

## *Data Sheet*

Customer: \_\_\_\_\_

Product : SMD Aluminum Electrolytic Capacitors-ETV Series \_\_\_\_\_

Size : 6.3x7.7mm~12.5x13.5mm \_\_\_\_\_

Issued Date : 18-October-2024 \_\_\_\_\_

Edition : Ver.1 \_\_\_\_\_

### Record of change

| Date            | Ver. | Description | Page |
|-----------------|------|-------------|------|
| 18-October-2024 | 1    |             |      |
|                 |      |             |      |
|                 |      |             |      |
|                 |      |             |      |

### **HITANO ENTERPRISE CORP.**

7F-7, No. 3, Wu Chuan 1<sup>st</sup> Road, New Taipei Industrial Park, New Taipei City, TAIWAN, R.O.C.

Tel: +886 2 2299 1331 (Rep.)

Fax: +886 2 2298 2466, 2298 2969

| Prepared by     | Checked by          | Approved by      | Accepted by (customer) |
|-----------------|---------------------|------------------|------------------------|
| 18-October-2024 | 18-October-2024     | 18-October-2024  |                        |
| <i>Randy Yu</i> | <i>Michelle Lin</i> | <i>Arthur Su</i> |                        |

### Features

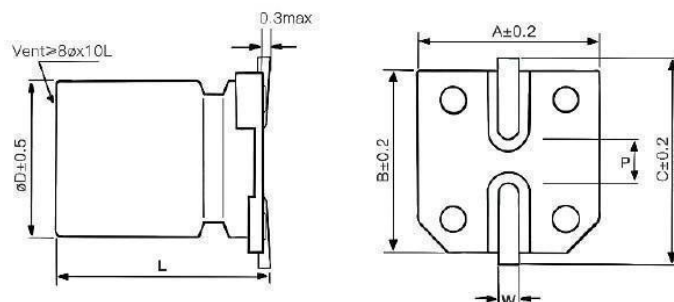
- 6.3 $\phi$  ~ 12.5 $\phi$ , 125°C, 2000 ~ 3000 hours assured
- Low impedance capacitors
- Designed for reflow soldering
- Designed for surface mounting on high-density PCB

### Characteristics

|  |   |   |      |      |      |                          |
|--|---|---|------|------|------|--------------------------|
| <b>Voltage Range</b>   | 10V ~ 35V   |   |      |      |      |                          |
| <b>Capacitance Range</b>   | 33 ~ 1000 uF  |   |      |      |      |                          |
| <b>Temperature Range</b>   | -40°C ~ +125°C  |   |      |      |      |                          |
| <b>Capacitance Tolerance</b>   | $\pm 20\%$ (120Hz / +20°C)  |   |      |      |      |                          |
| <b>Leakage Current</b>   | $I \leq 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)  |   |      |      |      |                          |
| <b>Dissipation Factor (tan<math>\delta</math>)Max</b> (at 20°C, 120Hz) | Rated Voltage (V)   | 10  | 16   | 25   | 35   |                          |
|  | D.F.(tan $\delta$ )   | 0.30  | 0.23 | 0.18 | 0.16 |                          |
| <b>Characteristics at low temperature</b>                              | Rated Voltage (V)   | 10  | 16   | 25   | 35   | Impedance ratio at 120Hz |
|  | Z (-40°C) / Z (+20°C)   | 12  | 8    | 6    | 4    |                          |
| <b>Endurance</b>   | After applying rated working voltage for 2000/3000 hours at +125°C $\pm$ 2°C, and then being stabilized at +20°C, capacitors shall meet the following limits.         |   |      |      |      |                          |
|  | Test Time   | $\phi D = 6.3\text{mm} : 2000\text{H}$<br>$\phi D = 8\sim 12.5\text{mm} : 3000\text{H}$ |      |      |      |                          |
|  | Capacitance change  | Within $\pm 30\%$ of the initial value  |      |      |      |                          |
|  | Dissipation factor (tan $\delta$ )  | Less than 300% of the initial value   |      |      |      |                          |
|  | Leakage current   | Within the initial limit  |      |      |      |                          |
| <b>Shelf life</b>  | After storage for 1000 hours at +125°C $\pm$ 2°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet the limits specified in endurance. |   |      |      |      |                          |
|  |   |   |      |      |      |                          |
| <b>Resistance to Soldering heat</b>                                    | After reflow soldering and then being stabilized at +20°C, capacitors shall meet the following limits.  |   |      |      |      |                          |
|  | Capacitance change  | Within 10% of the initial value   |      |      |      |                          |
|  | Dissipation factor (tan $\delta$ )  | Within the initial limit  |      |      |      |                          |
|  | Leakage current   | Within the initial limit  |      |      |      |                          |
| <b>Frequency correction factor for ripple current</b>                  | Frequency   | 50Hz  | 120H | 300H | 1kHz | 10kHz $\leq$             |
|  | Correction Factor   | 0.35  | 0.5  | 0.64 | 0.83 | 1.0                      |

### Diagram of dimensions

| SIZE | D    | L              | A    | B    | C    | W       | P $\pm 0.2$ |
|------|------|----------------|------|------|------|---------|-------------|
| C8   | 6.3  | 7.7 $\pm 0.3$  | 6.6  | 6.6  | 7.3  | 0.5~0.8 | 2.2         |
| E    | 8    | 10.5 $\pm 0.5$ | 8.3  | 8.3  | 9.2  | 0.7~1.2 | 3.2         |
| F    | 10   | 10.5 $\pm 0.5$ | 10.3 | 10.3 | 11.2 | 0.7~1.2 | 4.4         |
| G    | 12.5 | 13.5 $\pm 0.5$ | 13.0 | 13.0 | 14.0 | 1.0~1.4 | 4.4         |



### Part Numbering System

ETV    □ □ □    M    □ □    R    □  
 Series    Capacitance    Tolerance    Rated Voltage    Package    Case Size

**Case size & Maximum Ripple Current (mA rms 105°C 100KHz) & Imp. ( $\Omega$  20°C 100KHZ)**

| Cap. $\mu$ F | 10   |         |           | 16   |         |           | 25   |         |           | 35   |         |           |
|--------------|------|---------|-----------|------|---------|-----------|------|---------|-----------|------|---------|-----------|
| uF           | Size | RC      | Imp.      | Size | RC      | Imp.      | Size | RC      | Imp.      | Size | RC      | Imp.      |
| 33           |      |         |           |      |         |           |      |         |           | C8   | 197     | 0.50      |
| 47           |      |         |           |      |         |           |      |         |           | C8/E | 197/270 | 0.50/0.20 |
| 100          |      |         |           | C8/E | 197/270 | 0.50/0.20 | C8/E | 197/270 | 0.50/0.20 | E    | 270     | 0.20      |
| 220          | E    | 270     | 0.20      | E    | 270     | 0.20      | E/F  | 270/500 | 0.20/0.15 | F    | 500     | 0.15      |
| 330          | E/F  | 270/500 | 0.20/0.15 | F    | 500     | 0.15      | F    | 500     | 0.15      | F    | 500     | 0.15      |
| 470          | F    | 500     | 0.15      | F    | 500     | 0.15      |      |         |           | G    | 1700    | 0.08      |
| 560          |      |         |           |      |         |           |      |         |           | G    | 1700    | 0.08      |
| 680          |      |         |           |      |         |           |      |         |           | G    | 1700    | 0.08      |
| 820          |      |         |           |      |         |           | G    | 1700    | 0.08      |      |         |           |
| 1000         |      |         |           |      |         |           | G    | 1700    | 0.08      |      |         |           |