

**VXK** SERIES

**UPGRADE**
**105°C 5000 hours, Ultra Miniaturized**

• Load Life : 105°C 5000 hours.

 RoHS  
compliance

**◆SPECIFICATIONS**

| Items                                          | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------|-----------------------------------|------|--------------------|--------------------------------------------|--|-----------------|------------------------------------|--|
| Category Temperature Range                     | -25~+105℃                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Rated Voltage Range                            | 400~500Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Capacitance Tolerance                          | ±20%(20℃,120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Leakage Current(MAX)                           | I= 3√CV (After 5 minutes application of rated voltage)<br>I=Leakage Current(μ A)     C=Capacitance(μ F)     V=Rated Voltage(Vdc)                                                                                                                                                                                                                                                                                                          |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Dissipation Factor(MAX)                        | <table><tr><td>Rated Voltage (Vdc)</td><td>400~450</td><td>475, 500</td></tr><tr><td>tanδ</td><td>0.20</td><td>0.25</td></tr></table>                                                                                                                                                                                                                                                                                                     | Rated Voltage (Vdc) | 400~450 | 475, 500           | tanδ                              | 0.20 | 0.25               | (20℃,120Hz)                                |  |                 |                                    |  |
| Rated Voltage (Vdc)                            | 400~450                                                                                                                                                                                                                                                                                                                                                                                                                                   | 475, 500            |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| tanδ                                           | 0.20                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.25                |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Endurance                                      | After applying rated voltage with rated ripple current for 5000 hours at 105℃, the capacitors shall meet the following requirements. <table><tr><td>Capacitance Change</td><td colspan="2">Within ±20% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td colspan="2">Not more than 200% of the specified value.</td></tr><tr><td>Leakage Current</td><td colspan="2">Not more than the specified value.</td></tr></table> |                     |         | Capacitance Change | Within ±20% of the initial value. |      | Dissipation Factor | Not more than 200% of the specified value. |  | Leakage Current | Not more than the specified value. |  |
| Capacitance Change                             | Within ±20% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                         |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Dissipation Factor                             | Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                                |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Leakage Current                                | Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                        |                     |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Low Temperature Stability Impedance Ratio(MAX) | <table><tr><td>Rated Voltage (Vdc)</td><td>400~450</td><td>475, 500</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>8</td><td>12</td></tr></table>                                                                                                                                                                                                                                                                                                | Rated Voltage (Vdc) | 400~450 | 475, 500           | Z(-25℃)/Z(20℃)                    | 8    | 12                 | (120Hz)                                    |  |                 |                                    |  |
| Rated Voltage (Vdc)                            | 400~450                                                                                                                                                                                                                                                                                                                                                                                                                                   | 475, 500            |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Z(-25℃)/Z(20℃)                                 | 8                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12                  |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |

**◆MULTIPLIER FOR RIPPLE CURRENT**

|                |        |          |      |      |      |      |
|----------------|--------|----------|------|------|------|------|
| Frequency (Hz) | 60(50) | 120(100) | 300  | 500  | 1k   | 10k≤ |
| Coefficient    | 0.80   | 1.00     | 1.15 | 1.20 | 1.25 | 1.40 |

**◆OPTION**

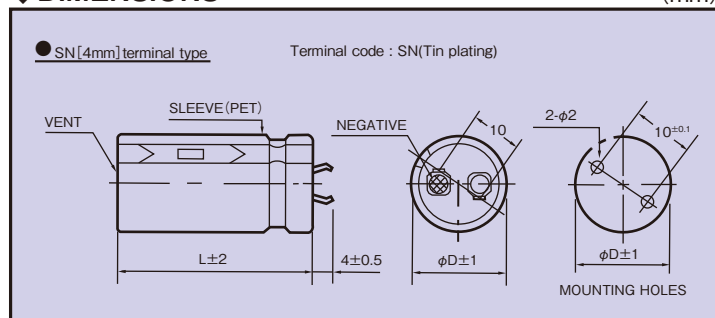
|                          |      |
|--------------------------|------|
|                          | Code |
| PET Sleeve without plate | EFC  |

**◆PART NUMBER**

|               |        |             |                       |        |               |           |
|---------------|--------|-------------|-----------------------|--------|---------------|-----------|
| □□□           | VXK    | □□□□□       | M                     | □□□    | SN            | D×L       |
| Rated Voltage | Series | Capacitance | Capacitance Tolerance | Option | Terminal Code | Case Size |

**◆DIMENSIONS**

(mm)



**◆STANDARD SIZE**

| Vdc<br>Cap(μF)<br>φD | 400   |      |       |      |       |      |       |      | 420   |      |       |      |       |       |       |      |
|----------------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|------|
|                      | φ22   |      | φ25   |      | φ30   |      | φ35   |      | φ22   |      | φ25   |      | φ30   |       | φ35   |      |
| 120                  |       |      |       |      |       |      |       |      | 22×25 | 0.92 |       |      |       |       |       |      |
| 150                  | 22×25 | 1.01 |       |      |       |      |       |      | 22×30 | 1.08 |       |      |       |       |       |      |
| 180                  | 22×30 | 1.17 | 25×25 | 1.13 |       |      |       |      | 22×30 | 1.16 | 25×25 | 1.12 |       |       |       |      |
|                      |       |      |       |      |       |      |       |      | 22×35 | 1.23 |       |      |       |       |       |      |
| 220                  | 22×35 | 1.33 | 25×30 | 1.31 |       |      |       |      | 22×35 | 1.33 | 25×30 | 1.30 |       |       |       |      |
|                      |       |      |       |      |       |      |       |      | 22×40 | 1.40 |       |      |       |       |       |      |
| 270                  | 22×40 | 1.52 | 25×30 | 1.40 | 30×25 | 1.33 |       |      | 22×40 | 1.51 | 25×35 | 1.49 | 30×25 | 1.32  |       |      |
|                      |       |      | 25×35 | 1.50 |       |      |       |      | 22×45 | 1.58 |       |      |       |       |       |      |
| 330                  | 22×45 | 1.71 | 25×35 | 1.61 | 30×30 | 1.55 |       |      | 22×50 | 1.78 | 25×40 | 1.69 | 30×30 | 1.54  | 35×25 | 1.40 |
|                      | 22×50 | 1.78 | 25×40 | 1.70 |       |      |       |      |       |      |       |      |       |       |       |      |
| 390                  | 22×50 | 1.90 | 25×40 | 1.80 | 30×30 | 1.60 | 35×25 | 1.43 | 22×55 | 1.96 | 25×45 | 1.88 | 30×35 | 1.75  | 35×30 | 1.64 |
|                      | 22×55 | 1.97 | 25×45 | 1.89 |       |      |       |      | 22×60 | 2.02 |       |      |       |       |       |      |
| 470                  | 22×60 | 2.18 | 25×50 | 2.10 | 30×35 | 1.82 | 35×30 | 1.68 |       |      | 25×50 | 2.10 | 30×40 | 1.96  | 35×30 | 1.70 |
|                      |       |      |       |      |       |      |       |      |       |      | 25×55 | 2.17 |       | 35×35 | 1.85  |      |
| 560                  |       |      | 25×55 | 2.31 | 30×40 | 2.04 | 35×35 | 1.92 |       |      | 25×60 | 2.40 | 30×45 | 2.20  | 35×35 | 1.94 |
|                      |       |      |       |      |       |      |       |      |       |      |       |      | 30×50 | 2.29  | 35×40 | 2.07 |
| 680                  |       |      |       |      | 30×45 | 2.31 | 35×35 | 2.00 |       |      |       |      | 30×50 | 2.43  | 35×40 | 2.17 |
|                      |       |      |       |      | 30×50 | 2.42 | 35×40 | 2.15 |       |      |       |      | 30×55 | 2.51  | 35×45 | 2.29 |
| 820                  |       |      |       |      | 30×55 | 2.64 | 35×45 | 2.37 |       |      |       |      |       |       | 35×45 | 2.41 |
|                      |       |      |       |      |       |      |       |      |       |      |       |      |       |       | 35×50 | 2.50 |
| 1000                 |       |      |       |      |       |      | 35×50 | 2.58 |       |      |       |      |       |       | 35×60 | 2.89 |
| 1200                 |       |      |       |      |       |      | 35×60 | 2.95 |       |      |       |      |       |       |       |      |

| Vdc<br>Cap(μF)<br>φD | 450   |      |       |      |       |      |       |      | 475   |      |       |      |       |      |       |      |
|----------------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
|                      | φ22   |      | φ25   |      | φ30   |      | φ35   |      | φ22   |      | φ25   |      | φ30   |      | φ35   |      |
| 82                   |       |      |       |      |       |      |       |      | 22×25 | 0.74 |       |      |       |      |       |      |
| 100                  |       |      |       |      |       |      |       |      | 22×30 | 0.84 | 25×25 | 0.85 |       |      |       |      |
| 120                  | 22×25 | 0.93 |       |      |       |      |       |      | 22×30 | 0.91 | 25×30 | 0.95 |       |      |       |      |
| 150                  | 22×30 | 1.09 | 25×25 | 1.06 |       |      |       |      | 22×35 | 1.05 | 25×30 | 1.04 | 30×25 | 1.05 |       |      |
| 180                  | 22×35 | 1.24 | 25×30 | 1.22 |       |      |       |      | 22×40 | 1.19 | 25×35 | 1.19 | 30×30 | 1.19 |       |      |
| 220                  | 22×40 | 1.41 | 25×30 | 1.31 | 30×25 | 1.26 |       |      | 22×45 | 1.34 | 25×40 | 1.35 | 30×30 | 1.28 | 35×25 | 1.22 |
|                      |       |      | 25×35 | 1.39 |       |      |       |      |       |      |       |      |       |      |       |      |
| 270                  | 22×45 | 1.59 | 25×35 | 1.50 | 30×30 | 1.46 | 35×25 | 1.35 | 22×55 | 1.56 | 25×45 | 1.52 | 30×35 | 1.47 | 35×30 | 1.43 |
|                      | 22×50 | 1.65 | 25×40 | 1.58 |       |      |       |      |       |      |       |      |       |      |       |      |
| 330                  | 22×55 | 1.85 | 25×45 | 1.78 | 30×30 | 1.55 | 35×25 | 1.41 |       |      | 25×50 | 1.71 | 30×40 | 1.66 | 35×30 | 1.50 |
|                      |       |      |       |      | 30×35 | 1.67 | 35×30 | 1.58 |       |      |       |      |       |      |       |      |
| 390                  | 22×60 | 2.03 | 25×50 | 1.97 | 30×35 | 1.75 | 35×30 | 1.61 |       |      | 25×60 | 1.95 | 30×40 | 1.75 | 35×35 | 1.70 |
|                      |       |      |       |      | 30×40 | 1.87 |       |      |       |      |       |      |       |      |       |      |
| 470                  |       |      | 25×55 | 2.18 | 30×40 | 1.97 | 35×35 | 1.84 |       |      |       |      | 30×50 | 2.04 | 35×40 | 1.90 |
|                      |       |      | 25×60 | 2.26 | 30×45 | 2.08 |       |      |       |      |       |      |       |      |       |      |
| 560                  |       |      |       |      | 30×50 | 2.29 | 35×40 | 2.06 |       |      |       |      | 30×60 | 2.33 | 35×45 | 2.11 |
| 680                  |       |      |       |      | 30×55 | 2.54 | 35×45 | 2.28 |       |      |       |      |       |      | 35×55 | 2.45 |
|                      |       |      |       |      | 30×60 | 2.63 |       |      |       |      |       |      |       |      |       |      |
| 820                  |       |      |       |      |       |      | 35×50 | 2.55 |       |      |       |      |       |      |       |      |
|                      |       |      |       |      |       |      | 35×55 | 2.66 |       |      |       |      |       |      |       |      |
| 1000                 |       |      |       |      |       |      | 35×60 | 2.93 |       |      |       |      |       |      |       |      |

| Vdc<br>Cap(μF)<br>φD | 500   |      |       |      |       |      |       |      |
|----------------------|-------|------|-------|------|-------|------|-------|------|
|                      | φ22   |      | φ25   |      | φ30   |      | φ35   |      |
| 68                   | 22×25 | 0.69 |       |      |       |      |       |      |
| 82                   | 22×30 | 0.77 |       |      |       |      |       |      |
| 100                  | 22×30 | 0.85 |       |      |       |      |       |      |
| 120                  | 22×35 | 0.96 | 25×30 | 0.96 |       |      |       |      |
| 150                  | 22×40 | 1.11 | 25×30 | 1.06 |       |      |       |      |
| 180                  | 22×45 | 1.25 | 25×35 | 1.20 | 30×30 | 1.20 | 35×25 | 1.16 |
| 220                  | 22×50 | 1.40 | 25×40 | 1.36 | 30×30 | 1.29 | 35×30 | 1.35 |
| 270                  | 22×60 | 1.62 | 25×50 | 1.60 | 30×35 | 1.48 | 35×30 | 1.43 |
| 330                  |       |      | 25×55 | 1.78 | 30×40 | 1.67 | 35×35 | 1.63 |
| 390                  |       |      |       |      | 30×45 | 1.85 | 35×40 | 1.82 |
| 470                  |       |      |       |      | 30×55 | 2.14 | 35×45 | 2.02 |
| 560                  |       |      |       |      | 30v60 | 2.34 | 35×50 | 2.23 |
| 680                  |       |      |       |      |       |      | 35×55 | 2.44 |

↑ Ripple Current (A r.m.s./120Hz, 105°C)  
Case Size φD×L(mm)

# Mouser Electronics

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Электрон  
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