

AX SERIES

105°C Ultra Miniaturized

- Load Life: 105°C, 1000~2000 hours.
- Suitable for AC-adaptor of portable device.

RoHS  
compliance



◆SPECIFICATIONS

| Items                                             | Characteristics                                                                                                                          |      |                                            |      |                                                                                                                                    |      |                      |      |              |                    |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------|------|----------------------|------|--------------|--------------------|
| Category Temperature Range                        | -40~+105℃                                                                                                                                |      |                                            |      |                                                                                                                                    |      |                      |      |              |                    |
| Rated Voltage Range                               | 6.3~35, 400Vdc                                                                                                                           |      |                                            |      |                                                                                                                                    |      |                      |      |              |                    |
| Capacitance Tolerance                             | ±20% (20℃, 120Hz)                                                                                                                        |      |                                            |      |                                                                                                                                    |      |                      |      |              |                    |
| Leakage Current(MAX)                              | 6.3~35Vdc                                                                                                                                |      |                                            |      | 400Vdc                                                                                                                             |      |                      |      |              |                    |
|                                                   | I=0.01CV or 3μA whichever is greater.<br>(After 2 minutes application of rated voltage)                                                  |      |                                            |      | I=0.04CV+100μA<br>(After 1 minute application of rated voltage)<br>I=0.02CV+25μA<br>(After 5 minutes application of rated voltage) |      |                      |      |              |                    |
|                                                   | I=Leakage Current(μA)                                                                                                                    |      |                                            |      | C=Capacitance(μF)                                                                                                                  |      | V=Rated Voltage(Vdc) |      |              |                    |
| Dissipation Factor(MAX)<br>(tanδ)                 | Rated Voltage<br>(Vdc)                                                                                                                   | 6.3  | 8                                          | 10   | 16                                                                                                                                 | 25   | 35                   | 400  | (20℃, 120Hz) |                    |
|                                                   | tanδ                                                                                                                                     | 0.22 | 0.20                                       | 0.19 | 0.16                                                                                                                               | 0.14 | 0.12                 | 0.25 |              |                    |
| Endurance                                         | After applying rated voltage with rated ripple current for specified time at 105℃, the capacitors shall meet the following requirements. |      |                                            |      |                                                                                                                                    |      |                      |      |              |                    |
|                                                   | Capacitance Change                                                                                                                       |      | Within ±25% of the initial value.          |      |                                                                                                                                    |      |                      |      | Case Size    | Life Time<br>(hrs) |
|                                                   | Dissipation Factor                                                                                                                       |      | Not more than 200% of the specified value. |      |                                                                                                                                    |      |                      |      | L≤7.5        | 1000               |
|                                                   | Leakage Current                                                                                                                          |      | Not more than the specified value.         |      |                                                                                                                                    |      |                      |      | L≥9          | 2000               |
| Low Temperature Stability<br>Impedance Ratio(MAX) | Rated Voltage<br>(Vdc)                                                                                                                   | 6.3  | 8                                          | 10   | 16                                                                                                                                 | 25   | 35                   | 400  | (120Hz)      |                    |
|                                                   | Z(-25℃)/Z(20℃)                                                                                                                           | 2    | 2                                          | 2    | 2                                                                                                                                  | 2    | 2                    | 6    |              |                    |
|                                                   | Z(-40℃)/Z(20℃)                                                                                                                           | 12   | 12                                         | 12   | 10                                                                                                                                 | 8    | 6                    | 10   |              |                    |

◆MULTIPLIER FOR RIPPLE CURRENT

6.3~35Vdc

| Frequency (Hz) |            | 120  | 1k   | 10k  | 100k≤ |
|----------------|------------|------|------|------|-------|
| Coefficient    | 68~82uF    | 0.21 | 0.73 | 0.92 | 1.00  |
|                | 150~270uF  | 0.36 | 0.73 | 0.92 | 1.00  |
|                | 330~750uF  | 0.55 | 0.77 | 0.94 | 1.00  |
|                | 820~1200uF | 0.60 | 0.80 | 0.96 | 1.00  |

400Vdc

| Frequency (Hz) |           | 60(50) | 120  | 500  | 1k   | 10k≤ |
|----------------|-----------|--------|------|------|------|------|
| Coefficient    | 4.7~8.2μF | 0.65   | 1.00 | 1.20 | 1.30 | 1.50 |
|                | 10~24μF   | 0.80   | 1.00 | 1.20 | 1.30 | 1.50 |

◆OPTION

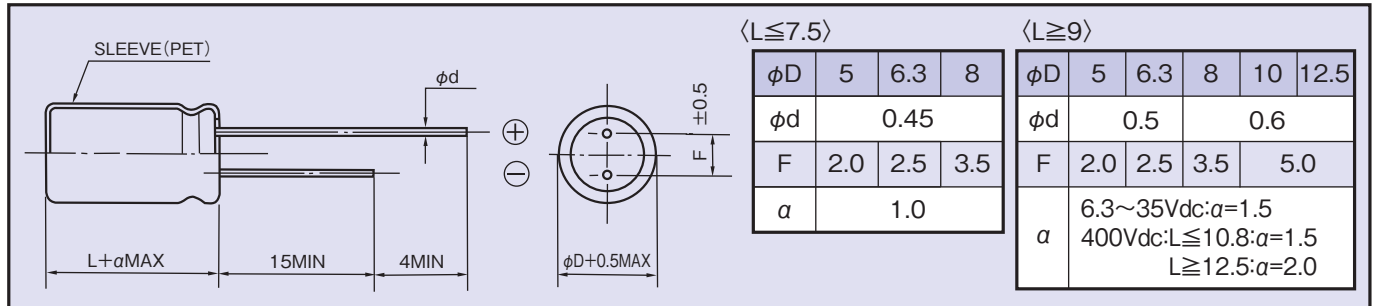
|            | Code |
|------------|------|
| PET Sleeve | EFC  |

◆PART NUMBER

□□□    AX    □□□    M    □□□    □□    D×L  
 Rated Voltage    Series    Capacitance    Capacitance Tolerance    Option    Lead Forming    Case Size

◆DIMENSIONS

(mm)



◆STANDARD SIZE

| Rated Voltage (Vdc) | Capacitance ( $\mu\text{F}$ ) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX/20°C, 100kHz) |
|---------------------|-------------------------------|-----------------------------|------------------------------------------------|----------------------------------------|
| 6.3                 | 82                            | 5×7                         | 510                                            | 0.25                                   |
|                     | 220                           | 5×11                        | 800                                            | 0.14                                   |
|                     |                               | 6.3×7                       | 720                                            | 0.13                                   |
|                     | 470                           | 6.3×11                      | 1140                                           | 0.067                                  |
|                     |                               | 8×7.5                       | 1080                                           | 0.065                                  |
|                     | 680                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 820                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 1000                          | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 1200                          | 10×12.5                     | 1970                                           | 0.025                                  |
| 8                   | 75                            | 5×7                         | 510                                            | 0.25                                   |
|                     | 200                           | 5×11                        | 800                                            | 0.14                                   |
|                     |                               | 6.3×7                       | 720                                            | 0.13                                   |
|                     | 390                           | 8×7.5                       | 1080                                           | 0.065                                  |
|                     | 430                           | 6.3×11                      | 1140                                           | 0.067                                  |
|                     | 620                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 750                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 910                           | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 1100                          | 10×12.5                     | 1970                                           | 0.025                                  |
| 10                  | 68                            | 5×7                         | 510                                            | 0.25                                   |
|                     | 180                           | 5×11                        | 800                                            | 0.14                                   |
|                     |                               | 6.3×7                       | 720                                            | 0.13                                   |
|                     | 330                           | 8×7.5                       | 1080                                           | 0.065                                  |
|                     | 390                           | 6.3×11                      | 1140                                           | 0.067                                  |
|                     | 560                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 680                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 820                           | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 1000                          | 10×12.5                     | 1970                                           | 0.025                                  |

| Rated Voltage (Vdc) | Capacitance ( $\mu\text{F}$ ) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX/20°C, 100kHz) |
|---------------------|-------------------------------|-----------------------------|------------------------------------------------|----------------------------------------|
| 16                  | 390                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 470                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 560                           | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 680                           | 10×12.5                     | 1970                                           | 0.025                                  |
|                     | 1000                          | 10×16                       | 2480                                           | 0.019                                  |
| 25                  | 220                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 270                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 390                           | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 470                           | 10×12.5                     | 1970                                           | 0.025                                  |
|                     | 680                           | 10×16                       | 2480                                           | 0.019                                  |
| 35                  | 150                           | 8×9                         | 1360                                           | 0.049                                  |
|                     | 180                           | 8×10.8                      | 1600                                           | 0.042                                  |
|                     | 220                           | 8×16                        | 2010                                           | 0.027                                  |
|                     |                               | 10×9                        | 1540                                           | 0.036                                  |
|                     | 270                           | 10×12.5                     | 1970                                           | 0.025                                  |
|                     | 390                           | 10×16                       | 2480                                           | 0.019                                  |

| Rated Voltage (Vdc) | Capacitance ( $\mu\text{F}$ ) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 120Hz) |
|---------------------|-------------------------------|-----------------------------|-----------------------------------------------|
| 400                 | 4.7                           | 6.3×14                      | 50                                            |
|                     |                               | 8×9                         |                                               |
|                     | 6.8                           | 8×10.8                      | 70                                            |
|                     | 7.5                           | 8×10.8                      | 75                                            |
|                     | 8.2                           | 8×16                        | 85                                            |
|                     |                               | 10×9                        |                                               |
|                     | 10                            | 8×16                        | 90                                            |
|                     |                               | 10×12.5                     | 100                                           |
|                     | 12                            | 8×20                        | 120                                           |
|                     |                               | 10×12.5                     | 110                                           |
|                     | 15                            | 8×20                        | 130                                           |
|                     |                               | 10×16                       | 150                                           |
|                     | 18                            | 10×16                       | 150                                           |
|                     | 22                            | 12.5×16                     | 180                                           |
|                     | 24                            | 12.5×16                     | 190                                           |

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