

# VTR-G Chip/SMD Tantalum Capacitor

**Solid Electrolyte \* High Volumetric Efficiency \* Stable Electric Performances**

**Abstract:** It is expert require whereas DESign manufacturing piece type solid tantalum electrolytic capacitor for surface adhibit load to these product. have got A, B, C, D, E, no. S six testa, by comparison to ca42 resin-encapsulate product, it tool still low equivalent series resistance esr. be true of automatism surface adhibit installation. abroad design to point war, computer, both handset wait region. these product execute eia 535baac and qc300801,q / skyline.45-01 technical standard.

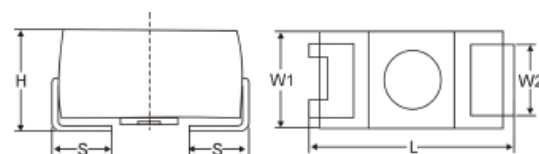
| Items                 | Specifications                                                                                                                                                                  |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature | -55℃ to +125℃; (>85℃ applying derated voltage)                                                                                                                                  |
| Rated voltage         | 4 ~ 50V                                                                                                                                                                         |
| Capacitance Scope     | 0.1uF ~ 330uF                                                                                                                                                                   |
| Capacitance tolerance | K: (±10%), M: (±20%) (20℃, 120HZ/100HZ)                                                                                                                                         |
| Leakage current       | $I_o \leq 0.01C_R U_R$ OR $0.5\mu A(20^\circ C)$ (whichever is greater) Measured after 5 minutes application of rated voltage CR-(μF) Nominal Capacitance; UR-(V) Rated Voltage |
| Loss tangent (20℃)    | see Table 1                                                                                                                                                                     |
| Climate sort :        | 55/125/21                                                                                                                                                                       |
| Exhaustive test:      | 2000 hour                                                                                                                                                                       |
| Reliability           | Be on the 85℃、0.1Ω/V kelve resistance in series condition down 1000 hour lapse 2%..                                                                                             |

**Table 1**

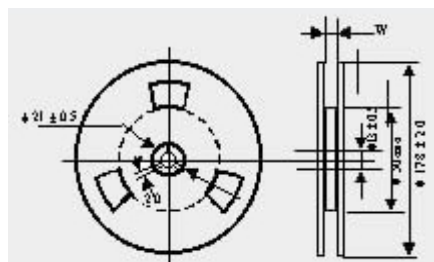
| Capacity (μF) | Change in capacity (%) |      |       | Waste maxima (%) |      |      |       | Drain current maxima |                     |
|---------------|------------------------|------|-------|------------------|------|------|-------|----------------------|---------------------|
|               | -55℃                   | +85℃ | +125℃ | -55℃             | +20℃ | +85℃ | +125℃ | +85℃                 | +125℃               |
| ≤1.0          | -10                    | 10   | 12    | 6                | 4    | 6    | 6     | 10 I <sub>0</sub>    | 12.5 I <sub>0</sub> |
| 1.5- 68       | -10                    | 10   | 12    | 10               | 6    | 10   | 10    | 10 I <sub>0</sub>    | 12.5 I <sub>0</sub> |
| ≥100          | -10                    | 10   | 12    | 12               | 8    | 12   | 12    | 10 I <sub>0</sub>    | 12.5 I <sub>0</sub> |

**Diagram of Dimensions (unit: mm)**

| Case Size |      | L+0.3 | W1+0.3 | H+0.3 | S+0.3 | W2+0.2 |
|-----------|------|-------|--------|-------|-------|--------|
| P         | 2012 | 2.0   | 1.2    | 1.2   | 0.5   | 1.2    |
| A         | 3216 | 3.2   | 1.6    | 1.6   | 0.8   | 1.2    |
| B         | 3528 | 3.5   | 2.8    | 1.9   | 0.8   | 2.2    |
| C         | 6032 | 6.0   | 3.2    | 2.5   | 1.3   | 2.2    |
| D         | 7343 | 7.3   | 4.3    | 2.8   | 1.3   | 2.4    |
| E         | 7343 | 7.3   | 4.3    | 4.0   | 1.3   | 2.4    |



## Package



| Case Size | W                   | Quantity per Reel |
|-----------|---------------------|-------------------|
|           |                     | (178mm)           |
| A、B       | 8.4(+1.50, -0.00)   | 2000              |
| C、D       | 12.4(+2.00, - 0.00) | 500               |
| E         | 12.4(+2.00, - 0.00) | 400               |
| P         | 12.4(+2.00, - 0.00) | 2500              |

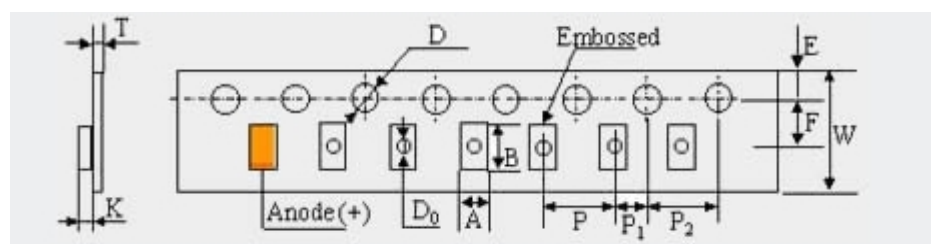
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## Case Size, Derated Voltage & Surge Voltage

| UR                      | V                                                  | 4   | 6.3   | 10    | 16    | 20    | 25  | 35    | 50  |
|-------------------------|----------------------------------------------------|-----|-------|-------|-------|-------|-----|-------|-----|
| Voltage Derating (V)    |                                                    | 2.5 | 4     | 6.3   | 10    | 13    | 16  | 23    | 32  |
| Surge Voltage +85℃ (V)  |                                                    | 5   | 8     | 13    | 20    | 26    | 32  | 46    | 65  |
| Surge Voltage +125℃ (V) |                                                    | 3.4 | 5.0   | 9     | 12    | 16    | 20  | 26    | 38  |
| CR                      | Case Size (standard / miniature / Super miniature) |     |       |       |       |       |     |       |     |
| μF                      |                                                    |     |       |       |       |       |     |       |     |
| 0.1                     |                                                    |     |       |       |       | P     |     | A     | A   |
| 0.15                    |                                                    |     |       |       |       | P     |     | A     | B/A |
| 0.22                    |                                                    |     |       |       |       | P     |     | A     | B   |
| 0.33                    |                                                    |     |       |       |       | P     |     | A     | B   |
| 0.47                    |                                                    |     |       |       | P     | P     | A   | B/A   | C   |
| 0.68                    |                                                    |     |       | P     | P     | A/P   | A   | B/A   | C   |
| 1.0                     |                                                    |     | A/P   | A/P   | A/P   | A     | B/A | B/A   | C   |
| 1.5                     | P                                                  |     | A/P   | A/P   | A/P   | B/A   | B   | C/B   | D/C |
| 2.2                     | P                                                  |     | A/P   | A/P   | B/A   | B/A   | B   | C/B   | D   |
| 3.3                     | A/P                                                |     | A/P   | A/P   | B/A   | C/B/A | C/B | D/C/B | D   |
| 4.7                     | A/P                                                |     | A/P   | B/A/P | B/A   | D/B/A | C/B | D/C   | E/D |
| 6.8                     | A/P                                                |     | B/A/P | B/A   | C/B/A | D/C/B | D/C | D/C   | D   |
| 10                      | B/A                                                |     | B/A   | B/A   | C/B/A | D/C/B | D/C | D/C   | E   |
| 15                      | B/A                                                |     | B/A   | C/B   | C/B   | D/C   | D/C | E     |     |
| 22                      | B/A                                                |     | B/A   | C/B   | D/C   | D/C   | D   | E     |     |
| 33                      | C/B                                                |     | C/B   | D/C   | D/C   | D     | E/D |       |     |
| 47                      | C/B                                                |     | C/B   | D/C   | D/C   | E/D   | E   |       |     |
| 68                      | D/C/B                                              |     | D/C   | D     | D     | E/D   |     |       |     |
| 100                     | D/C/B                                              |     | D/C   | D/C   | D     | E     |     |       |     |
| 150                     | D/C                                                |     | D     | E     | E     |       |     |       |     |
| 220                     | D                                                  |     | E/D   | E/D   | E     |       |     |       |     |
| 330                     | E                                                  |     | E/D   | E     |       |       |     |       |     |
| 470                     | E                                                  |     |       |       |       |       |     |       |     |

## Carrier band



| Case Size | W    | F    | E    | P    | P1   | P2   | D    | D <sub>0(min)</sub> | T     | A    | B    | K    |
|-----------|------|------|------|------|------|------|------|---------------------|-------|------|------|------|
|           | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | 0.1  |                     | ±0.03 | ±0.2 | ±0.2 | ±0.2 |
| A         | 8    | 3.5  | 1.75 | 4    | 2    | 4    | φ1.5 | φ1.0                | 0.2   | 1.9  | 3.5  | 1.9  |
| B         | 8    | 3.5  | 1.75 | 4    | 2    | 4    | φ1.5 | φ1.0                | 0.3   | 3.3  | 3.8  | 2.1  |
| C         | 12   | 5.5  | 1.75 | 8    | 2    | 4    | φ1.5 | φ1.0                | 0.3   | 3.7  | 6.4  | 3    |
| D         | 12   | 5.5  | 1.75 | 8    | 2    | 4    | φ1.5 | φ1.0                | 0.3   | 4.8  | 7.7  | 3.3  |
| E         | 12   | 5.5  | 1.75 | 8    | 2    | 4    | φ1.5 | φ1.0                | 0.3   | 4.6  | 7.6  | 3.3  |
| P         | 8    | 3.5  | 1.75 | 4    | 2    | 4    | φ1.5 | φ1.0                | 0.2   | 1.6  | 2.4  | 1.4  |