

KXL Series

- Ideal for low profile power supply applications
- Downsizing from KXJ series
- Rated voltage range : 400 to 450V_{dc}, Capacitance range : 15 to 150μF
- Endurance with ripple current : 10,000 to 12,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant



◆ SPECIFICATIONS

| Items | Characteristics | |
|---|---|--------------------------------------|
| Category | -40 to +105°C | |
| Temperature Range | -40 to +105°C | |
| Rated Voltage Range | 400 to 450V _{dc} | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | |
| Leakage Current | I=0.04CV+100 (after 1 minute) I=0.02CV+25 (after 5 minutes) Where, I : Max. leakage current(μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C) | |
| Dissipation Factor (tan δ) | Rated voltage (V _{dc}) | 400 to 450V |
| | tan δ (Max.) | 0.24 (at 20°C, 120Hz) |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V _{dc}) | 400 to 450V |
| | Z(-25°C)/Z(+20°C) | 6 |
| | Z(-40°C)/Z(+20°C) | 10 (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 12,000 hours (10,000 hours for 20L) at 105°C. | |
| | Capacitance change | ≤ ±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°C after exposing them for 1,000 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 | ≤ ±20% of the initial value |
| | D.F. (tan δ) | ≤200% of the initial specified value |
| | Leakage current | ≤500% of the initial specified value |

◆ DIMENSIONS [mm]

- Terminal Code : E



| φD | 10 | 12.5 | 14.5 | 16 | 18 |
|-----|-------------|------|------|-----|-----|
| φd | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 |
| F | 5.0 | 5.0 | 7.5 | 7.5 | 7.5 |
| φD' | φD+0.5 max. | | | | |
| L' | L+2.0 max. | | | | |

◆ PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mA _{rms} /105°C, 120Hz) | Part No. | WV (V _{dc}) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mA _{rms} /105°C, 120Hz) | Part No. |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|----------|--------------------|--------------------|--|--------------------|
| | | | | | | | | | | | |
| 400 | 18 | 10×20 | 0.24 | 220 | EKXL401E□□180MJ20S | 450 | 15 | 10×20 | 0.24 | 190 | EKXL451E□□150MJ20S |
| | 22 | 10×25 | 0.24 | 250 | EKXL401E□□220MJ25S | | 18 | 10×25 | 0.24 | 230 | EKXL451E□□180MJ25S |
| | 27 | 12.5×20 | 0.24 | 300 | EKXL401E□□270MK20S | | 27 | 10×30 | 0.24 | 300 | EKXL451E□□270MJ30S |
| | 33 | 10×30 | 0.24 | 340 | EKXL401E□□330MJ30S | | 27 | 12.5×20 | 0.24 | 290 | EKXL451E□□270MK20S |
| | 39 | 10×35 | 0.24 | 390 | EKXL401E□□390MJ35S | | 33 | 10×35 | 0.24 | 350 | EKXL451E□□330MJ35S |
| | 39 | 12.5×25 | 0.24 | 390 | EKXL401E□□390MK25S | | 33 | 12.5×25 | 0.24 | 360 | EKXL451E□□330MK25S |
| | 39 | 14.5×20 | 0.24 | 370 | EKXL401E□□390MU20S | | 33 | 14.5×20 | 0.24 | 335 | EKXL451E□□330MU20S |
| | 47 | 10×40 | 0.24 | 440 | EKXL401E□□470MJ40S | | 39 | 10×40 | 0.24 | 400 | EKXL451E□□390MJ40S |
| | 56 | 10×45 | 0.24 | 500 | EKXL401E□□560MJ45S | | 39 | 16×20 | 0.24 | 400 | EKXL451E□□390ML20S |
| | 56 | 12.5×30 | 0.24 | 495 | EKXL401E□□560MK30S | | 47 | 10×50 | 0.24 | 480 | EKXL451E□□470MJ50S |
| | 56 | 14.5×25 | 0.24 | 495 | EKXL401E□□560MU25S | | 47 | 12.5×30 | 0.24 | 440 | EKXL451E□□470MK30S |
| | 56 | 16×20 | 0.24 | 480 | EKXL401E□□560ML20S | | 47 | 14.5×25 | 0.24 | 450 | EKXL451E□□470MU25S |
| | 68 | 12.5×35 | 0.24 | 570 | EKXL401E□□680MK35S | | 56 | 12.5×35 | 0.24 | 500 | EKXL451E□□560MK35S |
| | 68 | 14.5×30 | 0.24 | 585 | EKXL401E□□680MU30S | | 56 | 14.5×30 | 0.24 | 540 | EKXL451E□□560MU30S |
| | 68 | 16×25 | 0.24 | 570 | EKXL401E□□680ML25S | | 56 | 16×25 | 0.24 | 500 | EKXL451E□□560ML25S |
| | 68 | 18×20 | 0.24 | 530 | EKXL401E□□680MM20S | | 56 | 18×20 | 0.24 | 500 | EKXL451E□□560MM20S |
| | 82 | 12.5×40 | 0.24 | 650 | EKXL401E□□820MK40S | | 68 | 12.5×40 | 0.24 | 580 | EKXL451E□□680MK40S |
| | 82 | 14.5×35 | 0.24 | 670 | EKXL401E□□820MU35S | | 68 | 14.5×35 | 0.24 | 620 | EKXL451E□□680MU35S |
| | 100 | 12.5×50 | 0.24 | 760 | EKXL401E□□101MK50S | | 82 | 12.5×50 | 0.24 | 680 | EKXL451E□□820MK50S |
| | 100 | 14.5×40 | 0.24 | 760 | EKXL401E□□101MU40S | | 82 | 14.5×40 | 0.24 | 670 | EKXL451E□□820MU40S |
| 100 | 16×30 | 0.24 | 720 | EKXL401E□□101ML30S | 82 | 16×30 | 0.24 | 650 | EKXL451E□□820ML30S | | |
| 100 | 18×25 | 0.24 | 710 | EKXL401E□□101MM25S | 82 | 18×25 | 0.24 | 650 | EKXL451E□□820MM25S | | |
| 120 | 14.5×45 | 0.24 | 840 | EKXL401E□□121MU45S | 100 | 14.5×45 | 0.24 | 760 | EKXL451E□□101MU45S | | |
| 120 | 16×35 | 0.24 | 810 | EKXL401E□□121ML35S | 100 | 16×35 | 0.24 | 730 | EKXL451E□□101ML35S | | |
| 120 | 18×30 | 0.24 | 840 | EKXL401E□□121MM30S | 100 | 18×30 | 0.24 | 750 | EKXL451E□□101MM30S | | |
| 150 | 18×35 | 0.24 | 930 | EKXL401E□□151MM35S | 120 | 18×35 | 0.24 | 860 | EKXL451E□□121MM35S | | |
| 420 | 15 | 10×20 | 0.24 | 195 | EKXL421E□□150MJ20S | | | | | | |
| | 22 | 10×25 | 0.24 | 250 | EKXL421E□□220MJ25S | | | | | | |
| | 27 | 10×30 | 0.24 | 300 | EKXL421E□□270MJ30S | | | | | | |
| | 27 | 12.5×20 | 0.24 | 300 | EKXL421E□□270MK20S | | | | | | |
| | 33 | 10×35 | 0.24 | 350 | EKXL421E□□330MJ35S | | | | | | |
| | 33 | 12.5×25 | 0.24 | 350 | EKXL421E□□330MK25S | | | | | | |
| | 33 | 14.5×20 | 0.24 | 350 | EKXL421E□□330MU20S | | | | | | |
| | 39 | 10×40 | 0.24 | 400 | EKXL421E□□390MJ40S | | | | | | |
| | 47 | 10×45 | 0.24 | 460 | EKXL421E□□470MJ45S | | | | | | |
| | 47 | 12.5×30 | 0.24 | 440 | EKXL421E□□470MK30S | | | | | | |
| | 47 | 16×20 | 0.24 | 430 | EKXL421E□□470ML20S | | | | | | |
| | 56 | 10×50 | 0.24 | 520 | EKXL421E□□560MJ50S | | | | | | |
| | 56 | 12.5×35 | 0.24 | 510 | EKXL421E□□560MK35S | | | | | | |
| | 56 | 14.5×25 | 0.24 | 490 | EKXL421E□□560MU25S | | | | | | |
| | 68 | 12.5×40 | 0.24 | 580 | EKXL421E□□680MK40S | | | | | | |
| | 68 | 14.5×30 | 0.24 | 560 | EKXL421E□□680MU30S | | | | | | |
| | 68 | 16×25 | 0.24 | 560 | EKXL421E□□680ML25S | | | | | | |
| | 68 | 18×20 | 0.24 | 540 | EKXL421E□□680MM20S | | | | | | |
| | 82 | 12.5×45 | 0.24 | 660 | EKXL421E□□820MK45S | | | | | | |
| | 82 | 14.5×35 | 0.24 | 660 | EKXL421E□□820MU35S | | | | | | |
| 82 | 16×30 | 0.24 | 650 | EKXL421E□□820ML30S | | | | | | | |
| 82 | 18×25 | 0.24 | 640 | EKXL421E□□820MM25S | | | | | | | |
| 100 | 12.5×50 | 0.24 | 750 | EKXL421E□□101MK50S | | | | | | | |
| 100 | 14.5×40 | 0.24 | 720 | EKXL421E□□101MU40S | | | | | | | |
| 100 | 16×35 | 0.24 | 730 | EKXL421E□□101ML35S | | | | | | | |
| 120 | 16×40 | 0.24 | 840 | EKXL421E□□121ML40S | | | | | | | |
| 120 | 18×30 | 0.24 | 800 | EKXL421E□□121MM30S | | | | | | | |

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

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | 120 | 1k | 10k | 100k |
|-----------------|---------------|------|------|------|------|
| 15 to 82 | | 1.00 | 1.75 | 2.25 | 2.50 |
| 100 to 150 | | 1.00 | 1.67 | 2.05 | 2.25 |

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.