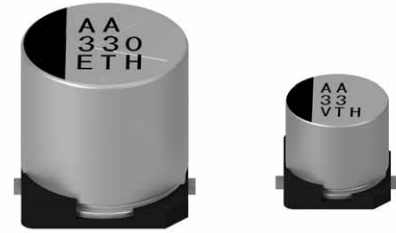


# THV SERIES

Load Life : 125°C 2000~3000 hours Low ESR

•AEC-Q200.

RoHS  
compliance



## SPECIFICATIONS

| Items                                             | Characteristics                                                                                                                                                                                         |                                            |      |      |           |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------|------|-----------|
| Category Temperature Range                        | -40~+125°C                                                                                                                                                                                              |                                            |      |      |           |
| Rated Voltage Range                               | 16~50Vdc                                                                                                                                                                                                |                                            |      |      |           |
| Capacitance Tolerance                             | ±20% (20°C, 120Hz)                                                                                                                                                                                      |                                            |      |      |           |
| Leakage Current(MAX)                              | $I = 0.01CV$ or $3\mu A$ whichever is greater.<br>(After 2 minutes application of rated voltage)<br>$I = \text{Leakage Current}(\mu A)$ $C = \text{Capacitance}(\mu F)$ $V = \text{Rated Voltage}(Vdc)$ |                                            |      |      |           |
| Dissipation Factor(MAX) (tanδ)                    | Rated Voltage (Vdc)                                                                                                                                                                                     | 16                                         | 25   | 35   | 50        |
|                                                   | tanδ                                                                                                                                                                                                    | 0.23                                       | 0.18 | 0.16 | 0.14      |
| Endurance                                         | After applying rated voltage with rated ripple current for specified time at 125°C, the capacitors shall meet the following requirements.                                                               |                                            |      |      |           |
|                                                   | Capacitance Change                                                                                                                                                                                      | Within ±30% of the initial value.          |      |      | Case Size |
|                                                   | Dissipation Factor                                                                                                                                                                                      | Not more than 300% of the specified value. |      |      | φD=6.3    |
|                                                   | Leakage Current                                                                                                                                                                                         | Not more than the specified value.         |      |      | φD≥8      |
| Low Temperature Stability<br>Impedance Ratio(MAX) | Rated Voltage (Vdc)                                                                                                                                                                                     | 16                                         | 25   | 35   | 50        |
|                                                   | $Z(-40^{\circ}C)/Z(20^{\circ}C)$                                                                                                                                                                        | 4                                          | 4    | 3    | 3         |

## DIMENSIONS

(mm)

| φD  | L    | A1   | B1   | C   | W1      | P   |
|-----|------|------|------|-----|---------|-----|
| 6.3 | 6.1  | 6.6  | 6.6  | 2.7 | 0.5~0.8 | 1.8 |
| 6.3 | 8    | 6.6  | 6.6  | 2.7 | 0.5~0.8 | 1.8 |
| 8   | 10.5 | 8.3  | 8.3  | 2.9 | 0.8~1.1 | 3.1 |
| 10  | 10.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 |

## MARKING

| Rated Voltage (Vdc) | 16 | 25 | 35 | 50 |
|---------------------|----|----|----|----|
| Rated Voltage code  | C  | E  | V  | H  |

## MULTIPLIER FOR RIPPLE CURRENT

| Frequency (Hz) | 120  | 1k   | 10k  | 100k≤ |
|----------------|------|------|------|-------|
| 10~33μF        | 0.45 | 0.75 | 0.90 | 1.00  |
| 47~100μF       | 0.50 | 0.80 | 0.95 | 1.00  |
| 220~330μF      | 0.60 | 0.85 | 0.95 | 1.00  |

## STANDARD SIZE

Size φD×L(mm), Rated Ripple Current (mA r.m.s./125°C, 100kHz), ESR(Ω MAX/100kHz)

| Vdc | Cap (μF) | Size (φD×L) | Ripple | ESR  |       |
|-----|----------|-------------|--------|------|-------|
|     |          |             |        | 20°C | -40°C |
| 16  | 33       | 6.3×6.1     | 70     | 1    | 15    |
|     | 47       | 6.3×8       | 200    | 0.7  | 10    |
|     | 100      | 6.3×8       | 200    | 0.7  | 10    |
|     |          | 8×10.5      | 300    | 0.3  | 4.5   |
|     | 220      | 8×10.5      | 300    | 0.3  | 4.5   |
|     |          | 10×10.5     | 500    | 0.2  | 3     |
|     | 330      | 10×10.5     | 500    | 0.2  | 3     |

| Vdc | Cap (μF) | Size (φD×L) | Ripple | ESR  |       |
|-----|----------|-------------|--------|------|-------|
|     |          |             |        | 20°C | -40°C |
| 25  | 33       | 6.3×6.1     | 70     | 1    | 15    |
|     | 47       | 6.3×8       | 200    | 0.7  | 10    |
|     | 100      | 8×10.5      | 300    | 0.3  | 4.5   |
|     |          | 8×10.5      | 300    | 0.3  | 4.5   |
|     | 220      | 10×10.5     | 500    | 0.2  | 3     |
|     |          | 10×10.5     | 500    | 0.2  | 3     |

| Vdc | Cap (μF) | Size (φD×L) | Ripple | ESR  |       |
|-----|----------|-------------|--------|------|-------|
|     |          |             |        | 20°C | -40°C |
| 35  | 22       | 6.3×8       | 200    | 0.7  | 10    |
|     | 33       | 6.3×6.1     | 70     | 1    | 15    |
|     |          | 6.3×8       | 200    | 0.7  | 10    |
|     | 47       | 6.3×8       | 200    | 0.7  | 10    |
|     |          | 8×10.5      | 300    | 0.3  | 4.5   |
|     | 100      | 8×10.5      | 300    | 0.3  | 4.5   |
|     |          | 10×10.5     | 500    | 0.2  | 3     |
|     | 220      | 10×10.5     | 500    | 0.2  | 3     |
| 50  | 10       | 6.3×6.1     | 70     | 1    | 15    |
|     | 22       | 6.3×8       | 150    | 0.9  | 10    |
|     | 33       | 6.3×8       | 150    | 0.9  | 10    |
|     |          | 8×10.5      | 250    | 0.36 | 4.5   |
|     | 47       | 8×10.5      | 250    | 0.36 | 4.5   |
|     |          | 10×10.5     | 350    | 0.25 | 3     |
|     | 100      | 10×10.5     | 350    | 0.25 | 3     |

## PART NUMBER

|               |        |             |                       |        |           |
|---------------|--------|-------------|-----------------------|--------|-----------|
| □□□           | THV    | □□□□□       | M                     | □□□    | D×L       |
| Rated Voltage | Series | Capacitance | Capacitance Tolerance | Option | Case Size |