

KZN New!
Series

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

KZN

Higher ripple
KZM P139



◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | |
|---------------------------------|---|---|-------------|-------------|-------------|--------------|--------------------------------------|------|------|------|
| Category Temperature Range | -40 to +105°C | | | | | | | | | |
| Rated Voltage Range | 6.3 to 100V _{dc} | | | | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | | | | | | | | | |
| Leakage Current | I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes) | | | | | | | | | |
| Dissipation Factor (tanδ) | Rated voltage (V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 80V | 100V |
| | tanδ (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) | | | | | | | | | |
| Low Temperature Characteristics | Z(-25°C)/Z(+20°C) | 2 max. | | | | | | | | |
| | Z(-40°C)/Z(+20°C) | 3 max. (at 120Hz) | | | | | | | | |
| Endurance | 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 _{dc} | 6,000 hours | 8,000 hours | 9,000 hours | 9,000 hours | 10,000 hours | | | |
| | | 10 to 50V _{dc} | 7,000 hours | 9,000 hours | 9,000 hours | 10,000 hours | 10,000 hours | | | |
| | 63 to 100V _{dc} | 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 _{dc} : ≤ ±30%) | | | | | | | | |
| D.F. (tanδ) | ≤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°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 _{dc} : ≤ ±30%) | | | | | | | | |
| | D.F. (tanδ) | ≤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 (Vdc) | Cap (μF) | Case size φD×L(mm) | Impedance (Ωmax/100kHz) | | Rated ripple current (mA _{rms} / 105°C, 100kHz) | Part No. | WV (Vdc) | Cap (μF) | Case size φD×L(mm) | Impedance (Ωmax/100kHz) | | Rated ripple current (mA _{rms} / 105°C, 100kHz) | Part No. |
|-------------|-------------|-----------------------|----------------------------|-------|---|--------------------|-------------|-------------|-----------------------|----------------------------|--------------------|---|--------------------|
| | | | 20°C | -10°C | | | | | | 20°C | -10°C | | |
| | | | | | | | | | | | | | |
| 50 | 330 | 12.5×16 | 0.045 | 0.14 | 2,160 | EKZN500E□□331MK16S | 80 | 82 | 8×20 | 0.12 | 0.54 | 1,040 | EKZN800E□□820MH20D |
| | 390 | 10×25 | 0.032 | 0.10 | 2,420 | EKZN500E□□391MJ25S | | 82 | 10×12.5 | 0.14 | 0.56 | 780 | EKZN800E□□820MJC5S |
| | 470 | 12.5×20 | 0.032 | 0.10 | 2,300 | EKZN500E□□471MK20S | | 120 | 10×16 | 0.090 | 0.36 | 1,040 | EKZN800E□□121MJ16S |
| | 680 | 12.5×25 | 0.025 | 0.080 | 2,800 | EKZN500E□□681MK25S | | 180 | 10×20 | 0.068 | 0.28 | 1,430 | EKZN800E□□181MJ20S |
| | 820 | 12.5×30 | 0.023 | 0.074 | 3,370 | EKZN500E□□821MK30S | | 180 | 12.5×16 | 0.090 | 0.27 | 1,430 | EKZN800E□□181MK16S |
| | 820 | 16×20 | 0.026 | 0.084 | 3,070 | EKZN500E□□821ML20S | | 220 | 10×25 | 0.055 | 0.22 | 1,620 | EKZN800E□□821ML25S |
| | 1,000 | 12.5×35 | 0.021 | 0.067 | 3,810 | EKZN500E□□102MK35S | | 270 | 12.5×20 | 0.048 | 0.15 | 1,750 | EKZN800E□□271MK20S |
| | 1,200 | 16×25 | 0.022 | 0.070 | 3,510 | EKZN500E□□122ML25S | | 390 | 12.5×25 | 0.038 | 0.12 | 2,210 | EKZN800E□□391MK25S |
| | 1,200 | 18×20 | 0.025 | 0.075 | 3,120 | EKZN500E□□122MM20S | | 470 | 12.5×30 | 0.033 | 0.11 | 2,400 | EKZN800E□□471MK30S |
| | 1,500 | 16×31.5 | 0.019 | 0.057 | 4,030 | EKZN500E□□152MLN3S | | 470 | 16×20 | 0.036 | 0.12 | 1,950 | EKZN800E□□471ML20S |
| | 1,500 | 18×25 | 0.021 | 0.063 | 3,530 | EKZN500E□□152MM25S | | 560 | 12.5×35 | 0.026 | 0.078 | 2,600 | EKZN800E□□561MK35S |
| | 1,800 | 16×35.5 | 0.016 | 0.048 | 4,220 | EKZN500E□□182MLP1S | | 680 | 16×25 | 0.028 | 0.084 | 2,430 | EKZN800E□□681ML25S |
| | 2,200 | 16×40 | 0.014 | 0.042 | 4,500 | EKZN500E□□222ML40S | | 680 | 18×20 | 0.032 | 0.096 | 2,270 | EKZN800E□□681MM20S |
| | 2,200 | 18×31.5 | 0.016 | 0.048 | 4,080 | EKZN500E□□222MMN3S | | 820 | 16×31.5 | 0.022 | 0.066 | 2,640 | EKZN800E□□821MLN3S |
| | 2,700 | 18×35.5 | 0.013 | 0.039 | 4,270 | EKZN500E□□272MMP1S | | 820 | 18×25 | 0.027 | 0.081 | 2,500 | EKZN800E□□821MM25S |
| | 3,300 | 18×40 | 0.012 | 0.036 | 4,850 | EKZN500E□□332MM40S | | 1,000 | 16×35.5 | 0.020 | 0.060 | 2,860 | EKZN800E□□102MLP1S |
| 63 | 18 | 5×11 | 0.52 | 2.3 | 240 | EKZN630E□□180ME11D | 1,200 | 16×40 | 0.018 | 0.054 | 3,510 | EKZN800E□□122ML40S | |
| | 39 | 6.3×11 | 0.24 | 1.1 | 420 | EKZN630E□□390MF11D | 1,200 | 18×31.5 | 0.020 | 0.060 | 2,860 | EKZN800E□□122MMN3S | |
| | 68 | 8×11.5 | 0.15 | 0.68 | 720 | EKZN630E□□680MHB5D | 1,500 | 18×35.5 | 0.018 | 0.054 | 3,510 | EKZN800E□□152MMP1S | |
| | 100 | 8×15 | 0.10 | 0.45 | 990 | EKZN630E□□101MH15D | 1,800 | 18×40 | 0.017 | 0.051 | 3,860 | EKZN800E□□182MM40S | |
| | 120 | 8×20 | 0.077 | 0.35 | 1,200 | EKZN630E□□121MH20D | 100 | 8.2 | 5×11 | 0.72 | 3.2 | 220 | EKZN101E□□8R2ME11D |
| | 120 | 10×12.5 | 0.090 | 0.36 | 990 | EKZN630E□□121MJC5S | | 18 | 6.3×11 | 0.34 | 1.5 | 370 | EKZN101E□□180MF11D |
| | 180 | 10×16 | 0.061 | 0.25 | 1,200 | EKZN630E□□181MJ16S | | 33 | 8×11.5 | 0.20 | 0.90 | 620 | EKZN101E□□330MHB5D |
| | 270 | 10×20 | 0.045 | 0.18 | 1,570 | EKZN630E□□271MJ20S | | 47 | 8×15 | 0.14 | 0.63 | 780 | EKZN101E□□470MH15D |
| | 270 | 12.5×16 | 0.058 | 0.18 | 1,570 | EKZN630E□□271MK16S | | 56 | 8×20 | 0.12 | 0.54 | 1,040 | EKZN101E□□560MH20D |
| | 330 | 10×25 | 0.037 | 0.12 | 1,990 | EKZN630E□□331MJ25S | | 56 | 10×12.5 | 0.14 | 0.56 | 780 | EKZN101E□□560MJC5S |
| | 390 | 12.5×20 | 0.033 | 0.10 | 1,990 | EKZN630E□□391MK20S | | 82 | 10×16 | 0.090 | 0.36 | 1,040 | EKZN101E□□820MJ16S |
| | 560 | 12.5×25 | 0.026 | 0.080 | 2,460 | EKZN630E□□561MK25S | | 100 | 10×20 | 0.068 | 0.28 | 1,430 | EKZN101E□□101MJ20S |
| | 680 | 12.5×30 | 0.024 | 0.075 | 2,760 | EKZN630E□□681MK30S | | 120 | 12.5×16 | 0.090 | 0.27 | 1,430 | EKZN101E□□121MK16S |
| | 680 | 16×20 | 0.027 | 0.085 | 2,380 | EKZN630E□□681ML20S | | 150 | 10×25 | 0.055 | 0.22 | 1,620 | EKZN101E□□151MJ25S |
| | 820 | 12.5×35 | 0.022 | 0.068 | 3,040 | EKZN630E□□821MK35S | | 180 | 12.5×20 | 0.048 | 0.15 | 1,750 | EKZN101E□□181MK20S |
| | 820 | 18×20 | 0.026 | 0.078 | 2,530 | EKZN630E□□821MM20S | | 220 | 12.5×25 | 0.038 | 0.12 | 2,210 | EKZN101E□□221MK25S |
| 1,000 | 16×25 | 0.024 | 0.072 | 2,890 | EKZN630E□□102ML25S | 270 | | 12.5×30 | 0.033 | 0.11 | 2,400 | EKZN101E□□271MK30S | |
| 1,200 | 16×31.5 | 0.020 | 0.060 | 3,280 | EKZN630E□□122MLN3S | 270 | | 16×20 | 0.036 | 0.12 | 1,950 | EKZN101E□□271ML20S | |
| 1,200 | 18×25 | 0.022 | 0.066 | 2,930 | EKZN630E□□122MM25S | 390 | | 12.5×35 | 0.026 | 0.078 | 2,600 | EKZN101E□□391MK35S | |
| 1,500 | 16×35.5 | 0.018 | 0.054 | 3,440 | EKZN630E□□152MLP1S | 390 | | 16×25 | 0.028 | 0.084 | 2,430 | EKZN101E□□391ML25S | |
| 1,500 | 18×31.5 | 0.018 | 0.054 | 3,380 | EKZN630E□□152MMN3S | 390 | 18×20 | 0.032 | 0.096 | 2,270 | EKZN101E□□391MM20S | | |
| 1,800 | 16×40 | 0.016 | 0.048 | 3,690 | EKZN630E□□182ML40S | 470 | 16×31.5 | 0.022 | 0.066 | 2,640 | EKZN101E□□471MLN3S | | |
| 1,800 | 18×35.5 | 0.017 | 0.051 | 3,550 | EKZN630E□□182MMP1S | 560 | 16×35.5 | 0.020 | 0.060 | 2,860 | EKZN101E□□561MMP1S | | |
| 2,200 | 18×40 | 0.015 | 0.045 | 3,930 | EKZN630E□□222MM40S | 560 | 18×25 | 0.027 | 0.081 | 2,500 | EKZN101E□□561MM25S | | |
| 80 | 12 | 5×11 | 0.72 | 3.2 | 220 | EKZN800E□□120ME11D | 680 | 16×40 | 0.018 | 0.054 | 3,510 | EKZN101E□□681ML40S | |
| | 27 | 6.3×11 | 0.34 | 1.5 | 370 | EKZN800E□□270MF11D | 680 | 18×31.5 | 0.020 | 0.060 | 2,860 | EKZN101E□□681MMN3S | |
| | 47 | 8×11.5 | 0.20 | 0.90 | 620 | EKZN800E□□470MHB5D | 820 | 18×35.5 | 0.018 | 0.054 | 3,510 | EKZN101E□□821MMP1S | |
| | 68 | 8×15 | 0.14 | 0.63 | 780 | EKZN800E□□680MH15D | 1,000 | 18×40 | 0.017 | 0.051 | 3,860 | EKZN101E□□102MM40S | |

□□ : 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.