

# EDCON-COMPONENTS



## Specifications

Standard 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 50VDC   |
| Nominal Capacitance Range:   | 0,1 to $1500\mu\text{F}$   |
| Capacitance Tolerance:       | $\pm 20\%$ / $\pm 10\%$ ( $120\text{Hz} \pm 20^{\circ}\text{C}$ )                    |
| Leakage Current:             | Not more than $0,01\text{CV} (\mu\text{A})$ or $0,5\mu\text{A}$ whichever is greater |

## Dimensions

| Case Size | $L = \pm 0,2$ | $W1 = \pm 7-0,2$ | $H = \pm 0,2$ | $S = \pm 0,2$ | $W2 = \pm 0,2$ |
|-----------|---------------|------------------|---------------|---------------|----------------|
| S         | 2,0           | 1,2              | 1,2           | 0,5           | 1,2            |
| 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            |
| E         | 7,3           | 4,3              | 4,0           | 1,3           | 2,4            |
| V         | 7,3           | 6,1              | 3,5           | 1,4           | 3,1            |

| 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                    |                        |                            |                        |

**Standard Tantalum Capacitor  
Alternate to KEMET**

Part No.: **I17001**

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

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## 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           |

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## 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 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|-----|----------|
| S         | 1,6       | 2,4       | 8         | 3,5       | 1,75      | 4         | 2         | 4         | 1,5       | 2,5    | 0,2 | 2000     |
| 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      |
| E         | 4,6       | 7,6       | 12        | 5,5       | 1,75      | 8         | 2         | 4         | 1,5       | 4,6    | 0,3 | 400      |
| V         | 6,4       | 7,4       | 12        | 5,5       | 1,75      | 8         | 2         | 4         | 1,5       | 3,8    | 0,3 | 400      |

| 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



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## Ordering Informations

| Serie  | Voltage | Tol. | Range Cod. | Case Code | ROHS | Package |  |  |  |  |
|--------|---------|------|------------|-----------|------|---------|--|--|--|--|
| I17001 | 160     | M    | 336        | D         | R    | TR      |  |  |  |  |

|             |             |           |              |                     |                 |
|-------------|-------------|-----------|--------------|---------------------|-----------------|
| 160= 16Volt | M= Tol. 20% | 336= 33µF | D= Size Code | R= ROHS Conform     | TR= Tape / Reel |
|             | K= Tol. 10% |           |              | N= NON ROHS Conform |                 |

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Soldering Profile Curve

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



|   |               |
|---|---------------|
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