

### Radial Lead Type

Series: M Type : A

#### ■ Features

Endurance: 85°C 2000 h  
Smaller than series SU

Standard

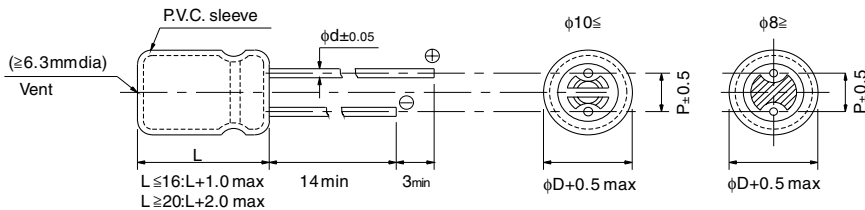
Japan  
Malaysia  
China  
Taiwan



#### ■ Specifications

|                                    |  |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------------------------------------|--|---------------------------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| Category Temp. Range               | -40 to + 85°C  | -25 to + 85°C                         |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Rated W.V. Range                   | 6.3 to 100 V .DC   | 160 to 450 V .DC                      |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Nominal Cap. Range                 | 0.1 to 22000 μ F   | 1.0 to 470 μ F                        |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Capacitance Tolerance              | ±20 % (120Hz/+20°C)  |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |
| DC Leakage Current                 | I ≤ 0.03 CV or 4(μ A) after 1 minutes<br>I ≤ 0.01 CV or 3(μ A) after 2 minutes<br>( Whichever, is greater)   | I ≤ 0.06 CV + 10(μ A) after 2 minutes |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Dissipation Factor                 | Please see the attached standard products list   |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Characteristics at Low Temperature | W.V. (V)   | 6.3                                   | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 |
|                                    | Z(- 25 °C)/<br>Z(+20 °C)   | 5                                     | 4  | 3  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 3   | 5   | 6   | 6   |
|                                    | Z(- 40 °C)/<br>Z(+20 °C)   | 12                                    | 10 | 8  | 5  | 4  | 3  | 3  | 3   | -   | -   | -   | -   | -   | -   |
| Endurance                          | 1. Add 0.5 per 1000 μF for products of 1000 μF or more at -25 °C<br>2. Add 1.0 per 1000 μF for products of 1000 μF or more at -40 °C<br>(Impedance ratio at 120 Hz)                      |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |
|                                    | After applying rated working voltage for 2000 hours at +85°C and then being stabilized at +20°C, capacitor shall meet the following limits.  |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |
|                                    | Capacitance change   | ± 20% of initial measured value       |    |    |    |    |    |    |     |     |     |     |     |     |     |
|                                    | D.F.   | ≤ 150 % of initial specified value    |    |    |    |    |    |    |     |     |     |     |     |     |     |
| Shelf Life                         | DC leakage current   | ≤ initial specified value             |    |    |    |    |    |    |     |     |     |     |     |     |     |
|                                    | After storage for 1000 hours at +85±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in "Endurance".(With voltage treatment) |                                       |    |    |    |    |    |    |     |     |     |     |     |     |     |

#### ■ Dimensions in mm (not to scale)



|              |     |     |     |     |      |     |     |
|--------------|-----|-----|-----|-----|------|-----|-----|
| Body Dia. φD | 5   | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
| Lead Dia. φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6  | 0.8 | 0.8 |
| Lead space P | 2   | 2.5 | 3.5 | 5   | 5    | 7.5 | 7.5 |

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20%)<br>(μF) | Case size    |                | Specification                                |                            | Lead Length       |                  |                      |                      | Part No.     | Min. Packaging Qty      |                 |
|-------------|------------------------|--------------|----------------|--|----------------------------|-------------------|------------------|----------------------|----------------------|--------------|-------------------------|-----------------|
|             |                        | Dia.<br>(mm) | Length<br>(mm) | Ripple current<br>(120Hz)<br>(+85°C)<br>(mA) | D.F.<br>(120Hz)<br>(+20°C) | Lead Dia.<br>(mm) | Lead Space       |                      |                      |              | Straight Leads<br>(pcs) | Taping<br>(pcs) |
|             |                        |              |                |  |                            |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |              |                         |                 |
| 6.3         | 220                    | 5            | 11             | 240  | 0.28                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA0JM221( ) | 200                     | 2000            |
|             | 470                    | 6.3          | 11.2           | 380  | 0.28                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA0JM471( ) | 200                     | 2000            |
|             | 1000                   | 8            | 11.5           | 580  | 0.28                       | 0.6               | 3.5              | 5.0                  |                      | ECA0JM102( ) | 200                     | 1000            |
|             | 2200                   | 10           | 16             | 890  | 0.30                       | 0.6               | 5.0              | 5.0                  |                      | ECA0JM222( ) | 200                     | 500             |
|             | 3300                   | 10           | 20             | 1020   | 0.32                       | 0.6               | 5.0              | 5.0                  |                      | ECA0JM332( ) | 200                     | 500             |
|             | 4700                   | 12.5         | 20             | 1170   | 0.34                       | 0.6               | 5.0              | 5.0                  |                      | ECA0JM472( ) | 200                     | 500             |
|             | 6800                   | 12.5         | 25             | 1270   | 0.38                       | 0.6               | 5.0              | 5.0                  |                      | ECA0JM682( ) | 200                     | 500             |
|             | 10000                  | 16           | 25             | 1450   | 0.46                       | 0.8               | 7.5              | 7.5                  |                      | ECA0JM103( ) | 100                     | 250             |
|             | 15000                  | 16           | 31.5           | 1700   | 0.56                       | 0.8               | 7.5              |                      |                      | ECA0JM153    | 100                     |                 |
|             | 22000                  | 18           | 35.5           | 1900   | 0.70                       | 0.8               | 7.5              |                      |                      | ECA0JM223    | 50                      |                 |
| 10          | 330                    | 6.3          | 11.2           | 330  | 0.24                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1AM331( ) | 200                     | 2000            |
|             | 1000                   | 10           | 12.5           | 630  | 0.24                       | 0.6               | 5.0              | 5.0                  |                      | ECA1AM102( ) | 200                     | 500             |
|             | 2200                   | 10           | 20             | 920  | 0.26                       | 0.6               | 5.0              | 5.0                  |                      | ECA1AM222( ) | 200                     | 500             |
|             | 3300                   | 12.5         | 20             | 1090   | 0.28                       | 0.6               | 5.0              | 5.0                  |                      | ECA1AM332( ) | 200                     | 500             |
|             | 4700                   | 12.5         | 25             | 1200   | 0.30                       | 0.6               | 5.0              | 5.0                  |                      | ECA1AM472( ) | 200                     | 500             |
|             | 6800                   | 16           | 25             | 1400   | 0.34                       | 0.8               | 7.5              | 7.5                  |                      | ECA1AM682( ) | 100                     | 250             |
|             | 10000                  | 16           | 31.5           | 1600   | 0.42                       | 0.8               | 7.5              |                      |                      | ECA1AM103    | 100                     |                 |
|             | 15000                  | 18           | 35.5           | 1850   | 0.52                       | 0.8               | 7.5              |                      |                      | ECA1AM153    | 50                      |                 |
| 16          | 10                     | 5            | 11             | 30   | 0.20                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1CM100( ) | 200                     | 2000            |
|             | 22                     | 5            | 11             | 75   | 0.20                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1CM220( ) | 200                     | 2000            |
|             | 33                     | 5            | 11             | 110  | 0.20                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1CM330( ) | 200                     | 2000            |
|             | 47                     | 5            | 11             | 130  | 0.20                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1CM470( ) | 200                     | 2000            |
|             | 100                    | 5            | 11             | 180  | 0.20                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1CM101( ) | 200                     | 2000            |
|             | 220                    | 6.3          | 11.2           | 280  | 0.20                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1CM221( ) | 200                     | 2000            |
|             | 470                    | 8            | 11.5           | 440  | 0.20                       | 0.6               | 3.5              | 5.0                  |                      | ECA1CM471( ) | 200                     | 1000            |
|             | 1000                   | 10           | 16             | 680  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA1CM102( ) | 200                     | 500             |
|             | 2200                   | 12.5         | 20             | 1000   | 0.22                       | 0.6               | 5.0              | 5.0                  |                      | ECA1CM222( ) | 200                     | 500             |
|             | 3300                   | 12.5         | 25             | 1200   | 0.24                       | 0.6               | 5.0              | 5.0                  |                      | ECA1CM332( ) | 200                     | 500             |
|             | 4700                   | 16           | 25             | 1360   | 0.26                       | 0.8               | 7.5              | 7.5                  |                      | ECA1CM472( ) | 100                     | 250             |
|             | 6800                   | 16           | 31.5           | 1600   | 0.30                       | 0.8               | 7.5              |                      |                      | ECA1CM682    | 100                     |                 |
| 10000       | 18                     | 35.5         | 1800           | 0.38   | 0.8                        | 7.5               |                  |                      | ECA1CM103            | 50           |                         |                 |
| 25          | 100                    | 6.3          | 11.2           | 180  | 0.16                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1EM101( ) | 200                     | 2000            |
|             | 330                    | 8            | 11.5           | 390  | 0.16                       | 0.6               | 3.5              | 5.0                  |                      | ECA1EM331( ) | 200                     | 1000            |
|             | 470                    | 10           | 12.5           | 480  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA1EM471( ) | 200                     | 500             |
|             | 1000                   | 10           | 20             | 850  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA1EM102( ) | 200                     | 500             |
|             | 2200                   | 12.5         | 25             | 1200   | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA1EM222( ) | 200                     | 500             |
|             | 3300                   | 16           | 25             | 1300   | 0.20                       | 0.8               | 7.5              | 7.5                  |                      | ECA1EM332( ) | 100                     | 250             |
|             | 4700                   | 16           | 31.5           | 1500   | 0.22                       | 0.8               | 7.5              |                      |                      | ECA1EM472    | 100                     |                 |
|             | 6800                   | 18           | 35.5           | 1750   | 0.26                       | 0.8               | 7.5              |                      |                      | ECA1EM682    | 50                      |                 |
| 35          | 47                     | 5            | 11             | 130  | 0.14                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1VM470( ) | 200                     | 2000            |
|             | 100                    | 6.3          | 11.2           | 210  | 0.14                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1VM101( ) | 200                     | 2000            |
|             | 220                    | 8            | 11.5           | 350  | 0.14                       | 0.6               | 3.5              | 5.0                  |                      | ECA1VM221( ) | 200                     | 1000            |

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, 7.5mm, i=2.5mm.

Endurance : 85°C 2000h

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20%)<br>(μF) | Case size    |                | Specification                                |                            | Lead Length       |                  |                      |                      | Part No.     | Min. Packaging Qty      |                 |
|-------------|------------------------|--------------|----------------|--|----------------------------|-------------------|------------------|----------------------|----------------------|--------------|-------------------------|-----------------|
|             |                        | Dia.<br>(mm) | Length<br>(mm) | Ripple current<br>(120Hz)<br>(+85°C)<br>(mA) | D.F.<br>(120Hz)<br>(+20°C) | Lead Dia.<br>(mm) | Lead Space       |                      |                      |              | Straight Leads<br>(pcs) | Taping<br>(pcs) |
|             |                        |              |                |  |                            |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |              |                         |                 |
| 35          | 330                    | 10           | 12.5           | 440  | 0.14                       | 0.6               | 5.0              | 5.0                  |                      | ECA1VM331( ) | 200                     | 500             |
|             | 470                    | 10           | 16             | 550  | 0.14                       | 0.6               | 5.0              | 5.0                  |                      | ECA1VM471( ) | 200                     | 500             |
|             | 1000                   | 12.5         | 20             | 900  | 0.14                       | 0.6               | 5.0              | 5.0                  |                      | ECA1VM102( ) | 200                     | 500             |
|             | 2200                   | 16           | 25             | 1250   | 0.16                       | 0.8               | 7.5              | 7.5                  |                      | ECA1VM222( ) | 100                     | 250             |
|             | 3300                   | 16           | 31.5           | 1400   | 0.18                       | 0.8               | 7.5              |                      |                      | ECA1VM332    | 100                     |                 |
|             | 4700                   | 18           | 35.5           | 1600   | 0.20                       | 0.8               | 7.5              |                      |                      | ECA1VM472    | 50                      |                 |
| 50          | 0.10                   | 5            | 11             | 1.3  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM0R1( ) | 200                     | 2000            |
|             | 0.22                   | 5            | 11             | 2.9  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HMR22( ) | 200                     | 2000            |
|             | 0.33                   | 5            | 11             | 4.4  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HMR33( ) | 200                     | 2000            |
|             | 0.47                   | 5            | 11             | 5  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HMR47( ) | 200                     | 2000            |
|             | 1                      | 5            | 11             | 10   | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM010( ) | 200                     | 2000            |
|             | 2.2                    | 5            | 11             | 20   | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM2R2( ) | 200                     | 2000            |
|             | 3.3                    | 5            | 11             | 35   | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM3R3( ) | 200                     | 2000            |
|             | 4.7                    | 5            | 11             | 45   | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM4R7( ) | 200                     | 2000            |
|             | 10                     | 5            | 11             | 65   | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM100( ) | 200                     | 2000            |
|             | 22                     | 5            | 11             | 100  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM220( ) | 200                     | 2000            |
|             | 33                     | 5            | 11             | 110  | 0.12                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1HM330( ) | 200                     | 2000            |
|             | 47                     | 6.3          | 11.2           | 130  | 0.12                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1HM470( ) | 200                     | 2000            |
|             | 100                    | 8            | 11.5           | 250  | 0.12                       | 0.6               | 3.5              | 5.0                  |                      | ECA1HM101( ) | 200                     | 1000            |
|             | 220                    | 10           | 12.5           | 400  | 0.12                       | 0.6               | 5.0              | 5.0                  |                      | ECA1HM221( ) | 200                     | 500             |
|             | 330                    | 10           | 16             | 500  | 0.12                       | 0.6               | 5.0              | 5.0                  |                      | ECA1HM331( ) | 200                     | 500             |
| 470         | 10                     | 20           | 650            | 0.12   | 0.6                        | 5.0               | 5.0              |                      | ECA1HM471( )         | 200          | 500                     |                 |
| 1000        | 12.5                   | 25           | 1050           | 0.12   | 0.6                        | 5.0               | 5.0              |                      | ECA1HM102( )         | 200          | 500                     |                 |
| 2200        | 16                     | 31.5         | 1300           | 0.14   | 0.8                        | 7.5               |                  |                      | ECA1HM222            | 100          |                         |                 |
| 3300        | 18                     | 35.5         | 1500           | 0.16   | 0.8                        | 7.5               |                  |                      | ECA1HM332            | 50           |                         |                 |
| 63          | 10                     | 5            | 11             | 70   | 0.11                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1JM100( ) | 200                     | 2000            |
|             | 22                     | 5            | 11             | 105  | 0.11                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA1JM220( ) | 200                     | 2000            |
|             | 33                     | 6.3          | 11.2           | 130  | 0.11                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1JM330( ) | 200                     | 2000            |
|             | 47                     | 6.3          | 11.2           | 160  | 0.11                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA1JM470( ) | 200                     | 2000            |
|             | 100                    | 8            | 11.5           | 270  | 0.11                       | 0.6               | 3.5              | 5.0                  |                      | ECA1JM101( ) | 200                     | 1000            |
|             | 220                    | 10           | 16             | 450  | 0.11                       | 0.6               | 5.0              | 5.0                  |                      | ECA1JM221( ) | 200                     | 500             |
|             | 330                    | 10           | 20             | 550  | 0.11                       | 0.6               | 5.0              | 5.0                  |                      | ECA1JM331( ) | 200                     | 500             |
|             | 470                    | 12.5         | 20             | 750  | 0.11                       | 0.6               | 5.0              | 5.0                  |                      | ECA1JM471( ) | 200                     | 500             |
|             | 1000                   | 16           | 25             | 1100   | 0.11                       | 0.8               | 7.5              | 7.5                  |                      | ECA1JM102( ) | 100                     | 250             |
| 2200        | 18                     | 35.5         | 1400           | 0.13   | 0.8                        | 7.5               |                  |                      | ECA1JM222            | 50           |                         |                 |
| 100         | 0.47                   | 5            | 11             | 10   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AMR47( ) | 200                     | 2000            |
|             | 1.0                    | 5            | 11             | 20   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AM010( ) | 200                     | 2000            |
|             | 2.2                    | 5            | 11             | 30   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AM2R2( ) | 200                     | 2000            |
|             | 3.3                    | 5            | 11             | 40   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AM3R3( ) | 200                     | 2000            |
|             | 4.7                    | 5            | 11             | 50   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AM4R7( ) | 200                     | 2000            |
|             | 10                     | 5            | 11             | 70   | 0.10                       | 0.5               | 2.0              | 5.0                  | 2.5                  | ECA2AM100( ) | 200                     | 2000            |
|             | 22                     | 6.3          | 11.2           | 115  | 0.10                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2AM220( ) | 200                     | 2000            |

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, 7.5mm, i=2.5mm.

Endurance : 85°C 2000h

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20%)<br>(μF) | Case size    |                | Specification                                |                            | Lead Length       |                  |                      |                      | Part No.     | Min. Packaging Qty      |                 |
|-------------|------------------------|--------------|----------------|--|----------------------------|-------------------|------------------|----------------------|----------------------|--------------|-------------------------|-----------------|
|             |                        | Dia.<br>(mm) | Length<br>(mm) | Ripple current<br>(120Hz)<br>(+85°C)<br>(mA) | D.F.<br>(120Hz)<br>(+20°C) | Lead Dia.<br>(mm) | Lead Space       |                      |                      |              | Straight Leads<br>(pcs) | Taping<br>(pcs) |
|             |                        |              |                |  |                            |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |              |                         |                 |
| 100         | 33                     | 8            | 11.5           | 145  | 0.10                       | 0.6               | 3.5              | 5.0                  |                      | ECA2AM330( ) | 200                     | 1000            |
|             | 47                     | 8            | 11.5           | 180  | 0.10                       | 0.6               | 3.5              | 5.0                  |                      | ECA2AM470( ) | 200                     | 1000            |
|             | 100                    | 10           | 16             | 350  | 0.10                       | 0.6               | 5.0              | 5.0                  |                      | ECA2AM101( ) | 200                     | 500             |
|             | 220                    | 12.5         | 20             | 550  | 0.10                       | 0.6               | 5.0              | 5.0                  |                      | ECA2AM221( ) | 200                     | 500             |
|             | 330                    | 12.5         | 25             | 700  | 0.10                       | 0.6               | 5.0              | 5.0                  |                      | ECA2AM331( ) | 200                     | 500             |
|             | 470                    | 16           | 25             | 900  | 0.10                       | 0.8               | 7.5              | 7.5                  |                      | ECA2AM471( ) | 100                     | 250             |
|             | 1000                   | 18           | 35.5           | 1300   | 0.10                       | 0.8               | 7.5              |                      |                      | ECA2AM102    | 50                      |                 |
| 160         | 1                      | 6.3          | 11.2           | 36   | 0.16                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2CM010( ) | 200                     | 2000            |
|             | 2.2                    | 6.3          | 11.2           | 53   | 0.16                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2CM2R2( ) | 200                     | 2000            |
|             | 3.3                    | 6.3          | 11.2           | 66   | 0.16                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2CM3R3( ) | 200                     | 2000            |
|             | 4.7                    | 6.3          | 11.2           | 78   | 0.16                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2CM4R7( ) | 200                     | 2000            |
|             | 10                     | 10           | 12.5           | 105  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA2CM100( ) | 200                     | 500             |
|             | 22                     | 10           | 16             | 175  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA2CM220( ) | 200                     | 500             |
|             | 33                     | 10           | 20             | 235  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA2CM330( ) | 200                     | 500             |
|             | 47                     | 12.5         | 20             | 320  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA2CM470( ) | 200                     | 500             |
|             | 100                    | 12.5         | 25             | 515  | 0.16                       | 0.6               | 5.0              | 5.0                  |                      | ECA2CM101( ) | 200                     | 500             |
|             | 220                    | 16           | 31.5           | 830  | 0.16                       | 0.8               | 7.5              |                      |                      | ECA2CM221    | 100                     |                 |
|             | 330                    | 18           | 31.5           | 1090   | 0.16                       | 0.8               | 7.5              |                      |                      | ECA2CM331    | 50                      |                 |
| 470         | 18                     | 40           | 1440           | 0.16   | 0.8                        | 7.5               |                  |                      | ECA2CM471            | 50           |                         |                 |
| 200         | 1                      | 6.3          | 11.2           | 34   | 0.18                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2DM010( ) | 200                     | 2000            |
|             | 2.2                    | 6.3          | 11.2           | 50   | 0.18                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2DM2R2( ) | 200                     | 2000            |
|             | 3.3                    | 6.3          | 11.2           | 62   | 0.18                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2DM3R3( ) | 200                     | 2000            |
|             | 4.7                    | 8            | 11.5           | 86   | 0.18                       | 0.6               | 3.5              | 5.0                  |                      | ECA2DM4R7( ) | 200                     | 1000            |
|             | 10                     | 10           | 12.5           | 100  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2DM100( ) | 200                     | 500             |
|             | 22                     | 10           | 20             | 180  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2DM220( ) | 200                     | 500             |
|             | 33                     | 10           | 20             | 220  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2DM330( ) | 200                     | 500             |
|             | 47                     | 12.5         | 20             | 300  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2DM470( ) | 200                     | 500             |
|             | 100                    | 16           | 25             | 475  | 0.18                       | 0.8               | 7.5              | 7.5                  |                      | ECA2DM101( ) | 100                     | 250             |
|             | 220                    | 18           | 31.5           | 835  | 0.18                       | 0.8               | 7.5              |                      |                      | ECA2DM221    | 50                      |                 |
|             | 330                    | 18           | 40             | 1140   | 0.18                       | 0.8               | 7.5              |                      |                      | ECA2DM331    | 50                      |                 |
| 250         | 1                      | 6.3          | 11.2           | 34   | 0.18                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2EM010( ) | 200                     | 2000            |
|             | 2.2                    | 6.3          | 11.2           | 50   | 0.18                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2EM2R2( ) | 200                     | 2000            |
|             | 3.3                    | 8            | 11.5           | 72   | 0.18                       | 0.6               | 3.5              | 5.0                  |                      | ECA2EM3R3( ) | 200                     | 1000            |
|             | 4.7                    | 8            | 11.5           | 86   | 0.18                       | 0.6               | 3.5              | 5.0                  |                      | ECA2EM4R7( ) | 200                     | 1000            |
|             | 10                     | 10           | 16             | 110  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2EM100( ) | 200                     | 500             |
|             | 22                     | 10           | 20             | 180  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2EM220( ) | 200                     | 500             |
|             | 33                     | 12.5         | 20             | 250  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2EM330( ) | 200                     | 500             |
|             | 47                     | 12.5         | 25             | 330  | 0.18                       | 0.6               | 5.0              | 5.0                  |                      | ECA2EM470( ) | 200                     | 500             |
|             | 100                    | 16           | 31.5           | 530  | 0.18                       | 0.8               | 7.5              |                      |                      | ECA2EM101    | 100                     |                 |
| 220         | 18                     | 40           | 930            | 0.18   | 0.8                        | 7.5               |                  |                      | ECA2EM221            | 50           |                         |                 |
| 350         | 1                      | 6.3          | 11.2           | 32   | 0.20                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2VM010( ) | 200                     | 2000            |
|             | 2.2                    | 8            | 11.5           | 55   | 0.20                       | 0.6               | 3.5              | 5.0                  |                      | ECA2VM2R2( ) | 200                     | 1000            |

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, 7.5mm, i=2.5mm.

Endurance : 85°C 2000h

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20%)<br>(μF) | Case size    |                | Specification                                |                            | Lead Length       |                  |                      |                      | Part No.     | Min. Packaging Qty      |                 |
|-------------|------------------------|--------------|----------------|--|----------------------------|-------------------|------------------|----------------------|----------------------|--------------|-------------------------|-----------------|
|             |                        | Dia.<br>(mm) | Length<br>(mm) | Ripple current<br>(120Hz)<br>(+85°C)<br>(mA) | D.F.<br>(120Hz)<br>(+20°C) | Lead Dia.<br>(mm) | Lead Space       |                      |                      |              | Straight Leads<br>(pcs) | Taping<br>(pcs) |
|             |                        |              |                |  |                            |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |              |                         |                 |
| 350         | 3.3                    | 8            | 11.5           | 60   | 0.20                       | 0.6               | 3.5              | 5.0                  |                      | ECA2VM3R3( ) | 200                     | 1000            |
|             | 4.7                    | 10           | 12.5           | 65   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2VM4R7( ) | 200                     | 500             |
|             | 10                     | 10           | 20             | 115  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2VM100( ) | 200                     | 500             |
|             | 22                     | 12.5         | 20             | 195  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2VM220( ) | 200                     | 500             |
|             | 33                     | 16           | 25             | 300  | 0.20                       | 0.8               | 7.5              | 7.5                  |                      | ECA2VM330( ) | 100                     | 250             |
|             | 47                     | 16           | 25             | 325  | 0.20                       | 0.8               | 7.5              | 7.5                  |                      | ECA2VM470( ) | 100                     | 250             |
|             | 100                    | 18           | 31.5           | 535  | 0.20                       | 0.8               | 7.5              |                      |                      | ECA2VM101    | 50                      |                 |
| 400         | 1                      | 6.3          | 11.2           | 32   | 0.20                       | 0.5               | 2.5              | 5.0                  | 2.5                  | ECA2GM010( ) | 200                     | 2000            |
|             | 2.2                    | 8.0          | 11.5           | 50   | 0.20                       | 0.6               | 3.5              | 5.0                  |                      | ECA2GM2R2( ) | 200                     | 1000            |
|             | 3.3                    | 10           | 12.5           | 54   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2GM3R3( ) | 200                     | 500             |
|             | 4.7                    | 10           | 16             | 72   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2GM4R7( ) | 200                     | 500             |
|             | 10                     | 10           | 20             | 115  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2GM100( ) | 200                     | 500             |
|             | 22                     | 12.5         | 25             | 215  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2GM220( ) | 200                     | 500             |
|             | 33                     | 16           | 25             | 275  | 0.20                       | 0.8               | 7.5              | 7.5                  |                      | ECA2GM330( ) | 100                     | 250             |
|             | 47                     | 16           | 31.5           | 350  | 0.20                       | 0.8               | 7.5              |                      |                      | ECA2GM470    | 100                     |                 |
| 450         | 100                    | 18           | 40             | 600  | 0.20                       | 0.8               | 7.5              |                      |                      | ECA2GM101    | 50                      |                 |
|             | 1                      | 8            | 11.5           | 37   | 0.20                       | 0.6               | 3.5              | 5.0                  |                      | ECA2WM010( ) | 200                     | 1000            |
|             | 2.2                    | 10           | 12.5           | 44   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2WM2R2( ) | 200                     | 500             |
|             | 3.3                    | 10           | 16             | 60   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2WM3R3( ) | 200                     | 500             |
|             | 4.7                    | 10           | 20             | 79   | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2WM4R7( ) | 200                     | 500             |
|             | 10                     | 12.5         | 20             | 130  | 0.20                       | 0.6               | 5.0              | 5.0                  |                      | ECA2WM100( ) | 200                     | 500             |
|             | 22                     | 16           | 25             | 210  | 0.20                       | 0.8               | 7.5              | 7.5                  |                      | ECA2WM220( ) | 100                     | 250             |
| 33          | 16                     | 31.5         | 285            | 0.20   | 0.8                        | 7.5               |                  |                      | ECA2WM330            | 100          |                         |                 |

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, 7.5mm, i=2.5mm.

Endurance : 85°C 2000h