

# EDCON-COMPONENTS



## Specifications

Polymer Tantalum Solid Electrolytic Capacitors Chip Type

Operating temperature Range  $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$  ( $85^{\circ}\text{C}$  with rated voltage derating).

Capacitance tolerance:  $\pm 20\%$ .

DC leakage, dissipation factor and ESR at  $25^{\circ}\text{C}$ .

Taping and reeling per EIA481-1 Specification.

General purpose surface mount type.

Compact size & wide CV range.

High Solderability & stabler characteristics for soldering.

Compatible with all popular automatic pick and place equipment.

## Technical Drawing



| Technical                    | Performance Characteristics  |
|------------------------------|--|
| Operating Temperature Range: | $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$                                  |
| Rated Working Voltage:       | 4 to 10VDC   |
| Nominal Capacitance Range:   | 0,1 to 1500 $\mu\text{F}$  |
| Capacitance Tolerance:       | $\pm 20\%$ / $\pm 10\%$ (120Hz $\pm 20^{\circ}\text{C}$ )                        |
| Leakage Current:             | Not more than 0,01CV ( $\mu\text{A}$ ) or 0,5 $\mu\text{A}$ whichever is greater |

## Dimensions

| Case Size | L= $\pm 0,2$ | W1= $\pm 7-0,2$ | H= $\pm 0,2$ | S= $\pm 0,2$ | W2= $\pm 0,2$ |
|-----------|--------------|-----------------|--------------|--------------|---------------|
| A         | 3,2          | 1,6             | 1,6          | 0,8          | 1,2           |
| B         | 3,5          | 2,8             | 1,9          | 0,8          | 2,2           |
| C         | 6,0          | 3,2             | 2,5          | 1,3          | 2,2           |
| D         | 7,3          | 4,3             | 2,8          | 1,3          | 2,4           |

| Characteristics at High and Low Temperature | capacitance ( $\mu\text{F}$ )       | Capacitance Change (%) |                       |                        | DF Max. (%)           |                       |                       |                        | DCL Max. ( $\mu\text{F}$ ) |                        |
|---|-------------------------------------|------------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|------------------------|----------------------------|------------------------|
|   |                                     | $-55^{\circ}\text{C}$  | $+85^{\circ}\text{C}$ | $+125^{\circ}\text{C}$ | $-55^{\circ}\text{C}$ | $+20^{\circ}\text{C}$ | $+55^{\circ}\text{C}$ | $+125^{\circ}\text{C}$ | $+85^{\circ}\text{C}$      | $+125^{\circ}\text{C}$ |
| 1   | 1,5 ~ 68<br>100 ~ 680<br>680 ~ 1500 | -10                    | +10                   | +12                    | 6                     | 4                     | 6                     | 6                      | 10lo                       | 20lo                   |
| 10  |                                     |                        |                       |                        | 6                     | 10                    | 10                    |                        |                            |                        |
| 12  |                                     |                        |                       |                        | 8                     | 12                    | 12                    |                        |                            |                        |
| 14  |                                     |                        |                       |                        | 10                    | 14                    | 14                    |                        |                            |                        |

**Polymer CHIP Tantalum Capacitor 4,0V**

Part No.: **I17010**

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 20.05.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 1 from 5 |            |           |

[www.edcon-components.com](http://www.edcon-components.com)

email: [info@edcon-components.com](mailto:info@edcon-components.com)

# EDCON-COMPONENTS



## Moisture Resistance

Test conditions:

|                               |                                   |
|-------------------------------|-----------------------------------|
| Relative Humidity:            | 90 to 95% without load            |
| Ambient Temperature:          | .+ 40°C                           |
| Duration:                     | 500 hours                         |
| Post rest requirement at 20°C |                                   |
| Leakage current:              | ≤ Initial specified value.        |
| Capacitance change:           | +/- 10% of initial measured value |
| tan                           | ≤ Initial specified value.        |

## Shell Life

|                      |            |                                 |
|----------------------|------------|---------------------------------|
| Test conditions      |            | Post test requirements at +20°C |
| Duration:            | 2000 hours | Same limits for Endurance.      |
| Ambient temperature: | . +125°C   |                                 |
| Applied Voltage:     | (none)     |                                 |

## Solder Heat Resistance

The Capacitor shall withstand dipping into solder bath for 5 +/-1 seconds at 260 +/-5°C

## Endurance

Test conditions

| Conditions Item     | Derating                 | Rating                |
|---------------------|--------------------------|-----------------------|
| Duration            | 2000 hours               | 2000 hours            |
| Ambient temperature | . +125°C                 | . +85°C               |
| Applied Voltage     | Derating working voltage | Rated working voltage |
| Source impedance    | 1Ω/V                     | 1Ω/V                  |

Derating Voltage +125°C for 10~50V working

| Rated Voltage       | 4,0 | 6,3 | 10,0 | 16,0 | 20,0 | 25,0 | 35,0 | 50,0 |
|---------------------|-----|-----|------|------|------|------|------|------|
| Voltage Derating    | 2,5 | 4,0 | 6,3  | 10,0 | 13,0 | 16,0 | 23,0 | 33,0 |
| Surge Voltage +85°C | 5,0 | 8,0 | 13,0 | 20,0 | 26,0 | 32,0 | 46,0 | 65,0 |
| Surge Voltage +0°C  | 3,4 | 5,0 | 9,0  | 12,0 | 16,0 | 20,0 | 26,0 | 38,0 |

Post test requirements 5.0 at +20°C

|                    |                                     |
|--------------------|-------------------------------------|
| Leakage Current    | ≤ 125% of initial specified value   |
| Capacitance Change | .+/- 10% of initial measured value. |
| tan                | ≤ initial specified value           |

**Polymer CHIP Tantalum Capacitor 4,0V**

Part No.: **I17010**

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 20.05.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 2 from 5 |            |           |

# EDCON-COMPONENTS



## Packing Specification

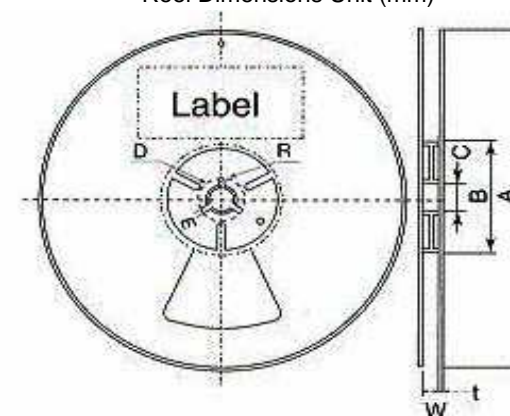
Dimensions of the carrier tape and standards parts quantity per reel



| Case Size | A +/- 0,1 | B +/- 0,1 | C +/- 0,1 | D +/- 0,1 | E +/- 0,1 | F +/- 0,1 | G +/- 0,1 | H +/- 0,1 | J +/- 0,1 | K max. | t   | Quantity |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|-----|----------|
| A         | 1,9       | 3,5       | 8         | 3,5       | 1,75      | 4         | 2         | 4         | 1,5       | 2,5    | 0,2 | 2000     |
| B         | 3,1       | 3,8       | 8         | 3,5       | 1,75      | 4         | 2         | 4         | 1,5       | 2,5    | 0,2 | 2000     |
| C         | 3,6       | 6,4       | 12        | 5,5       | 1,75      | 8         | 2         | 4         | 1,5       | 3      | 0,3 | 500      |
| D         | 4,7       | 7,7       | 12        | 5,5       | 1,75      | 8         | 2         | 4         | 1,5       | 3,4    | 0,3 | 500      |

| Tape width | 8     | 12   |
|------------|-------|------|
| A          | Ø 180 | ←    |
| B          | Ø 60  | ←    |
| C +/-0.2   | Ø 13  | ←    |
| D +/-0.2   | Ø 21  | ←    |
| E +/-0.5   | 2,0   | ←    |
| W +/-0.3   | 9,0   | 13,0 |
| t +/-0.4   | 1,3   | ←    |
| R +/-0.4   | 10,5  | ←    |

Reel Dimensions Unit (mm)



Tape Leader and Tailer



**Polymer CHIP Tantalum Capacitor 4,0V**

Part No.: **I17010**

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 20.05.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 3 from 5 |            |           |

# EDCON-COMPONENTS



| Capacitance | DCL (µA) max. | DF % max. | ESR max. (mΩ) @ 100 KHz |
|-------------|---------------|-----------|-------------------------|
| 47µF        | 19µA          | 8%        | 80mΩ                    |

## Ordering Informations

| Serie         | Voltage    | Tol.     | Range Cod. | Case Code | ESR         | ROHS     | Package   |  |  |  |
|---------------|------------|----------|------------|-----------|-------------|----------|-----------|--|--|--|
| <b>I17010</b> | <b>4V0</b> | <b>K</b> | <b>476</b> | <b>A</b>  | <b>0080</b> | <b>R</b> | <b>TR</b> |  |  |  |

|                      |                    |                  |                     |                           |                            |                        |
|----------------------|--------------------|------------------|---------------------|---------------------------|----------------------------|------------------------|
| <b>4V0=</b> 4,0 Volt | <b>K=</b> Tol. 10% | <b>476=</b> 47µF | <b>A=</b> Size Code | <b>0080=</b> 80 Milliohms | <b>R=</b> ROHS Conform     | <b>TR=</b> Tape / Reel |
|                      | <b>M=</b> Tol. 20% |                  |                     |                           | <b>N=</b> NON ROHS Conform |                        |

|   |               |
|---|---------------|
| <b>Polymer CHIP Tantalum Capacitor 4,0V</b> |               |
| Part No.:                                   | <b>I17010</b> |
| Customer:                                   |               |

|       |        |      |        |        |        |           |           |      |            |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE | 20.05.2010 |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. |      | 4 from 5   |



Soldering Profile Curve

Classification Reflow Profile (JEDEC J-STD-020C)



|   |               |
|---|---------------|
| <b>Polymer CHIP Tantalum Capacitor 4,0V</b> |               |
| Part No.:                                   | <b>I17010</b> |
| Customer:                                   |               |

|       |        |      |        |        |        |           |           |          |            |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 20.05.2010 |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 5 from 5 |            |