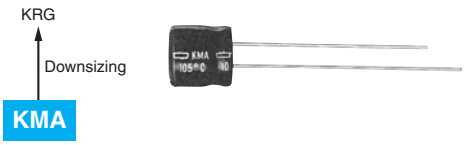
# KMA Series

- 7mm height
- Endurance : 1,000 hours at 105℃
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

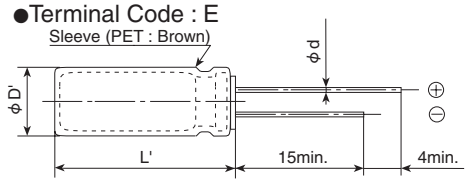



## ◆SPECIFICATIONS

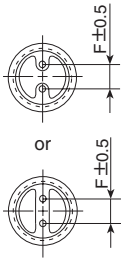
| Items | Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Category Temperature Range | -55 to +105℃ | | | | | | | | |
| Rated Voltage Range | 4 to 63Vdc | | | | | | | | |
| Capacitance Tolerance | ±20% (M) | | | | | | | | (at 20℃, 120Hz) |
| Leakage Current | I=0.01CV or 3μA, whichever is greater.<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) | | | | | | | | (at 20℃ after 2 minutes) |
| Dissipation Factor (tan δ ) | Rated voltage (Vdc) | 4V | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V |
| | tan δ (Max.) | 0.35 | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 (at 20℃, 120Hz) |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (Vdc) | 4V | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V |
| | Z(-25℃)/Z(+20℃) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Z(-40℃)/Z(+20℃) | 10 | 6 | 5 | 3 | 3 | 3 | 3 | 3 (at 120Hz) |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 1,000 hours at 105℃. | | | | | | | | |
| | Rated voltage | 4 to 16Vdc | | | | 25 to 63Vdc | | | |
| | Capacitance change | ≦±25% of the initial value | | | | ≦±20% of the initial value | | | |
| | D.F. (tan δ ) | ≦200% of the initial specified value | | | | | | | |
| | Leakage current | ≦The initial specified value | | | | | | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. | | | | | | | | |
| | Rated voltage | 4 to 16Vdc | | | | 25 to 63Vdc | | | |
| | Capacitance change | ≦±25% of the initial value | | | | ≦±20% of the initial value | | | |
| | D.F. (tan δ ) | ≦200% of the initial specified value | | | | | | | |
| | Leakage current | ≦The initial specified value | | | | | | | |

## ◆DIMENSIONS [mm]

●Terminal Code : E

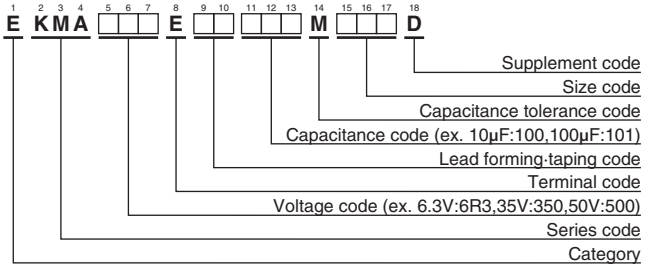



| φD | 4 | 5 | 6.3 |
|---|---|---|---|
| φd | 0.45 | 0.45 | 0.45 |
| F | 1.5 | 2.0 | 2.5 |
| φD' | φD+0.5max. | | |
| L' | L+1.0max. | | |




Gas escape end seal

## ◆PART NUMBERING SYSTEM




Please refer to "Product code guide (radial lead type)"

## ◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mArms/ 105℃, 120Hz) | Part No. |
|---|---|---|---|---|---|
| 4 | 33 | 4×7 | 0.35 | 26 | EKMA4R0E□□330MD07D |
| | 47 | 4×7 | 0.35 | 34 | EKMA4R0E□□470MD07D |
| | 100 | 5×7 | 0.35 | 61 | EKMA4R0E□□101ME07D |
| | 220 | 6.3×7 | 0.35 | 95 | EKMA4R0E□□221MF07D |
| 6.3 | 22 | 4×7 | 0.22 | 31 | EKMA6R3E□□220MD07D |
| | 47 | 5×7 | 0.22 | 47 | EKMA6R3E□□470ME07D |
| 10 | 33 | 5×7 | 0.19 | 43 | EKMA100E□□330ME07D |
| | 100 | 6.3×7 | 0.19 | 80 | EKMA100E□□101MF07D |
| 16 | 10 | 4×7 | 0.16 | 25 | EKMA160E□□100MD07D |
| | 22 | 5×7 | 0.16 | 39 | EKMA160E□□220ME07D |
| | 47 | 6.3×7 | 0.16 | 59 | EKMA160E□□470MF07D |
| | 100 | 6.3×7 | 0.16 | 97 | EKMA160E□□101MF07D |
| 25 | 33 | 6.3×7 | 0.14 | 53 | EKMA250E□□330MF07D |
| | 47 | 6.3×7 | 0.14 | 71 | EKMA250E□□470MF07D |

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mArms/ 105℃, 120Hz) | Part No. |
|---|---|---|---|---|---|
| 35 | 4.7 | 4×7 | 0.12 | 20 | EKMA350E□□4R7MD07D |
| | 10 | 5×7 | 0.12 | 30 | EKMA350E□□100ME07D |
| | 22 | 6.3×7 | 0.12 | 47 | EKMA350E□□220MF07D |
| | 33 | 6.3×7 | 0.12 | 64 | EKMA350E□□330MF07D |
| 50 | 1.0 | 4×7 | 0.10 | 10 | EKMA500E□□1R0MD07D |
| | 2.2 | 4×7 | 0.10 | 15 | EKMA500E□□2R2MD07D |
| | 3.3 | 4×7 | 0.10 | 18 | EKMA500E□□3R3MD07D |
| | 4.7 | 5×7 | 0.10 | 23 | EKMA500E□□4R7ME07D |
| | 10 | 6.3×7 | 0.10 | 34 | EKMA500E□□100MF07D |
| | 22 | 6.3×7 | 0.10 | 57 | EKMA500E□□220MF07D |
| 63 | 1.0 | 4×7 | 0.08 | 11 | EKMA630E□□1R0MD07D |
| | 2.2 | 4×7 | 0.08 | 17 | EKMA630E□□2R2MD07D |
| | 3.3 | 5×7 | 0.08 | 21 | EKMA630E□□3R3ME07D |
| | 4.7 | 6.3×7 | 0.08 | 26 | EKMA630E□□4R7MF07D |
| | 10 | 6.3×7 | 0.08 | 43 | EKMA630E□□100MF07D |

□□ : Enter the appropriate lead forming or taping code.

## ◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 120 | 300 | 1k | 10k | 100k |
|---|---|---|---|---|---|
| 1 | 1.00 | 1.25 | 1.50 | 1.75 | 1.80 |
| 2.2 to 10 | 1.00 | 1.15 | 1.30 | 1.40 | 1.50 |
| 22 to 220 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise.
When long life performance is required in actual use, the rms ripple current has to be reduced.