



DESD5V0V1BCSP

Product Summary

IPP Max	С _{IN} Тур
2A	5.3pF
	I _{PP} Max 2А

Description

This new generation TVS is designed to protect sensitive electronics from the damage due to ESD. The combination of small size and high ESD surge capability makes it ideal for use in portable applications such as cellular phones, digital cameras and MP3 players.

Applications

- Cellular Handsets
- Portable Electronics
- Computers and Peripheral

Features

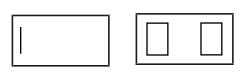
- Provides ESD Protection per IEC 61000-4-2 Standard: Air ±15kV, Contact ±14kV
- 1 Channel of ESD Protection
- Low Channel Input Capacitance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)

LOW CAPACITANCE BIDIRECTIONAL TVS DIODE

Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: X2-DSN0603-2
- Case Material: Chip Scale Package
- Terminals: NiAu Bump. Solderable per MIL-STD-202, Method 208 (e4)
- Weight: 0.0002 grams (Approximate)



X2-DSN0603-2

Top View

Bottom View



Device Schematic

Ordering Information (Note 4)

Product	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
DESD5V0V1BCSP-7	Standard	S	7	8	10,000/Tape & Reel

Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.

2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



S = Product Type Marking Code Bar Denotes Pin 1



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	20	W	8/20µs, See Figure 3
Peak Pulse Current	IPP	2	Α	8/20µs, See Figure 3
ESD Protection – Contact Discharge	Vesd_contact	±14	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	V _{ESD_AIR}	±15	kV	IEC 61000-4-2 Standard
ESD Protection – Human Body Model	V _{ESD_HBM}	±10	kV	MIL-STD-883; Class 3B

Thermal Characteristics

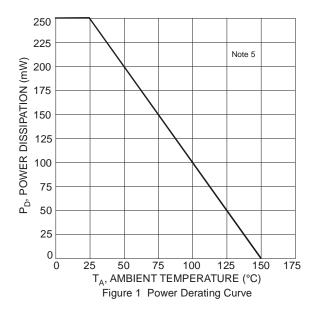
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	PD	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{0JA}	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	O°

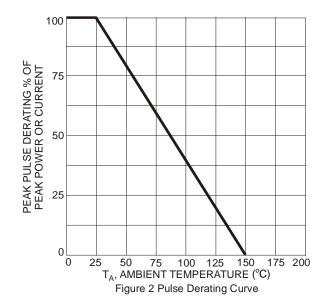
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	_	_	5	V	—
Channel Leakage Current (Note 6)	I _{RM}	_	1	100	nA	V _{RWM} = 5V
Snapback Voltage	V _{SNP}	5.3	—	_	V	—
Clamping Voltage, Positive Transients		_	—	11.5	V	I _{PP} = 0.5A, t _P = 8/20µS
	V _{CL}	_	—	12.8		I _{PP} = 1A, t _P = 8/20μS
Breakdown Voltage	V _{BR}	6	—	10	V	I _R = 1mA
Differential Resistance	R _{DYN}	_	2.0	_	Ω	TLP, 10A, t _P = 100ns
Channel Input Capacitance	C _{IN}	4	5.3	6	pF	$V_R = 0V, f = 1MHz$

Notes:

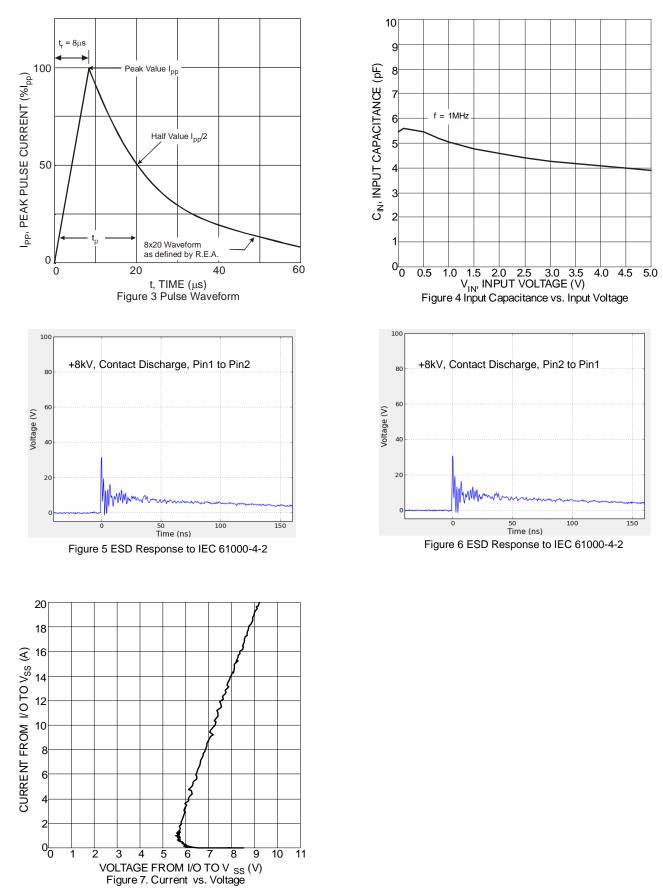
Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes Incorporated's website at http://www.diodes.com/package-outlines.html.
Short duration pulse test used to minimize self-heating effect.







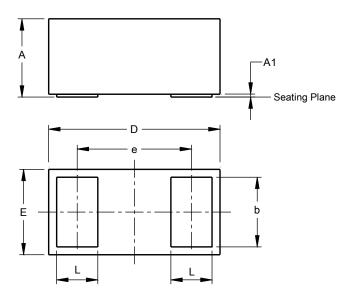
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Package Outline Dimensions (Note 7)

Please see http://www.diodes.com/package-outlines.html for the latest version.



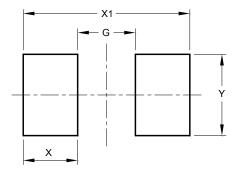
X2-DSN0603-2						
Dim	Min	Max	Тур			
Α	0.280	0.320	0.300			
A1	0.00	0.020	0.010			
b	0.220	0.260	0.240			
D	0.575	0.625	0.600			
Е	0.275	0.325	0.300			
е	-	-	0.400			
L	0.120	0.160	0.140			
All Dimensions in mm						

Note 7: Device side walls are electrically active bare silicon. Avoid contact of solder or flux on the side walls during the PCB assembly process.

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

X2-DSN0603-2



Dimensions	Value (in mm)		
G	0.206		
Х	0.194		
Y	0.291		
X1	0.594		



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