CM6100

2 Channel Very Low Capacitance ESD Protection Device in CSP

ON Semiconductor®

http://onsemi.com

WLCSP4
CASE 567CB

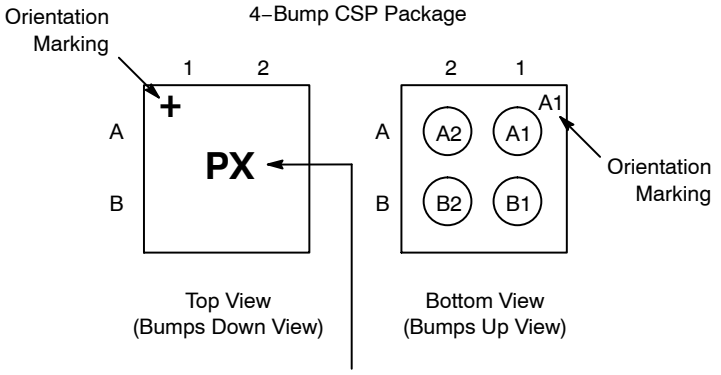
Product Description

The CM6100 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 CM6100 is RoHS II compliant.

Table 1. PIN DESCRIPTIONS

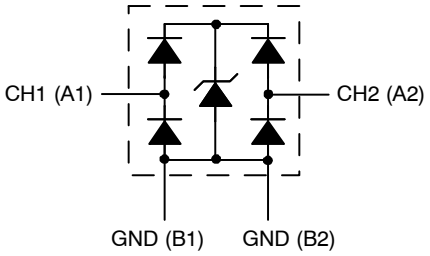
4−bump CSP Package	
Pin	**Description**
A1	ESD Channel 1
A2	ESD Channel 2
B1 and B2	Device Ground

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**	

ELECTRICAL SCHEMATIC



MARKING DIAGRAM

P = CM6100
X = Single Digit Date Code

ORDERING INFORMATION

Device	Package	Shipping†
CM6100	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.

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

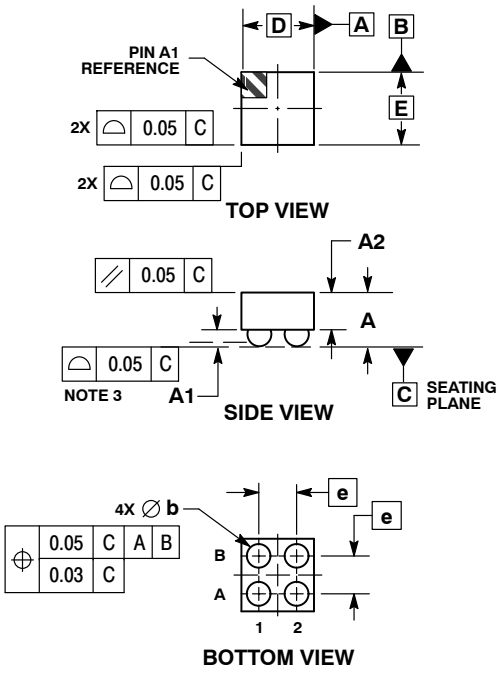
Table 3. ELECTRICAL OPERATING CHARACTERISTICS (Note 1)

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 = 8 mA	6			V
I_{LEAK}	Channel Leakage Current	V_{IN} = 3 V		±0.1	±0.30	μA
C_{IN}	Channel Input Capacitance	At 1 MHz, V_{IN} = 0 V			1.5	pF
ΔC_{IN}	Channel Input Capacitance Matching	At 1 MHz, V_{IN} = 0 V		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	(Note 2)	 ±8 ±15			kV
V_{CL}	Channel Clamp Voltage Positive Transients Negative Transients	I_{PP} = 1 A, t_P = 8/20 μs		 +9.8 −1.5		V
R_{DYN}	Dynamic Resistance Positive Transients Negative Transients	I_{PP} = 1 A, t_P = 8/20 μs Any I/O pin to Ground		 0.7 0.5		Ω

1. All parameters specified at T_A = 25°C unless otherwise noted.
2. Standard IEC 61000−4−2 with $C_{Discharge}$ = 150 pF, $R_{Discharge}$ = 330 Ω.

PACKAGE DIMENSIONS

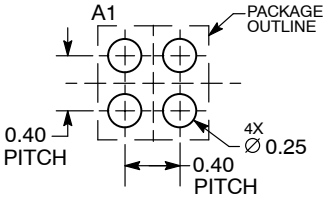
WLCSP4, 0.8x0.8
CASE 567CB−01
ISSUE O



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

	MILLIMETERS	
DIM	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*



DIMENSIONS: MILLIMETERS

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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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