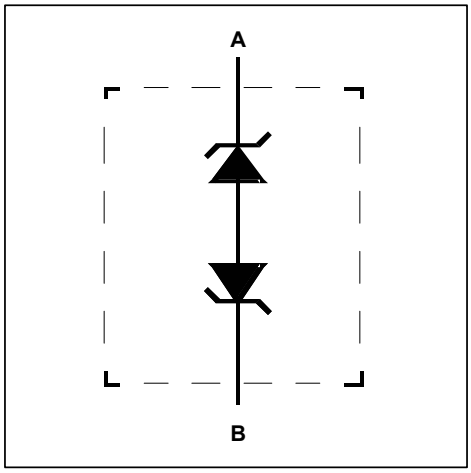
1-Channel ESD Protection Device in 0201 CSP

CM1242-07CP

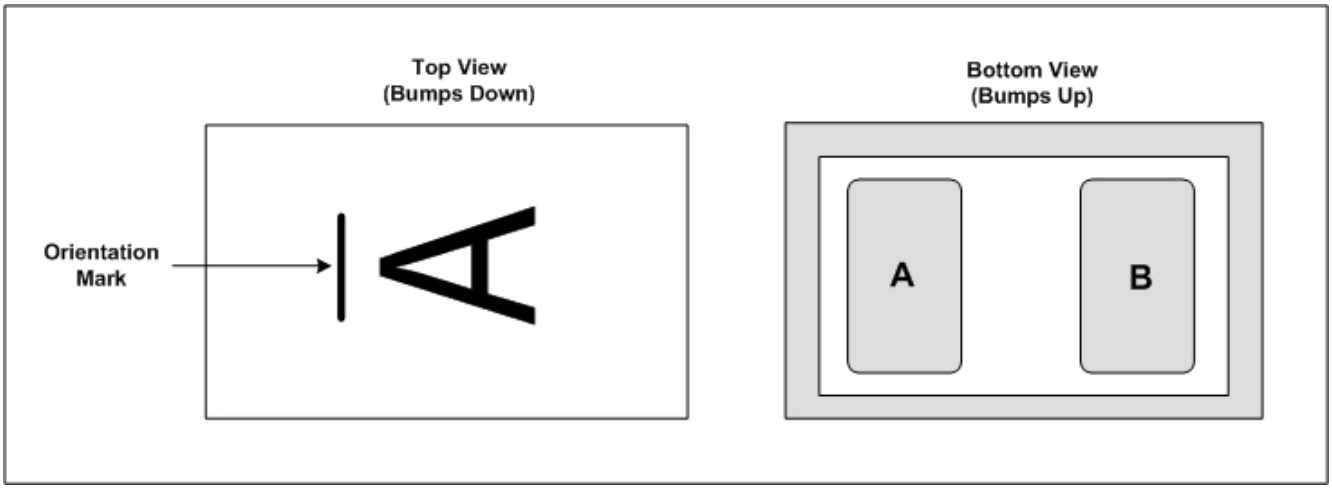
Functional Description

The CM1242-07CP is a 2-bump ESD protection device in 0201 CSP form factor. It is fully compliant with IEC 61000-4-2. The CM1242-07CP is also RoHS II compliant and has a pure tin finish.

Electrical Schematic



Pin Configurations



April 2010 – Rev. 1

Publication Order Number:
CM1242-07CP/D

Pin Descriptions

PIN	DESCRIPTION
A	ESD Channel Pin 1
B	ESD Channel Pin 2

Ordering Information

Bumps	Package	Ordering Part Number[1]	Part Marking
2	CSP	CM1242-07CP	A

Note 1: Parts are shipped in Tape and Reel form.

Operating Conditions

PARAMETER	RATING	UNITS
Storage Temperature Range	-55 to +150	℃
Operating Temperature Range	-40 to +85	℃
Maximum Input Voltage	±5.5	V

Electrical Operating Characteristics (see Note 1)

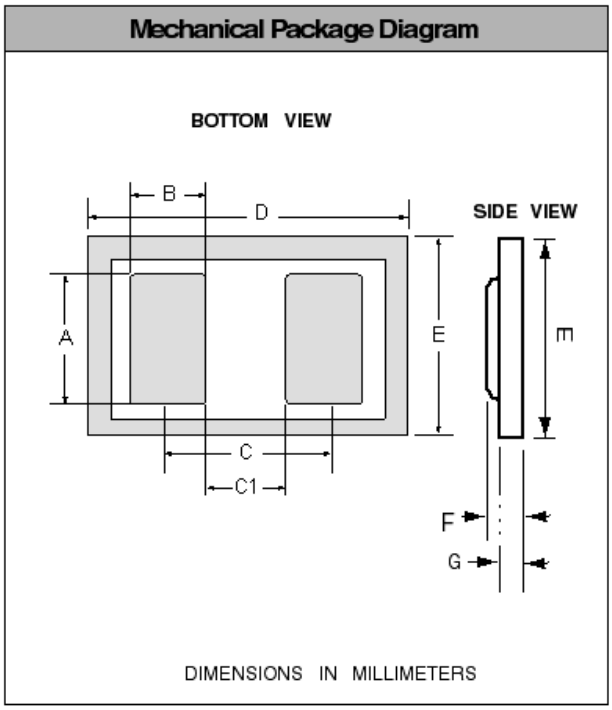
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
V_B	Breakdown Voltage	I_F = +10mA I_F = -10mA	6.0 -9.0	7.6 -7.6	9.0 -6.0	V V
I_{LEAK}	Channel Leakage Current	V_{IN} = ±3V		±0.1	±0.50	μA
C_{IN}	Channel Input Capacitance	At 1 MHz, V_{IN}=0V	4.6	5.8	7.0	pF
V_{ESD}	ESD Protection Peak Discharge Voltage at any channel input a) Contact discharge per IEC 61000-4-2 standard b) Air discharge per IEC 61000-4-2 standard	Note 2	 ±17 ±17			 kV kV
V_{CL}	Channel Clamp Voltage Positive Transients Negative Transients	I_{PP} = 1A, t_P = 8/20μs;		 +9.8 -9.8		 V V
R_{DYN}	Dynamic Resistance Positive Transients Negative Transients	I_{PP} = 1A, t_P = 8/20μs;		 1.5 1.5		 Ω Ω

Note 1: T_A=25°C unless otherwise specified.
Note 2: Standard IEC 61000-4-2 with $C_{Discharge}$ = 150pF, $R_{Discharge}$ = 330Ω.

CM1242-07CP Mechanical Specifications

The CM1242-07CP is supplied in a 2-bump Chip Scale Package (CSP).

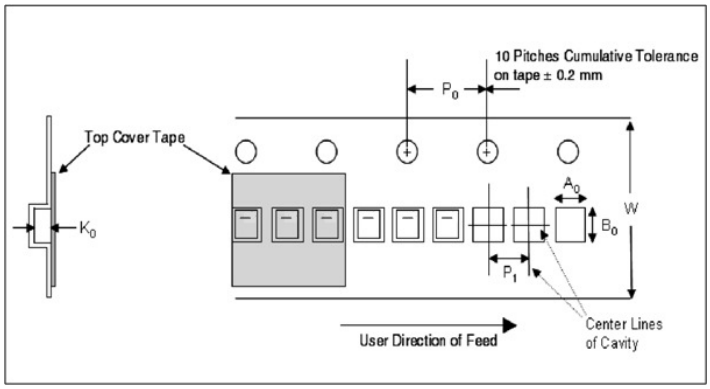
Package Specifications						
Package	Custom CSP					
Bumps	2					
Dim	**Millimeters**			**Inches**		
	Min	**Nom**	**Max**	**Min**	**Nom**	**Max**
A	0.195	0.215	0.235	0.00768	0.00846	0.00925
B	0.140	0.155	0.170	0.0055	0.0061	0.0067
C	0.360 REF			0.01417 REF		
C1	0.190	0.205	0.220	0.00748	0.00807	0.00866
D	0.570	0.600	0.630	0.02244	0.02362	0.02480
E	0.270	0.300	0.330	0.01063	0.01181	0.01299
F	0.250	0.275	0.300	0.00984	0.01083	0.01181
G	0.240	0.265	0.290	0.00945	0.01043	0.01142
Controlling dimension: millimeters						



CM1242-07CP Chip Scale Package

CSP Tape and Reel Specifications

PART NUMBER	CHIP SIZE (mm)	POCKET SIZE (mm) B_0 X A_0 X K_0	TAPE WIDTH W	REEL DIAMETER	QTY PER REEL	P_0	P_1
CM1242-07CP	0.600 X 0.300 X 0.275	0.67 x 0.37 x 0.35	8mm	178mm (7")	15,000	4mm	2mm



Tape and Reel Mechanical Data

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
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