# Surface mount type TA Series

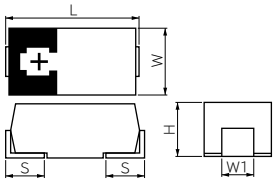
RoHS compliance, Halogen free
High reliability: 85℃85%RH rated voltage applied (warranty)
Power supply circuit of entertainment equipment for the car.

## Specifications

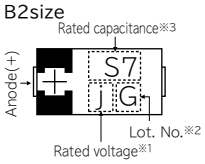
| Items | Condition | | Specifications | | | |
|---|---|---|---|---|---|---|
| Rated voltage (V) | – | | 2.5 | 4.0 | 6.3 | 10 |
| Surge voltage (V) | – | | 2.9 | 4.6 | 7.2 | 12 |
| Category temperature range(℃) | – | | −55 to +105 | | | |
| Capacitance tolerance (%) | 120Hz/20℃ | | M : ±20 | | | |
| Rated capacitance range (μF) | 120Hz/20℃ | | 47 to 680 | | | |
| Dissipation Factor (DF) | 120Hz/20℃ | | Please see the attached characteristics list | | | |
| Leakage current | Rated voltage applied, after 5 minutes | | Please see the attached characteristics list | | | |
| Equivalent series resistance (ESR) | 100kHz/20℃ | | Please see the attached characteristics list | | | |
| Characteristics of impedance ratio at high temp. and low temp. | 100kHz/+20℃ | −55℃ Z/Z20℃ | 0.6 to 2.0 | | | |
| | | +105℃ Z/Z20℃ | 0.6 to 2.0 | | | |
| Endurance | 105℃, 2,000h, (B2 size : 1,000h) rated voltage applied | ΔC/C | Within±20% of the initial value | | | |
| | | DF | ≤ 1.5 times of the initial limit | | | |
| | | LC | Within the initial limit | | | |
| Damp heat(Load) | 85℃, 85 to 90%RH, 500h, rated voltage applied | ΔC/C | Within+40%,−20% of the initial value ※1 | | | |
| | | DF | ≤ 1.5 times of the initial limit | | | |
| | | LC | Within the initial limit | | | |
| Surge | 105℃, 1,000 cycles, 1kΩ discharge resistance, surge voltage applied | ΔC/C | Within±5% of the initial value | | | |
| | | DF | Within the initial limit | | | |
| | | LC | ≤ 3 times of the initial limit | | | |

※1 Within +50%, −20% of the initial value(2R5TAE470M(F), 2R5TAE330M(F, I), 2R5TAE220M(F,9))

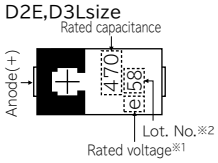
## Marking and dimensions




B2size




D2E,D3Lsize




(unit : mm)

| Size code | L ±0.3※2 | W ±0.2 | H ±0.2※1 | S ±0.2 | W1 ±0.1 |
|---|---|---|---|---|---|
| B2 | 3.5 | 2.8 | 1.9 | 0.8 | 2.2 |
| D2E | 7.3 | 4.3 | 1.8 | 1.3 | 2.4 |
| D3L | 7.3 | 4.3 | 2.8 | 1.3 | 2.4 |

※1 ±0.1:D2E,B2 ※2 ±0.2:B2

※1 The rated voltage is as follows.

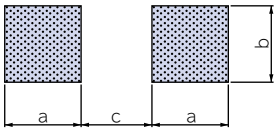
| R.V. | 2.5 | 4.0 | 6.3 | 10 |
|---|---|---|---|---|
| Mark | e | g | j | A |

※2 Lot.No.shows roughly manufacturing date.

※3 The rated capacitance is as follows.

| Capacitance(μF) | 47 | 68 | 100 |
|---|---|---|---|
| Mark | S7 | W7 | A8 |

## Recommended land pattern dimension of PWB




(unit : mm)

| Size code | a | b | c |
|---|---|---|---|
| B2 | 1.6 | 2.7 | 1.4 |
| D2E | 2.4 | 2.9 | 3.7 |
| D3L | 2.4 | 2.9 | 3.7 |

## Size list

RV:Rated voltage

| μF \ RV | 2.5 | 4.0 | 6.3 | 10.0 |
|---|---|---|---|---|
| 47 | | | B2 | B2 |
| 68 | | | B2 | D2E |
| 100 | | B2 | | |
| 150 | | | D2E | D3L |
| 220 | D2E | D2E | D2E | D3L |
| 330 | D2E | | D3L | |
| 470 | D2E | D3L | | |
| 680 | D3L | | | |

## TA series characteristics list

| Size code | Part number | Rated voltage (V) | Rated temperature (℃) | Rated capacitance (μF) | Category voltage (V) | Category temperature (℃) | DF (% max) | LC (μA) max/5min. | ESR (mΩmax) 100kHz/20℃ | Maximum allowable ripple current (mArms) 100kHz※1 | MSL Reflow temp. ≤ 260℃ | MSL Reflow temp. ≤ 250℃ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B2 | 10TAB47M | 10 | 105 | 47 | 10 | 105 | 8.0 | 47.0 | 70 | 1100 | 3 | 3 |
| | 6TAB68M | 6.3 | 105 | 68 | 6.3 | 105 | 8.0 | 42.8 | 70 | 1100 | 3 | 3 |
| | 6TAB47M | 6.3 | 105 | 47 | 6.3 | 105 | 8.0 | 29.6 | 70 | 1100 | 3 | 3 |
| | 4TAB100M | 4.0 | 105 | 100 | 4.0 | 105 | 8.0 | 40.0 | 70 | 1100 | 3 | 3 |
| D2E | 10TAE68M | 10 | 105 | 68 | 10 | 105 | 10 | 68.0 | 25 | 2400 | 3 | 3 |
| | 6TAE220M | 6.3 | 105 | 220 | 6.3 | 105 | 10 | 138.6 | 25 | 2400 | 3 | 3 |
| | 6TAE220MI | 6.3 | 105 | 220 | 6.3 | 105 | 10 | 138.6 | 18 | 2800 | 3 | 3 |
| | 6TAE150M | 6.3 | 105 | 150 | 6.3 | 105 | 10 | 94.5 | 25 | 2400 | 3 | 3 |
| | 4TAE220M | 4.0 | 105 | 220 | 4.0 | 105 | 10 | 88.0 | 25 | 2400 | 3 | 3 |
| | 4TAE220MI | 4.0 | 105 | 220 | 4.0 | 105 | 10 | 88.0 | 18 | 2800 | 3 | 3 |
| | 2R5TAE470M | 2.5 | 105 | 470 | 2.5 | 105 | 10 | 117.5 | 25 | 2400 | 3 | 3 |
| | 2R5TAE470MF | 2.5 | 105 | 470 | 2.5 | 105 | 10 | 117.5 | 15 | 3100 | 3 | 3 |
| | 2R5TAE330M | 2.5 | 105 | 330 | 2.5 | 105 | 10 | 82.5 | 25 | 2400 | 3 | 3 |
| | 2R5TAE330MI | 2.5 | 105 | 330 | 2.5 | 105 | 10 | 82.5 | 18 | 2800 | 3 | 3 |
| | 2R5TAE330MF | 2.5 | 105 | 330 | 2.5 | 105 | 10 | 82.5 | 15 | 3100 | 3 | 3 |
| | 2R5TAE220M | 2.5 | 105 | 220 | 2.5 | 105 | 10 | 55.0 | 25 | 2400 | 3 | 3 |
| | 2R5TAE220MF | 2.5 | 105 | 220 | 2.5 | 105 | 10 | 55.0 | 15 | 3100 | 3 | 3 |
| | 2R5TAE220M9 | 2.5 | 105 | 220 | 2.5 | 105 | 10 | 110.0 | 9 | 3900 | 3 | 3 |
| D3L | 10TAE220ML | 10 | 105 | 220 | 10 | 105 | 10 | 220.0 | 25 | 2400 | 3 | 3 |
| | 10TAE150ML | 10 | 105 | 150 | 10 | 105 | 10 | 150.0 | 25 | 2400 | 3 | 3 |
| | 6TAE330ML | 6.3 | 105 | 330 | 6.3 | 105 | 10 | 207.9 | 25 | 2400 | 3 | 3 |
| | 4TAE470ML | 4.0 | 105 | 470 | 4.0 | 105 | 10 | 188.0 | 25 | 2400 | 3 | 3 |
| | 4TAE470MIL | 4.0 | 105 | 470 | 4.0 | 105 | 10 | 188.0 | 18 | 2800 | 3 | 3 |
| | 2R5TAE680ML | 2.5 | 105 | 680 | 2.5 | 105 | 10 | 170.0 | 25 | 2400 | 3 | 3 |
| | 2R5TAE680MFL | 2.5 | 105 | 680 | 2.5 | 105 | 10 | 170.0 | 15 | 3100 | 3 | 3 |

※1 100k to 500kHz,45℃