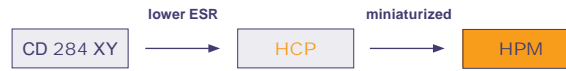


- Miniaturized Solid Aluminium Electrolytic Capacitor with Conductive Polymer
- Ultra ESR
- High Ripple Current
- Switchmode Power Supplies, Computer, DC/DC Converter
- Noise Suppression in Smoothing / High-Frequency Circuits



| Item | Characteristics |
|---|---|
| Operating Temperature Range (°C) | -55 ~ +105 |
| Voltage Range (V) | 2,5 ~ 6,3 |
| Capacitance Range (µF) | 560 ~ 1500 |
| Capacitance Tolerance (20°C, 120Hz) | ± 20% |
| Surge Voltage | Rated Voltage x 1,15 |
| Leakage Current (µA) | The initial specified value or less (20°C, 2min) |
| Dissipation Factor (20°C, 120Hz) | The initial specified value or less |
| Equivalent Series Resistance (20°C, 100kHz) | The initial specified value or less |
| Temperature Characteristics | $Z(+105^{\circ}\text{C}) / Z(+20^{\circ}\text{C}) \geq 0,75$ Stability at 100kHz |
| | $Z(-55^{\circ}\text{C}) / Z(+20^{\circ}\text{C}) \leq 1,25$ Stability at 100kHz |
| Load Life | 2000h, Rated voltage applied at 105°C Capacitance change: within ± 20% of the initial measured value Dissipation Factor $\tan \delta$: ≤150% of initial specified value ESR: ≤150% of initial specified value DC Leakage Current: ≤ the initial specified value |
| Moisture Resistance | 500h, Rated Voltage applied at 60°C, 90~95% RH Capacitance change: within ± 20% of the initial measured value Dissipation Factor $\tan \delta$: ≤150% of initial specified value ESR: ≤150% of initial specified value DC Leakage Current: ≤ the initial specified value |
| Surge Voltage Characteristics | 1000 cycles at 105°C, with $U_{DC} = 1,15 U_R$ (30sec load / 330sec discharge) Capacitance change: within ± 20% of the initial measured value Dissipation Factor $\tan \delta$: ≤150% of initial specified value ESR: ≤150% of initial specified value DC Leakage Current: ≤ the initial specified value |

Ratings for HPM Series

| V_{DC} Code | Rated Capacitance | Max ESR 20°C, 100kHz | Max Ripple Current 105°C, 100kHz | Dissipation Factor 20°C, 120Hz | Leakage Current | Size Ø D x L |
|------------------|----------------------|-------------------------|---|--------------------------------------|--------------------|--------------------|
| (V) | (µF) | (mΩ) | (mArms) | - | (µA) | (mm) |
| 2,5 0E | 560 | 7 | 4400 | 0,12 | 500 | 8 x 8 |
| | 820 | 7 | 5600 | 0,12 | 513 | 8 x 8 |
| | 1000 | 7 | 5600 | 0,12 | 625 | 8 x 8 |
| | 1500 | 7 | 5600 | 0,12 | 750 | 8 x 8 |
| 4 0G | 560 | 7 | 5600 | 0,12 | 560 | 8 x 8 |
| | 820 | 7 | 5600 | 0,12 | 820 | 8 x 8 |
| 6,3 0J | 680 | 7 | 5600 | 0,12 | 857 | 8 x 8 |

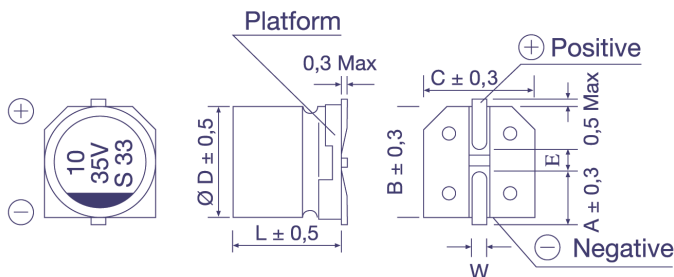
Custom products are available on request.

Order Code SMD, Radial, Snap-In

| EC | R | 1C | PT | 101 | M | FF | 25 | 0611 | JE xxxxx |
|-----------------------------|-----------------------|---|--------------|--------------------------------------|-----------------------|---|---------------------|-----------------|-------------------|
| Technology | Terminal Type | Rated Voltage Code | Series Code | Capacitance Code (in μF) | Capacitance Tolerance | Lead Form | Terminal/Pitch Size | Dimension | for Specials only |
| EC = Electrolytic Capacitor | SMD = V Radial = R | For coding please refer to the pages of ratings | CD VS = BS | 0,47 = R47 | $\pm 20\%$ = M | SMD: | | 4x7 = 0407 | |
| | | | CD VH = VH | 1,0 = 010 | $\pm 10\%$ = K | Taped = FF | Terminal = T2 | 5x11,5 = 0511 | |
| PC = Polymer Capacitor | Snap-In = S | | CD VZ = VZ | 2,2 = 2R2 | +30 / -10% = Q | Radial: | | 6,3x11,5 = 0611 | |
| | | | CD 261 = LK | 100 = 101 | +50 / -10% = T | Long Lead = LL | 2,0mm = 20 | 35x80 = 3580 | |
| | | | CD 261X = QX | 1000 = 102 | | Cut 5,0mm = CB | 2,5mm = 25 | 45x100 = 45100 | |
| | | | CD 262 = QM | 10000 = 103 | | Cut 4,5mm = CC | 3,5mm = 35 | | |
| | | | CD 263 = BK | | | Cut 4,0mm = CD | 5,0mm = 50 | | |
| | | | CD 269 = PH | | | Cut 3,5mm = CE | 7,5mm = 75 | | |
| | | | CD 281 = LL | | | Cut 3,0mm = CF | 10,0mm = 10 | | |
| | | | CD 284 = XY | | | on request: alternative lead forms (axial, 90° - angle, others) | | | |
| | | | CD 287 = GC | | | | 12,5mm = 12 | | |
| | | | CD 28L = QL | | | Snap-In: | | | |
| | | | CD 293 = BZ | | | 4,0mm Pin Length = T4 | 2 Pin = P2 | | |
| | | | CD 294 = BW | | | 6,3mm Pin Length = T6 | 3 Pin = P3 | | |
| | | | CD 295 = BC | | | Soldering Pin = S4 | 4 Pin = P4 | | |
| | | | CD 296 = KC | | | | 5 Pin = P5 | | |
| | | | CD 297 = BB | | | preferred | | | |
| | | | CD 299 = PG | | | | | | |
| | | | CD 29D = HR | | | | | | |
| | | | CD 29H = QH | | | | | | |
| | | | CD 29L = QL | | | | | | |
| | | | HCP = CP | | | | | | |
| | | | HPM = PM | | | | | | |
| | | | HVC = VC | | | | | | |

Technical Specification SMD Type

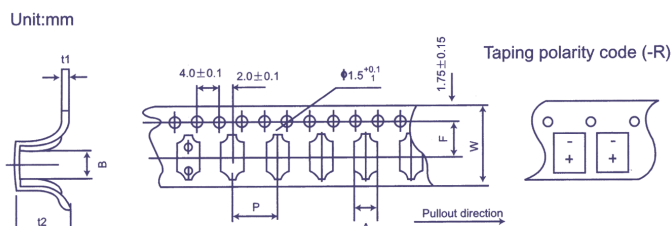
Dimensions



| Ø D x L | 4x5,4 | 5x5,4 | 6,3x5,4 | 6,3x7,7 | 8x10,5 | 8x11,8 | 10x10,5 | 10x12,7 |
|---------|-----------|-------|---------|---------|-----------|--------|---------|---------|
| A | 1,8 | 2,1 | 2,4 | 2,5 | 2,9 | 2,9 | 3,2 | 3,2 |
| B | 4,3 | 5,3 | 6,6 | 6,6 | 8,3 | 8,4 | 10,3 | 10,4 |
| C | 4,3 | 5,3 | 6,6 | 6,6 | 8,3 | 8,4 | 10,3 | 10,4 |
| E | 1,0 | 1,3 | 2,2 | 2,2 | 3,1 | 3,1 | 4,5 | 4,5 |
| L | 5,4 | 5,4 | 5,4 | 7,7 | 10,5 | 11,8 | 10,5 | 12,7 |
| W | 0,5 - 0,8 | | | | 0,7 - 1,1 | | | |

in mm

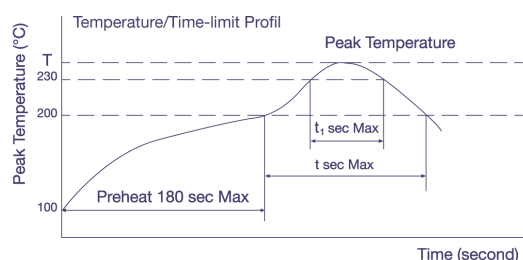
Taping Dimensions



| Size (DxL) | w ± 0,3 | A ± 0,2 | B ± 0,2 | P ± 0,1 | t2 ± 0,2 | F ± 0,1 | t1 ± 0,1 |
|------------|---------|---------|---------|---------|----------|---------|----------|
| 4 x 5,4 | 12,0 | 5,0 | 5,0 | 8,0 | 5,8 | 5,5 | 0,4 |
| 5 x 5,4 | 12,0 | 6,0 | 6,0 | 12,0 | 5,8 | 5,5 | 0,4 |
| 6,3 x 5,4 | 16,0 | 7,0 | 7,0 | 12,0 | 5,8 | 7,5 | 0,4 |
| 6,3 x 7,7 | 16,0 | 7,0 | 7,0 | 12,0 | 8,4 | 7,5 | 0,4 |
| 8 x 10,5 | 24,0 | 8,7 | 8,7 | 16,0 | 11,0 | 11,5 | 0,5 |
| 8 x 11,8 | 24,0 | 8,7 | 8,7 | 16,0 | 12,3 | 11,5 | 0,5 |
| 10 x 10,5 | 24,0 | 10,7 | 10,7 | 16,0 | 11,0 | 11,5 | 0,5 |
| 10 x 12,7 | 24,0 | 10,7 | 10,7 | 16,0 | 14,0 | 11,5 | 0,5 |

in mm

Soldering Profile (Aluminium Electrolytic Capacitors)

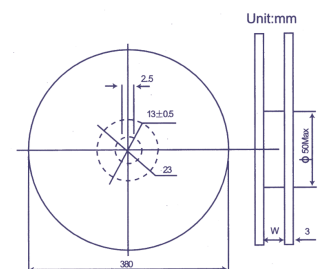


Allowable Range of Peak Temperature

| Size | T (°C) | t (second) | t ₁ (second) |
|-------------|--------|------------|-------------------------|
| Ø 4 ~ 6,3 | 250 | 90 | 40 |
| Ø 8 x 10,5 | 240 | 90 | 30 |
| Ø 10 x 10,5 | 235 | 60 | 30 |

| Diameter | w | D |
|----------|--------|--------|
| 4; 5 | 14 ± 1 | 50 ± 1 |
| 6,3 | 18 ± 1 | 50 ± 1 |
| 8; 10 | 25 ± 1 | 50 ± 1 |
| Polymer | 25 ± 1 | 80 ± 1 |

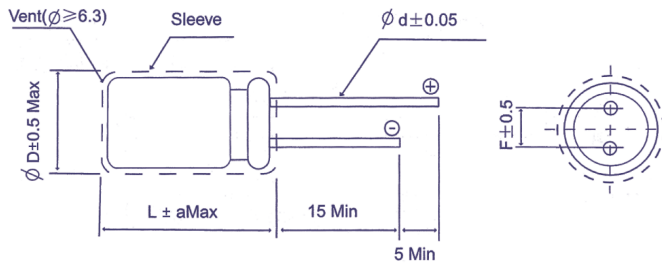
in mm



For more details or Soldering Profiles of Radials or Polymer-Capacitors please contact our local Sales Offices.

Technical Specification Radial Type

Dimensions for loose, long-lead type, (bulk)
Order Code: LL



| L | L ≤ 7 | | | | | | L ≥ 11 | | | | | | | | |
|------------------|-------|------|-----|-----|-----|-----|--------|-----|-----|------|-----|----|------|----|------|
| | 3 | 4 | 5 | 6,3 | 8 | 5 | 6,3 | 8 | 10 | 12,5 | 16 | 18 | 20 | 22 | 25 |
| ∅ D | 3 | 4 | 5 | 6,3 | 8 | 5 | 6,3 | 8 | 10 | 12,5 | 16 | 18 | 20 | 22 | 25 |
| F | 1 | 1,5 | 2,0 | 2,5 | 3,5 | 2,0 | 2,5 | 3,5 | 5,0 | | 7,5 | | 10,0 | | 12,5 |
| ∅ d | 0,4 | 0,45 | | | | 0,5 | | | 0,6 | | 0,8 | | 1,0 | | |
| a _{Max} | 1,0 | | | | | | 2,0 | | | | | | | | |

in mm

Dimensions for Ammopack taping
Order Code: FF (FD)

| Code | Case Range | | Dimensions | | | | Form | Ammopack |
|------|------------|---------|------------|----------|---------|---------|------|----------|
| | ∅ D | L (max) | H ± 0,75 | Ho ± 0,5 | F ± 0,5 | P ± 0,1 | | |
| FF | 4 ~ 6 | 13 | 18,5 | - | 2,5 | 12,7 | A | |
| | 8 | 13 | 18,5 | - | 3,5 | 12,7 | | |
| | 4 ~ 8 | 7 | 17,5 | 16 | 5 | 12,7 | B | |
| | 5 ~ 6,3 | 13 | 18,5 | | | | | |
| | 8 | 22 | 20,0 | | | | | |
| | FD | 10 | 22 | 18,5 | - | 15,0 | A | |
| 12,5 | | 27 | 18,5 | - | | | | |
| FD | 12,5 | 27 | 18,5 | - | 25,4 | C | | |
| FF | 16 ~ 18 | 27 | 18,5 | - | 7,5 | 30,0 | C | |

in mm

Dimensions for loose, short cut leads, (bulk)
Order Code: CC (CB,CD,CE,CF)

| Straight Lead | | | | | | Bended Lead | |
|---------------|-----------|-----------|-----------|-----------|-----------|-------------|--|
| | | | | | | | |
| Code | CB | CC | CD | CE | CF | | |
| I | 5,0 ± 0,5 | 4,5 ± 0,5 | 4,0 ± 0,5 | 3,5 ± 0,5 | 3,0 ± 0,5 | | |

preferred

in mm