

**KZN** Upgrade!  
Series

- Adoption of innovative high stability electrolyte
- High ripple current and long endurance
- Rated voltage range : 6.3 to 100V<sub>dc</sub>, Capacitance range : 8.2 to 22,000μF
- Endurance with ripple current : 6,000 to 10,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

KZN

Higher ripple  
KZM

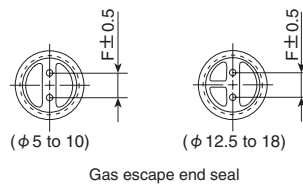
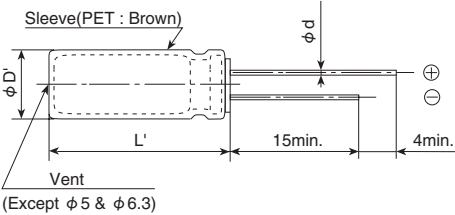


◆ SPECIFICATIONS

| Items   | Characteristics   |  |
|---|---|--|
| <b>Category Temperature Range</b>                             | -40 to +105°C   |  |
| <b>Rated Voltage Range</b>                                    | 6.3 to 100V <sub>dc</sub>   |  |
| <b>Capacitance Tolerance</b>                                  | ±20% (M) (at 20°C, 120Hz)   |  |
| <b>Leakage Current</b>  | 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°C after 2 minutes)   |  |
| <b>Dissipation Factor (tan δ)</b>                             | Rated voltage (V <sub>dc</sub> )  | 6.3V 10V 16V 25V 35V 50V 63V 80V 100V  |
|   | tan δ (Max.)  | 0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.09 0.08   |
|   | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)   |  |
| <b>Low Temperature Characteristics (Max. Impedance Ratio)</b> | Z (-25°C) / Z (+20°C)   | 2max.  |
|   | Z (-40°C) / Z (+20°C)   | 3max.  |
| <b>Endurance</b>  | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105°C.                      |  |
|   | Time  | Case size φ 5& φ 6.3 φ 8×11.5L φ 10×12.5L φ 8×15L, 20L φ 10×16L, 20L, 25L φ 12.5 to φ 18 |
|   |   | 6.3V <sub>dc</sub> 6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours          |
|   |   | 10 to 50V <sub>dc</sub> 7,000 hours 9,000 hours 9,000 hours 10,000 hours 10,000 hours    |
|   |   | 63 to 100V <sub>dc</sub> 6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours    |
|   | Capacitance change  | ≤ ±25% of the initial value (6.3, 10V <sub>dc</sub> : ≤ ±30%)                            |
|   | D.F. (tan δ)  | ≤200% of the initial specified value   |
| Leakage current   | ≤The initial specified value  |  |
| <b>Shelf Life</b>   | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |  |
|   | Capacitance change  | ≤ ±25% of the initial value (6.3, 10V <sub>dc</sub> : ≤ ±30%)                            |
|   | D.F. (tan δ)  | ≤200% of the initial specified value   |
|   | Leakage current   | ≤The initial specified value   |

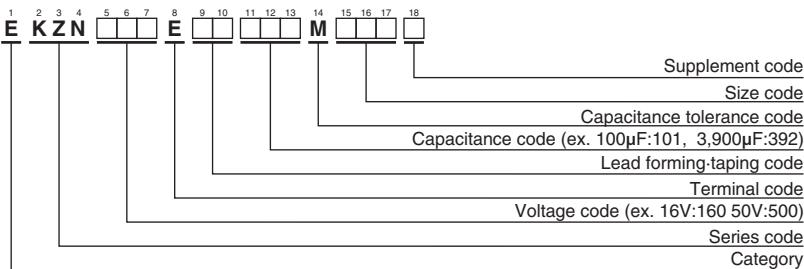
◆ DIMENSIONS [mm]

● Terminal Code : E



| φ D | 5             | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
|-----|---------------|-----|-----|-----|------|-----|-----|
| φ d | 0.5           | 0.5 | 0.6 | 0.6 | 0.6  | 0.8 | 0.8 |
| F   | 2.0           | 2.5 | 3.5 | 5.0 | 5.0  | 7.5 | 7.5 |
| D'  | φ D + 0.5max. |     |     |     |      |     |     |
| L'  | L + 1.5max.   |     |     |     |      |     |     |

◆ PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | Impedance (Ω max./100kHz) |       | Rated ripple current (mA rms/105°C, 100kHz) | Part No.           | WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | Impedance (Ω max./100kHz) |       | Rated ripple current (mA rms/105°C, 100kHz) | Part No.           |                    |
|-----------------------|----------|--------------------|---------------------------|-------|---|--------------------|-----------------------|----------|--------------------|---------------------------|-------|---|--------------------|--------------------|
|                       |          |                    | 20°C                      | -10°C |   |                    |                       |          |                    | 20°C                      | -10°C |   |                    |                    |
| 6.3                   | 220      | 5×11               | 0.38                      | 1.2   | 345   | EKZN6R3E□□221ME11D | 16                    | 3,300    | 12.5×30            | 0.018                     | 0.054 | 3,660                                       | EKZN160E□□332MK30S |                    |
|                       | 470      | 6.3×11             | 0.17                      | 0.51  | 540   | EKZN6R3E□□471MF11D |                       | 3,900    | 12.5×35            | 0.016                     | 0.048 | 4,120                                       | EKZN160E□□392MK35S |                    |
|                       | 820      | 8×11.5             | 0.075                     | 0.23  | 945   | EKZN6R3E□□821MHB5D |                       | 3,900    | 16×20              | 0.021                     | 0.063 | 3,330                                       | EKZN160E□□392ML20S |                    |
|                       | 1,200    | 8×15               | 0.059                     | 0.18  | 1,250                                       | EKZN6R3E□□122MH15D |                       | 4,700    | 18×20              | 0.020                     | 0.060 | 3,450                                       | EKZN160E□□472MM20S |                    |
|                       | 1,200    | 10×12.5            | 0.053                     | 0.16  | 1,330                                       | EKZN6R3E□□122MJC5S |                       | 5,600    | 16×25              | 0.017                     | 0.051 | 3,810                                       | EKZN160E□□562ML25S |                    |
|                       | 1,500    | 8×20               | 0.041                     | 0.13  | 1,500                                       | EKZN6R3E□□152MH20D |                       | 6,800    | 16×31.5            | 0.016                     | 0.048 | 4,100                                       | EKZN160E□□682MLN3S |                    |
|                       | 1,800    | 10×16              | 0.038                     | 0.12  | 1,760                                       | EKZN6R3E□□182MJ16S |                       | 6,800    | 18×25              | 0.016                     | 0.048 | 3,880                                       | EKZN160E□□682MM25S |                    |
|                       | 2,700    | 10×20              | 0.028                     | 0.084 | 1,960                                       | EKZN6R3E□□272MJ20S |                       | 8,200    | 16×35.5            | 0.014                     | 0.042 | 4,280                                       | EKZN160E□□822MLP1S |                    |
|                       | 2,700    | 12.5×16            | 0.035                     | 0.11  | 1,900                                       | EKZN6R3E□□272MK16S |                       | 8,200    | 18×31.5            | 0.014                     | 0.042 | 4,190                                       | EKZN160E□□822MMN3S |                    |
|                       | 3,300    | 10×25              | 0.026                     | 0.072 | 2,250                                       | EKZN6R3E□□332MJ25S |                       | 10,000   | 16×40              | 0.013                     | 0.039 | 4,580                                       | EKZN160E□□103ML40S |                    |
|                       | 3,900    | 12.5×20            | 0.025                     | 0.075 | 2,480                                       | EKZN6R3E□□392MK20S |                       | 10,000   | 18×35.5            | 0.012                     | 0.036 | 4,380                                       | EKZN160E□□103MMP1S |                    |
|                       | 5,600    | 12.5×25            | 0.019                     | 0.057 | 2,900                                       | EKZN6R3E□□562MK25S |                       | 12,000   | 18×40              | 0.011                     | 0.033 | 4,960                                       | EKZN160E□□123MM40S |                    |
|                       | 6,800    | 12.5×30            | 0.018                     | 0.054 | 3,450                                       | EKZN6R3E□□682MK30S |                       | 25       | 68                 | 5×11                      | 0.38  | 1.2   | 450                | EKZN250E□□680ME11D |
|                       | 6,800    | 16×20              | 0.021                     | 0.063 | 3,250                                       | EKZN6R3E□□682ML20S |                       |          | 150                | 6.3×11                    | 0.17  | 0.51  | 700                | EKZN250E□□151MF11D |
|                       | 8,200    | 12.5×35            | 0.016                     | 0.048 | 3,570                                       | EKZN6R3E□□822MK35S |                       |          | 270                | 8×11.5                    | 0.075 | 0.23  | 1,200              | EKZN250E□□271MHB5D |
|                       | 8,200    | 18×20              | 0.020                     | 0.060 | 3,450                                       | EKZN6R3E□□822MM20S |                       |          | 470                | 8×15                      | 0.059 | 0.18  | 1,600              | EKZN250E□□471MH15D |
|                       | 10,000   | 16×25              | 0.017                     | 0.051 | 3,630                                       | EKZN6R3E□□103ML25S |                       |          | 470                | 10×12.5                   | 0.053 | 0.16  | 1,700              | EKZN250E□□471MJC5S |
|                       | 12,000   | 16×31.5            | 0.016                     | 0.048 | 4,100                                       | EKZN6R3E□□123MLN3S |                       |          | 560                | 8×20                      | 0.041 | 0.13  | 1,960              | EKZN250E□□561MH20D |
|                       | 12,000   | 18×25              | 0.016                     | 0.048 | 3,880                                       | EKZN6R3E□□123MM25S |                       |          | 680                | 10×16                     | 0.038 | 0.12  | 2,000              | EKZN250E□□681MJ16S |
|                       | 15,000   | 16×35.5            | 0.014                     | 0.042 | 4,280                                       | EKZN6R3E□□153MLP1S |                       |          | 820                | 10×20                     | 0.028 | 0.084                                       | 2,500              | EKZN250E□□821MJ20S |
|                       | 15,000   | 18×31.5            | 0.014                     | 0.042 | 4,190                                       | EKZN6R3E□□153MMN3S |                       |          | 1,000              | 12.5×16                   | 0.035 | 0.11  | 2,400              | EKZN250E□□102MK16S |
|                       | 18,000   | 16×40              | 0.013                     | 0.039 | 4,580                                       | EKZN6R3E□□183ML40S |                       |          | 1,200              | 10×25                     | 0.026 | 0.072                                       | 2,900              | EKZN250E□□122MJ25S |
| 18,000                | 18×35.5  | 0.012              | 0.036                     | 4,380 | EKZN6R3E□□183MMP1S                          | 1,500              | 12.5×20               |          | 0.025              | 0.075                     | 2,600 | EKZN250E□□152MK20S                          |                    |                    |
| 22,000                | 18×40    | 0.011              | 0.033                     | 4,960 | EKZN6R3E□□223MM40S                          | 1,800              | 12.5×25               |          | 0.019              | 0.057                     | 3,200 | EKZN250E□□182MK25S                          |                    |                    |
| 10                    | 150      | 5×11               | 0.38                      | 1.2   | 450   | EKZN100E□□151ME11D | 2,200                 |          | 12.5×30            | 0.018                     | 0.054 | 3,660                                       | EKZN250E□□222MK30S |                    |
|                       | 330      | 6.3×11             | 0.17                      | 0.51  | 700   | EKZN100E□□331MF11D | 2,200                 |          | 16×20              | 0.021                     | 0.063 | 3,330                                       | EKZN250E□□222ML20S |                    |
|                       | 560      | 8×11.5             | 0.075                     | 0.23  | 1,200                                       | EKZN100E□□561MHB5D | 2,700                 |          | 12.5×35            | 0.016                     | 0.048 | 4,120                                       | EKZN250E□□272MK35S |                    |
|                       | 820      | 8×15               | 0.059                     | 0.18  | 1,600                                       | EKZN100E□□821MH15D | 3,300                 |          | 16×25              | 0.017                     | 0.051 | 3,810                                       | EKZN250E□□332ML25S |                    |
|                       | 1,000    | 8×20               | 0.041                     | 0.13  | 1,960                                       | EKZN100E□□102MH20D | 3,300                 |          | 18×20              | 0.020                     | 0.060 | 3,450                                       | EKZN250E□□332MM20S |                    |
|                       | 1,000    | 10×12.5            | 0.053                     | 0.16  | 1,700                                       | EKZN100E□□102MJC5S | 4,700                 |          | 16×31.5            | 0.016                     | 0.048 | 4,100                                       | EKZN250E□□472MLN3S |                    |
|                       | 1,200    | 10×16              | 0.038                     | 0.12  | 2,000                                       | EKZN100E□□122MJ16S | 4,700                 |          | 18×25              | 0.016                     | 0.048 | 3,880                                       | EKZN250E□□472MM25S |                    |
|                       | 1,800    | 10×20              | 0.028                     | 0.084 | 2,500                                       | EKZN100E□□182MJ20S | 5,600                 |          | 16×35.5            | 0.014                     | 0.042 | 4,280                                       | EKZN250E□□562MLP1S |                    |
|                       | 1,800    | 12.5×16            | 0.035                     | 0.11  | 2,400                                       | EKZN100E□□182MK16S | 5,600                 |          | 18×31.5            | 0.014                     | 0.042 | 4,190                                       | EKZN250E□□562MMN3S |                    |
|                       | 2,200    | 10×25              | 0.026                     | 0.072 | 2,900                                       | EKZN100E□□222MJ25S | 6,800                 |          | 16×40              | 0.013                     | 0.039 | 4,580                                       | EKZN250E□□682ML40S |                    |
|                       | 2,700    | 12.5×20            | 0.025                     | 0.075 | 2,600                                       | EKZN100E□□272MK20S | 6,800                 | 18×35.5  | 0.012              | 0.036                     | 4,380 | EKZN250E□□682MMP1S                          |                    |                    |
|                       | 3,900    | 12.5×25            | 0.019                     | 0.057 | 3,200                                       | EKZN100E□□392MK25S | 8,200                 | 18×40    | 0.011              | 0.033                     | 4,960 | EKZN250E□□822MM40S                          |                    |                    |
|                       | 4,700    | 12.5×30            | 0.018                     | 0.054 | 3,660                                       | EKZN100E□□472MK30S | 35                    | 47       | 5×11               | 0.38                      | 1.2   | 450   | EKZN350E□□470ME11D |                    |
|                       | 4,700    | 16×20              | 0.021                     | 0.063 | 3,330                                       | EKZN100E□□472ML20S |                       | 100      | 6.3×11             | 0.17                      | 0.51  | 700   | EKZN350E□□101MF11D |                    |
|                       | 5,600    | 12.5×35            | 0.016                     | 0.048 | 4,120                                       | EKZN100E□□562MK35S |                       | 180      | 8×11.5             | 0.075                     | 0.23  | 1,200                                       | EKZN350E□□181MHB5D |                    |
|                       | 5,600    | 18×20              | 0.020                     | 0.060 | 3,450                                       | EKZN100E□□562MM20S |                       | 220      | 8×15               | 0.059                     | 0.18  | 1,600                                       | EKZN350E□□221MH15D |                    |
|                       | 6,800    | 16×25              | 0.017                     | 0.051 | 3,810                                       | EKZN100E□□682ML25S |                       | 270      | 10×12.5            | 0.053                     | 0.16  | 1,700                                       | EKZN350E□□271MJC5S |                    |
|                       | 8,200    | 16×31.5            | 0.016                     | 0.048 | 4,100                                       | EKZN100E□□822MLN3S |                       | 330      | 8×20               | 0.041                     | 0.13  | 1,960                                       | EKZN350E□□331MH20D |                    |
|                       | 8,200    | 18×25              | 0.016                     | 0.048 | 3,880                                       | EKZN100E□□822MM25S |                       | 390      | 10×16              | 0.038                     | 0.12  | 2,000                                       | EKZN350E□□391MJ16S |                    |
|                       | 10,000   | 16×35.5            | 0.014                     | 0.042 | 4,280                                       | EKZN100E□□103MLP1S |                       | 470      | 10×20              | 0.028                     | 0.084 | 2,500                                       | EKZN350E□□471MJ20S |                    |
|                       | 10,000   | 18×31.5            | 0.014                     | 0.042 | 4,190                                       | EKZN100E□□103MMN3S |                       | 560      | 12.5×16            | 0.035                     | 0.11  | 2,400                                       | EKZN350E□□561MK16S |                    |
|                       | 12,000   | 16×40              | 0.013                     | 0.039 | 4,580                                       | EKZN100E□□123ML40S |                       | 680      | 10×25              | 0.026                     | 0.072 | 2,900                                       | EKZN350E□□681MJ25S |                    |
| 12,000                | 18×35.5  | 0.012              | 0.036                     | 4,380 | EKZN100E□□123MMP1S                          | 820                |                       | 12.5×20  | 0.025              | 0.075                     | 2,600 | EKZN350E□□821MK20S                          |                    |                    |
| 15,000                | 18×40    | 0.011              | 0.033                     | 4,960 | EKZN100E□□153MM40S                          | 1,200              |                       | 12.5×25  | 0.019              | 0.057                     | 3,200 | EKZN350E□□122MK25S                          |                    |                    |
| 16                    | 120      | 5×11               | 0.38                      | 1.2   | 450   | EKZN160E□□121ME11D |                       | 1,500    | 12.5×30            | 0.018                     | 0.054 | 3,660                                       | EKZN350E□□152MK30S |                    |
|                       | 270      | 6.3×11             | 0.17                      | 0.51  | 700   | EKZN160E□□271MF11D |                       | 1,500    | 16×20              | 0.021                     | 0.063 | 3,330                                       | EKZN350E□□152ML20S |                    |
|                       | 470      | 8×11.5             | 0.075                     | 0.23  | 1,200                                       | EKZN160E□□471MHB5D |                       | 1,800    | 12.5×35            | 0.016                     | 0.048 | 4,120                                       | EKZN350E□□182MK35S |                    |
|                       | 680      | 8×15               | 0.059                     | 0.18  | 1,600                                       | EKZN160E□□681MH15D |                       | 1,800    | 16×25              | 0.017                     | 0.051 | 3,810                                       | EKZN350E□□182ML25S |                    |
|                       | 680      | 10×12.5            | 0.053                     | 0.16  | 1,700                                       | EKZN160E□□681MJC5S |                       | 1,800    | 18×20              | 0.020                     | 0.060 | 3,450                                       | EKZN350E□□182MM20S |                    |
|                       | 820      | 8×20               | 0.041                     | 0.13  | 1,960                                       | EKZN160E□□821MH20D |                       | 2,700    | 16×31.5            | 0.016                     | 0.048 | 4,100                                       | EKZN350E□□272MLN3S |                    |
|                       | 1,000    | 10×16              | 0.038                     | 0.12  | 2,000                                       | EKZN160E□□102MJ16S |                       | 2,700    | 18×25              | 0.016                     | 0.048 | 3,880                                       | EKZN350E□□272MM25S |                    |
|                       | 1,500    | 10×20              | 0.028                     | 0.084 | 2,500                                       | EKZN160E□□152MJ20S |                       | 3,300    | 16×35.5            | 0.014                     | 0.042 | 4,280                                       | EKZN350E□□332MLP1S |                    |
|                       | 1,500    | 12.5×16            | 0.035                     | 0.11  | 2,400                                       | EKZN160E□□152MK16S |                       | 3,300    | 18×31.5            | 0.014                     | 0.042 | 4,190                                       | EKZN350E□□332MMN3S |                    |
|                       | 1,800    | 10×25              | 0.026                     | 0.072 | 2,900                                       | EKZN160E□□182MJ25S |                       | 3,900    | 16×40              | 0.013                     | 0.039 | 4,580                                       | EKZN350E□□392ML40S |                    |
|                       | 2,200    | 12.5×20            | 0.025                     | 0.075 | 2,600                                       | EKZN160E□□222MK20S | 3,900                 | 18×35.5  | 0.012              | 0.036                     | 4,380 | EKZN350E□□392MMP1S                          |                    |                    |
|                       | 2,700    | 12.5×25            | 0.019                     | 0.057 | 3,200                                       | EKZN160E□□272MK25S | 4,700                 | 18×40    | 0.011              | 0.033                     | 4,960 | EKZN350E□□472MM40S                          |                    |                    |

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

◆ STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./100kHz) |       | Rated<br>ripple<br>current<br>(mA rms/<br>105°C,<br>100kHz) | Part No.           | WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./100kHz) |                    | Rated<br>ripple<br>current<br>(mA rms/<br>105°C,<br>100kHz) | Part No.           |
|--------------------------|-------------|-----------------------|------------------------------|-------|---|--------------------|--------------------------|-------------|-----------------------|------------------------------|--------------------|---|--------------------|
|                          |             |                       | 20°C                         | -10°C |   |                    |                          |             |                       | 20°C                         | -10°C              |   |                    |
| 50                       | 27          | 5×11                  | 0.40                         | 1.3   | 450   | EKZN500E□□270ME11D | 80                       | 120         | 10×16                 | 0.090                        | 0.36               | 1,150   | EKZN800E□□121MJ16S |
|                          | 56          | 6.3×11                | 0.18                         | 0.54  | 700   | EKZN500E□□560MF11D |                          | 150         | 10×16                 | 0.090                        | 0.36               | 1,150   | EKZN800E□□151MJ16S |
|                          | 100         | 8×11.5                | 0.085                        | 0.26  | 1,200   | EKZN500E□□101MHB5D |                          | 180         | 10×20                 | 0.068                        | 0.28               | 1,570   | EKZN800E□□181MJ20S |
|                          | 120         | 8×15                  | 0.065                        | 0.20  | 1,600   | EKZN500E□□121MH15D |                          | 180         | 12.5×16               | 0.090                        | 0.27               | 1,430   | EKZN800E□□181MK16S |
|                          | 150         | 10×12.5               | 0.073                        | 0.22  | 1,280   | EKZN500E□□151MJC5S |                          | 220         | 10×20                 | 0.068                        | 0.28               | 1,570   | EKZN800E□□221MJ20S |
|                          | 180         | 8×20                  | 0.049                        | 0.16  | 1,960   | EKZN500E□□181MH20D |                          | 220         | 10×25                 | 0.055                        | 0.22               | 1,780   | EKZN800E□□221MJ25S |
|                          | 220         | 10×16                 | 0.053                        | 0.16  | 1,650   | EKZN500E□□221MJ16S |                          | 220         | 12.5×16               | 0.090                        | 0.27               | 1,430   | EKZN800E□□221MK16S |
|                          | 330         | 10×20                 | 0.038                        | 0.12  | 2,060   | EKZN500E□□331MJ20S |                          | 270         | 10×25                 | 0.055                        | 0.22               | 1,780   | EKZN800E□□271MJ25S |
|                          | 330         | 12.5×16               | 0.045                        | 0.14  | 2,160   | EKZN500E□□331MK16S |                          | 270         | 12.5×20               | 0.048                        | 0.15               | 1,800   | EKZN800E□□271MK20S |
|                          | 390         | 10×25                 | 0.032                        | 0.10  | 2,420   | EKZN500E□□391MJ25S |                          | 330         | 12.5×20               | 0.048                        | 0.15               | 1,800   | EKZN800E□□331MK20S |
|                          | 470         | 12.5×20               | 0.032                        | 0.10  | 2,300   | EKZN500E□□471MK20S |                          | 390         | 12.5×25               | 0.038                        | 0.12               | 2,210   | EKZN800E□□391MK25S |
|                          | 680         | 12.5×25               | 0.025                        | 0.080 | 2,800   | EKZN500E□□681MK25S |                          | 470         | 12.5×30               | 0.033                        | 0.11               | 2,520   | EKZN800E□□471MK30S |
|                          | 820         | 12.5×30               | 0.023                        | 0.074 | 3,370   | EKZN500E□□821MK30S |                          | 470         | 16×20                 | 0.036                        | 0.12               | 2,150   | EKZN800E□□471ML20S |
|                          | 820         | 16×20                 | 0.026                        | 0.084 | 3,070   | EKZN500E□□821ML20S |                          | 560         | 12.5×35               | 0.026                        | 0.078              | 2,860   | EKZN800E□□561MK35S |
|                          | 1,000       | 12.5×35               | 0.021                        | 0.067 | 3,810   | EKZN500E□□102MK35S |                          | 680         | 12.5×40               | 0.026                        | 0.078              | 3,150   | EKZN800E□□681MK40S |
|                          | 1,200       | 16×25                 | 0.022                        | 0.070 | 3,510   | EKZN500E□□122ML25S |                          | 680         | 16×25                 | 0.028                        | 0.084              | 2,620   | EKZN800E□□681ML25S |
|                          | 1,200       | 18×20                 | 0.025                        | 0.075 | 3,120   | EKZN500E□□122MM20S |                          | 680         | 18×20                 | 0.032                        | 0.096              | 2,280   | EKZN800E□□681MM20S |
|                          | 1,500       | 16×31.5               | 0.019                        | 0.057 | 4,030   | EKZN500E□□152MLN3S |                          | 820         | 16×31.5               | 0.022                        | 0.066              | 2,900   | EKZN800E□□821MLN3S |
|                          | 1,500       | 18×25                 | 0.021                        | 0.063 | 3,530   | EKZN500E□□152MM25S |                          | 820         | 18×25                 | 0.027                        | 0.081              | 2,750   | EKZN800E□□821MM25S |
|                          | 1,800       | 16×35.5               | 0.016                        | 0.048 | 4,220   | EKZN500E□□182MLP1S |                          | 1,000       | 18×25                 | 0.027                        | 0.081              | 2,750   | EKZN800E□□102MM25S |
| 2,200                    | 16×40       | 0.014                 | 0.042                        | 4,500 | EKZN500E□□222ML40S  | 1,000              | 16×35.5                  | 0.020       | 0.060                 | 3,150                        | EKZN800E□□102MLP1S |   |                    |
| 2,200                    | 18×31.5     | 0.016                 | 0.048                        | 4,080 | EKZN500E□□222MMN3S  | 1,200              | 16×40                    | 0.018       | 0.054                 | 3,710                        | EKZN800E□□122ML40S |   |                    |
| 2,700                    | 18×35.5     | 0.013                 | 0.039                        | 4,270 | EKZN500E□□272MMP1S  | 1,200              | 18×31.5                  | 0.020       | 0.060                 | 3,150                        | EKZN800E□□122MMN3S |   |                    |
| 3,300                    | 18×40       | 0.012                 | 0.036                        | 4,850 | EKZN500E□□332MM40S  | 1,500              | 18×35.5                  | 0.018       | 0.054                 | 3,710                        | EKZN800E□□152MMP1S |   |                    |
| 63                       | 18          | 5×11                  | 0.52                         | 2.3   | 240   | EKZN630E□□180ME11D | 100                      | 8.2         | 5×11                  | 0.72                         | 3.2                | 235   | EKZN101E□□8R2ME11D |
|                          | 39          | 6.3×11                | 0.24                         | 1.1   | 420   | EKZN630E□□390MF11D |                          | 18          | 6.3×11                | 0.34                         | 1.5                | 390   | EKZN101E□□180MF11D |
|                          | 68          | 8×11.5                | 0.15                         | 0.68  | 720   | EKZN630E□□680MHB5D |                          | 33          | 8×11.5                | 0.20                         | 0.90               | 650   | EKZN101E□□330MHB5D |
|                          | 100         | 8×15                  | 0.10                         | 0.45  | 990   | EKZN630E□□101MH15D |                          | 47          | 8×15                  | 0.14                         | 0.63               | 820   | EKZN101E□□470MH15D |
|                          | 120         | 8×20                  | 0.077                        | 0.35  | 1,200   | EKZN630E□□121MH20D |                          | 56          | 8×20                  | 0.12                         | 0.54               | 1,090   | EKZN101E□□560MH20D |
|                          | 120         | 10×12.5               | 0.090                        | 0.36  | 990   | EKZN630E□□121MJC5S |                          | 56          | 10×12.5               | 0.14                         | 0.56               | 860   | EKZN101E□□560MJC5S |
|                          | 180         | 10×16                 | 0.061                        | 0.25  | 1,200   | EKZN630E□□181MJ16S |                          | 82          | 10×16                 | 0.090                        | 0.36               | 1,150   | EKZN101E□□820MJ16S |
|                          | 270         | 10×20                 | 0.045                        | 0.18  | 1,570   | EKZN630E□□271MJ20S |                          | 100         | 10×20                 | 0.068                        | 0.28               | 1,570   | EKZN101E□□101MJ20S |
|                          | 270         | 12.5×16               | 0.058                        | 0.18  | 1,570   | EKZN630E□□271MK16S |                          | 120         | 10×20                 | 0.068                        | 0.28               | 1,570   | EKZN101E□□121MJ20S |
|                          | 330         | 10×25                 | 0.037                        | 0.12  | 1,990   | EKZN630E□□331MJ25S |                          | 120         | 12.5×16               | 0.090                        | 0.27               | 1,430   | EKZN101E□□121MK16S |
|                          | 390         | 12.5×20               | 0.033                        | 0.10  | 1,990   | EKZN630E□□391MK20S |                          | 150         | 10×25                 | 0.055                        | 0.22               | 1,780   | EKZN101E□□151MJ25S |
|                          | 560         | 12.5×25               | 0.026                        | 0.080 | 2,460   | EKZN630E□□561MK25S |                          | 180         | 12.5×20               | 0.048                        | 0.15               | 1,800   | EKZN101E□□181MK20S |
|                          | 680         | 12.5×30               | 0.024                        | 0.075 | 2,760   | EKZN630E□□681MK30S |                          | 220         | 12.5×25               | 0.038                        | 0.12               | 2,210   | EKZN101E□□221MK25S |
|                          | 680         | 16×20                 | 0.027                        | 0.085 | 2,380   | EKZN630E□□681ML20S |                          | 270         | 12.5×30               | 0.033                        | 0.11               | 2,520   | EKZN101E□□271MK30S |
|                          | 820         | 12.5×35               | 0.022                        | 0.068 | 3,040   | EKZN630E□□821MK35S |                          | 270         | 16×20                 | 0.036                        | 0.12               | 2,150   | EKZN101E□□271ML20S |
|                          | 820         | 18×20                 | 0.026                        | 0.078 | 2,530   | EKZN630E□□821MM20S |                          | 330         | 16×20                 | 0.036                        | 0.12               | 2,150   | EKZN101E□□331ML20S |
|                          | 1,000       | 16×25                 | 0.024                        | 0.072 | 2,890   | EKZN630E□□102ML25S |                          | 390         | 12.5×35               | 0.026                        | 0.078              | 2,860   | EKZN101E□□391MK35S |
|                          | 1,200       | 16×31.5               | 0.020                        | 0.060 | 3,280   | EKZN630E□□122MLN3S |                          | 390         | 16×25                 | 0.028                        | 0.084              | 2,620   | EKZN101E□□391ML25S |
|                          | 1,200       | 18×25                 | 0.022                        | 0.066 | 2,930   | EKZN630E□□122MM25S |                          | 390         | 18×20                 | 0.032                        | 0.096              | 2,280   | EKZN101E□□391MM20S |
|                          | 1,500       | 16×35.5               | 0.018                        | 0.054 | 3,440   | EKZN630E□□152MLP1S |                          | 470         | 12.5×40               | 0.026                        | 0.078              | 3,150   | EKZN101E□□471MK40S |
| 1,500                    | 18×31.5     | 0.018                 | 0.054                        | 3,380 | EKZN630E□□152MMN3S  | 470                | 16×31.5                  | 0.022       | 0.066                 | 2,900                        | EKZN101E□□471MLN3S |   |                    |
| 1,800                    | 16×40       | 0.016                 | 0.048                        | 3,690 | EKZN630E□□182ML40S  | 560                | 16×31.5                  | 0.022       | 0.066                 | 2,900                        | EKZN101E□□561MLN3S |   |                    |
| 1,800                    | 18×35.5     | 0.017                 | 0.051                        | 3,550 | EKZN630E□□182MMP1S  | 560                | 16×35.5                  | 0.020       | 0.060                 | 3,150                        | EKZN101E□□561MLP1S |   |                    |
| 2,200                    | 18×40       | 0.015                 | 0.045                        | 3,930 | EKZN630E□□222MM40S  | 560                | 18×25                    | 0.027       | 0.081                 | 2,750                        | EKZN101E□□561MM25S |   |                    |
| 80                       | 12          | 5×11                  | 0.72                         | 3.2   | 235   | EKZN800E□□120ME11D | 680                      | 16×35.5     | 0.020                 | 0.060                        | 3,150              | EKZN101E□□681MLP1S  |                    |
|                          | 27          | 6.3×11                | 0.34                         | 1.5   | 390   | EKZN800E□□270MF11D | 680                      | 16×40       | 0.018                 | 0.054                        | 3,710              | EKZN101E□□681ML40S  |                    |
|                          | 47          | 8×11.5                | 0.20                         | 0.90  | 650   | EKZN800E□□470MHB5D | 680                      | 18×31.5     | 0.020                 | 0.060                        | 3,150              | EKZN101E□□681MMN3S  |                    |
|                          | 68          | 8×15                  | 0.14                         | 0.63  | 820   | EKZN800E□□680MH15D | 820                      | 16×40       | 0.018                 | 0.054                        | 3,710              | EKZN101E□□821ML40S  |                    |
|                          | 82          | 8×20                  | 0.12                         | 0.54  | 1,090   | EKZN800E□□820MH20D | 820                      | 18×35.5     | 0.018                 | 0.054                        | 3,710              | EKZN101E□□821MMP1S  |                    |
|                          | 82          | 10×12.5               | 0.14                         | 0.56  | 860   | EKZN800E□□820MJC5S | 1,000                    | 18×40       | 0.017                 | 0.051                        | 4,060              | EKZN101E□□102MM40S  |                    |
|                          | 100         | 10×12.5               | 0.14                         | 0.56  | 860   | EKZN800E□□101MJC5S |                          |             |                       |                              |                    |   |                    |

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



## ◆ RATED RIPPLE CURRENT MULTIPLIERS

### ● Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 120  | 1k   | 10k  | 100k |
|---------------------------------|------|------|------|------|
| 8.2 to 180                      | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 560                      | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 1,800                    | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,200 to 3,900                  | 0.75 | 0.90 | 0.95 | 1.00 |
| 4,700 to 22,000                 | 0.85 | 0.95 | 0.98 | 1.00 |

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