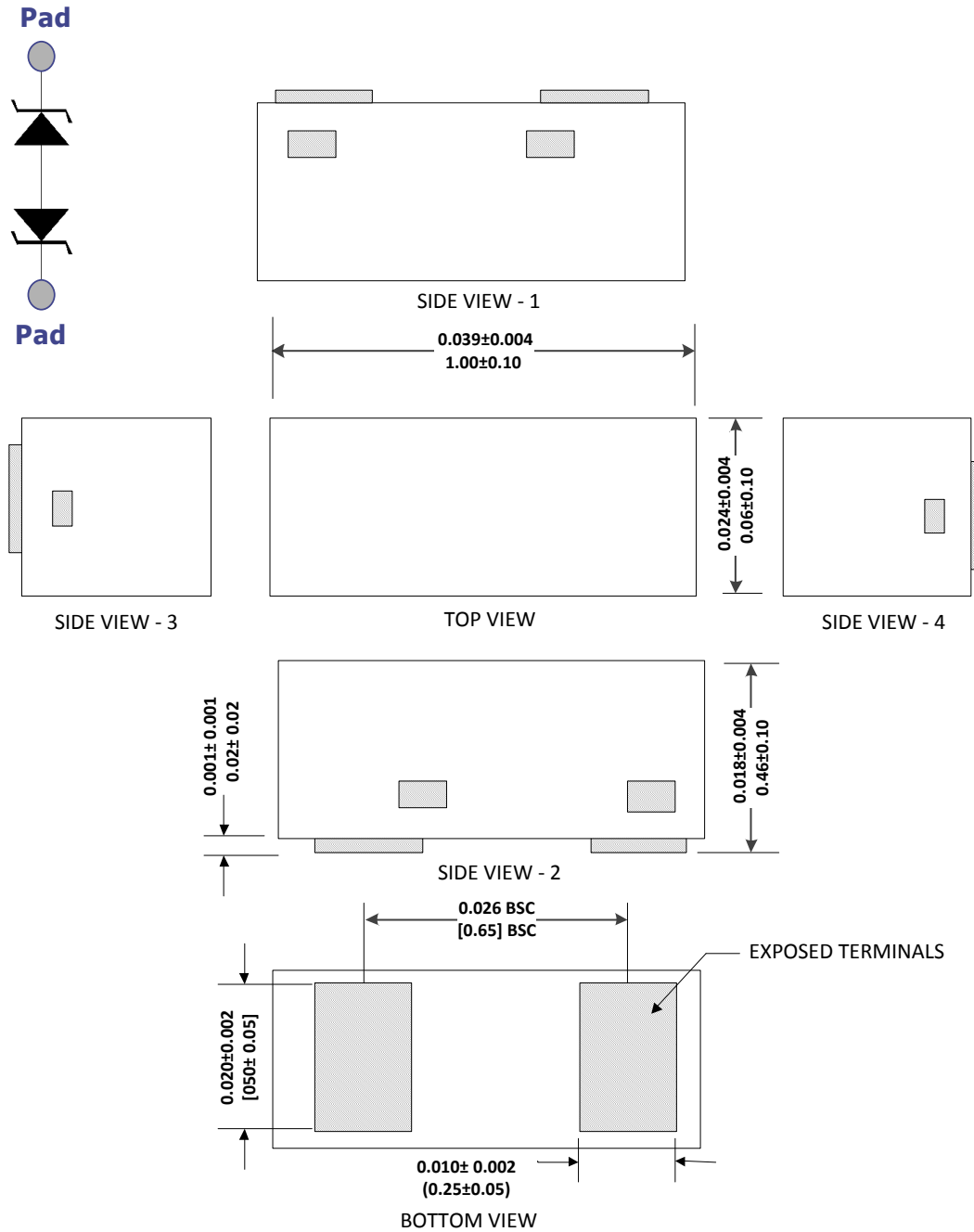
Electrical Specifications:	Min.	Typ.	Max.	Unit
Leakage current at V=5V, 25°C		<1		µA
Signal Clamp Voltage at 25°C:				
Breakdown Voltage, 1mA	6			V
Breakdown Voltage, 1mA	-6			
ESD withstand voltage*:				
Human Body Model (MIL-STD-883, method 3015)	± 8	± 15		kV
ESD withstand voltage*:				
Contact Discharge Method (IEC 61000-4-2)	± 8	± 15	± 20	kV
Clamping voltage during ESD discharge* Positive		22		V
MIL-STD-883 (Method 3015), 4kV Negative		-15		
Diode Input Capacitance @ 0V			0.6	pF
Series Inductance		0.4		nH
Temperature Range:				
Operating	-40		125	°C
Storage	-65		150	

Full Ordering Part Number

Solder Pad Material	OnChip P/N
Sn/Ag4/Cu0.5 (RoHS Compliant)	ESD0402-5V3LC

Parts are shipped in Tape & Reel (7" diameter Reels)

Device Schematic & DFN-2 Package outline



Notes:

1. Package Dimensions do not include mold flash, protrusions, burrs or metal smearing
2. Coplanarity applies to the exposed terminals
3. Maximum coplanarity shall be 0.003 $[0.08]$
4. Solder thickness is 0.15mm
5. The Solder Area occupies 50% of the land