

ESD6100

2 Channel Very Low Capacitance ESD Protection Device in CSP

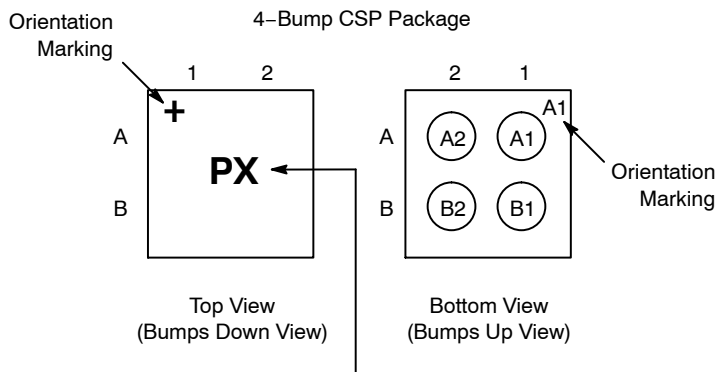
Product Description

The ESD6100 is a 4-bump very low capacitance ESD protection device in 0.4 mm CSP form factor. It is fully compliant with IEC 61000-4-2. The ESD6100 is RoHS II compliant.

Table 1. PIN DESCRIPTIONS

4-bump CSP Package	
Pin	Description
A1	ESD Channel 1
A2	ESD Channel 2
B1 and B2	Device Ground

PACKAGE / PINOUT DIAGRAMS



WHERE X =

A = ww01, ww02	J = ww19, ww20	S = ww37, ww38
B = ww03, ww04	K = ww21, ww22	T = ww39, ww40
C = ww05, ww06	L = ww23, ww24	U = ww41, ww42
D = ww06, ww08	M = ww25, ww26	V = ww43, ww44
E = ww08, ww10	N = ww27, ww28	W = ww45, ww46
F = ww11, ww12	O = ww29, ww30	X = ww47, ww48
G = ww13, ww14	P = ww31, ww32	Y = ww49, ww50
H = ww15, ww16	Q = ww33, ww34	Z = ww51, ww52
I = ww17, ww18	R = ww35, ww36	



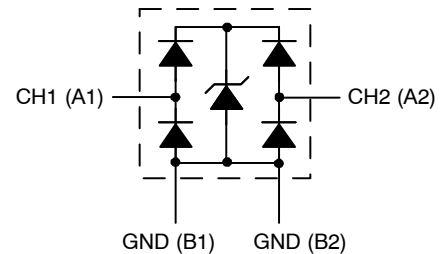
ON Semiconductor®

<http://onsemi.com>



**WLCSP4
CASE 567CB**

ELECTRICAL SCHEMATIC



MARKING DIAGRAM



P = ESD6100
X = Single Digit Date Code

ORDERING INFORMATION

Device	Package	Shipping†
ESD6100	WLCSP4 (Pb-Free)	5000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

ESD6100

ELECTRICAL SPECIFICATIONS AND CONDITIONS

Table 2. PARAMETERS AND OPERATING CONDITIONS

Parameter	Rating	Units
Storage Temperature Range	-55 to +150	°C
Operating Temperature Range	-40 to +85	°C

Table 3. ELECTRICAL OPERATING CHARACTERISTICS (Note 1)

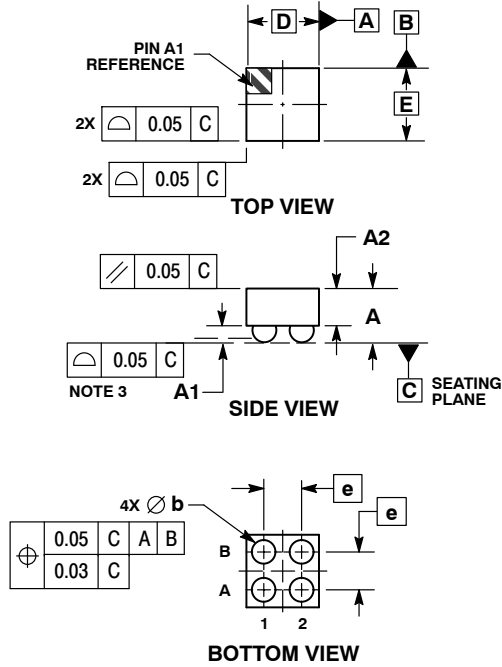
Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{IN}	Input Operating Supply Voltage			3.0	5.5	V
V_B	Breakdown Voltage (Positive)	$I_F = 1 \text{ mA}$	6			V
I_{LEAK}	Channel Leakage Current	$V_{IN} = 3 \text{ V}$ (Note 2)		1.0	100	nA
C_{IN}	Channel Input Capacitance	At 1 MHz, $V_{IN} = 0 \text{ V}$ (Note 2)			1.5	pF
ΔC_{IN}	Channel Input Capacitance Matching	At 1 MHz, $V_{IN} = 0 \text{ V}$ (Note 2)		0.02		pF
V_{ESD}	ESD Protection Peak Discharge Voltage at any channel input a) Contact Discharge per IEC 61000-4-2 standard b) Air Discharge per IEC 61000-4-2 standard	(Notes 2 and 3)	± 8 ± 15			kV
V_{CL}	Channel Clamp Voltage Positive Transients Negative Transients	$I_{PP} = 1 \text{ A}$, $t_P = 8/20 \mu\text{s}$ (Note 2)		+9.8 -1.5		V
R_{DYN}	Dynamic Resistance Positive Transients Negative Transients	$I_{PP} = 1 \text{ A}$, $t_P = 8/20 \mu\text{s}$ Any I/O pin to Ground (Note 2)		0.7 0.5		Ω

1. All parameters specified at $T_A = 25^\circ\text{C}$ unless otherwise noted.
2. These parameters are guaranteed by design and characterization.
3. Standard IEC 61000-4-2 with $C_{Discharge} = 150 \text{ pF}$, $R_{Discharge} = 330 \Omega$.

ESD6100

PACKAGE DIMENSIONS

WLCSP4, 0.8x0.8
CASE 567CB-01
ISSUE O

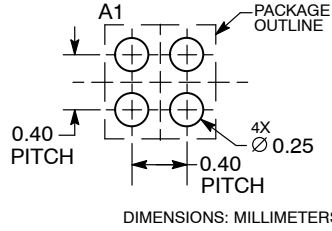


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. COPLANARITY APPLIES TO SPHERICAL CROWNS OF SOLDER BALLS.

DIM	MILLIMETERS	
	MIN	MAX
A	0.57	0.63
A1	0.17	0.24
A2	0.41	REF
b	0.24	0.29
D	0.80	BSC
E	0.80	BSC
e	0.40	BSC

RECOMMENDED SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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