



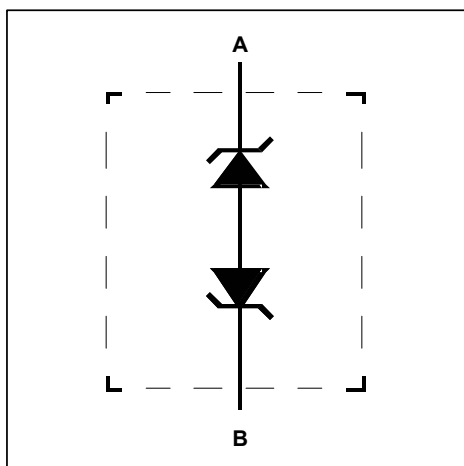
1-Channel ESD Protection Device in 0201 CSP

CM1242-07CP

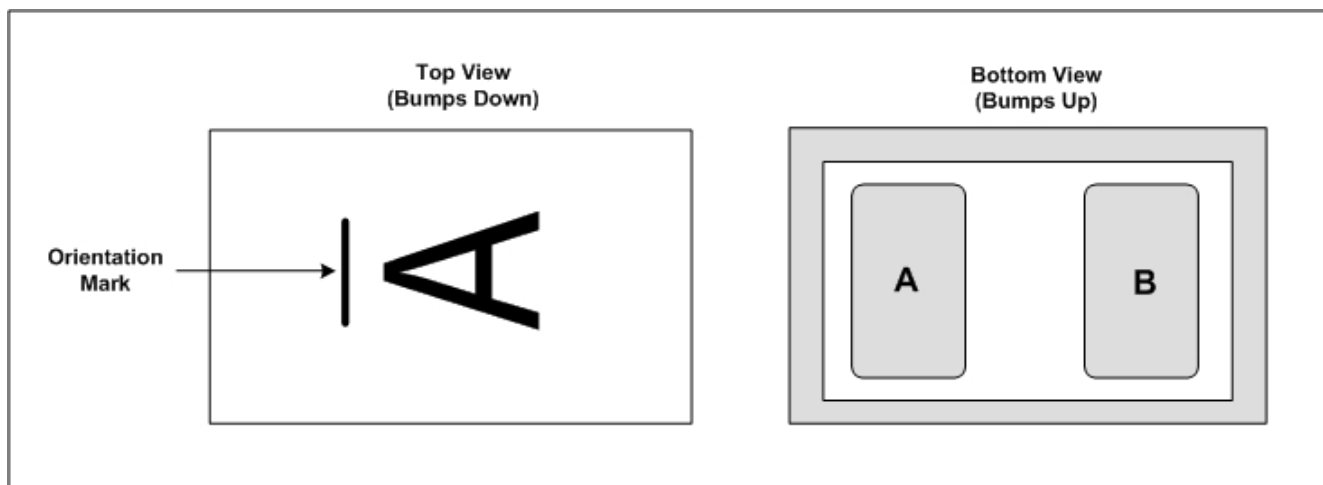
Functional Description

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



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 | °C |
| Operating Temperature Range | -40 to +85 | °C |
| Maximum Input Voltage | ±5.5 | V |

CM1242-07CP

Electrical Operating Characteristics (see Note 1)

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNITS |
|------------|--|--|----------------------|--------------|-------------|----------------------|
| V_B | Breakdown Voltage | $I_F = +10\text{mA}$ $I_F = -10\text{mA}$ | 6.0 -9.0 | 7.6 -7.6 | 9.0 -6.0 | V V |
| I_{LEAK} | Channel Leakage Current | $V_{IN} = \pm 3\text{V}$ | | ± 0.1 | ± 0.50 | μA |
| C_{IN} | Channel Input Capacitance | At 1 MHz, $V_{IN}=0\text{V}$ | 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 | $I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$; | | +9.8 -9.8 | | V V |
| R_{DYN} | Dynamic Resistance Positive Transients Negative Transients | $I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$; | | 1.5 1.5 | | Ω Ω |

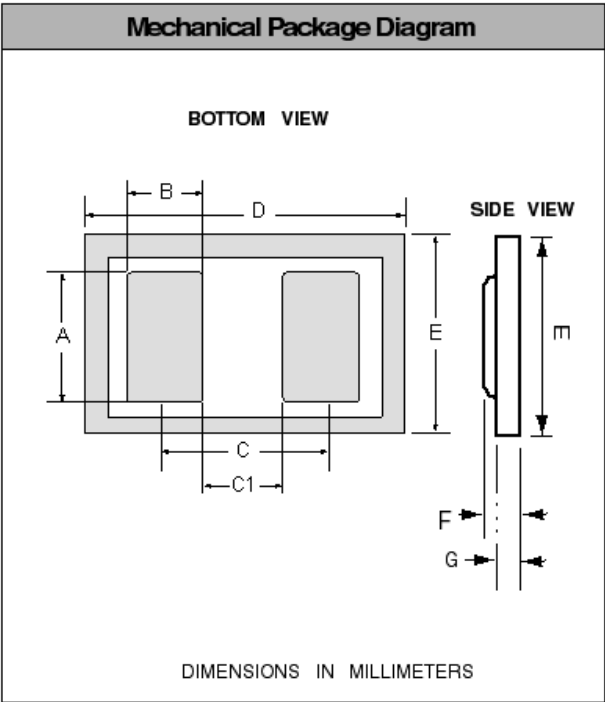
Note 1: $T_A=25^\circ\text{C}$ unless otherwise specified.

Note 2: Standard IEC 61000-4-2 with $C_{Discharge} = 150\text{pF}$, $R_{Discharge} = 330\Omega$.

CM1242-07CP Mechanical Specifications

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

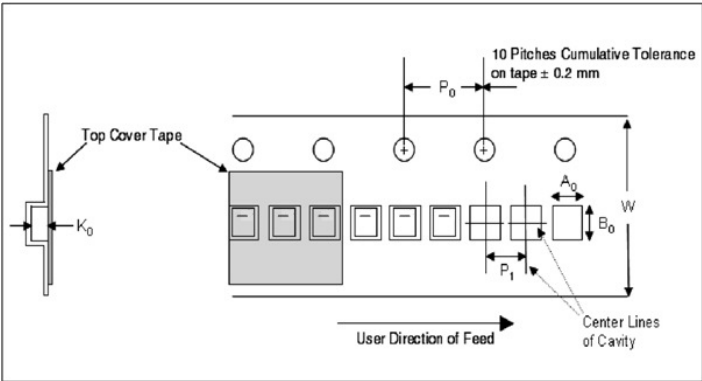
| Package Specifications | | | | | | |
|------------------------------------|-------------|-------|-------|-------------|---------|---------|
| Package | Custom CSP | | | | | |
| Bumps | 2 | | | | | |
| Dim | Millimeters | | | Inches | | |
| | Min | Nom | Max | Min | Nom | Max |
| A | 0.195 | 0.215 | 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) $B_0 \times A_0 \times K_0$ | 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

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