

# CKH/CKE



## Aluminum Electrolytic Capacitors

+105°C General Purpose, Radial Lead

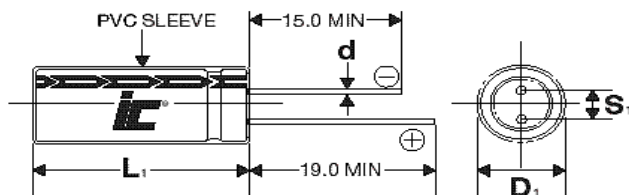
### FEATURES

Small Size - High Voltage - General Purpose

### APPLICATIONS

Bypass - Coupling - Filter - De-coupling

|   |                       |  |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
|---|-----------------------|--|-------------------------|----------------------------------|------------|------------|-----------|------------|------------------------|-------------------------|------------|------------|------------|------------|------------|--|
| <b>Operating Temperature Range</b>                        |                       | <b>-40°C to +105°C (6.3 to 100 WVDC)<br/>-25°C to +105°C (160 to 400 WVDC)</b> |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
| <b>Capacitance Tolerance</b>                              |                       | <b>±20% at 120 Hz, 20°C</b>  |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
| <b>Surge Voltage</b>                                      | <b>WVDC</b>           | <b>6.3</b>   | <b>10</b>               | <b>16</b>                        | <b>25</b>  | <b>35</b>  | <b>50</b> | <b>63</b>  | <b>100</b>             | <b>160</b>              | <b>200</b> | <b>250</b> | <b>350</b> | <b>400</b> | <b>450</b> |  |
|   | <b>SVDC</b>           | 7.9  | 13                      | 20                               | 32         | 44         | 63        | 79         | 125                    | 200                     | 250        | 300        | 400        | 450        | 500        |  |
| <b>Dissipation Factor</b>                                 | <b>WVDC</b>           | <b>6.3</b>   | <b>10</b>               | <b>16</b>                        | <b>25</b>  | <b>35</b>  | <b>50</b> | <b>63</b>  | <b>100</b>             | <b>160</b>              | <b>200</b> | <b>250</b> | <b>350</b> | <b>400</b> | <b>450</b> |  |
|   | <b>Tan δ</b>          | .22  | .19                     | .16                              | .14        | .12        | .1        | .09        | .08                    | .15                     | .15        | .15        | .2         | .2         | .2         |  |
|   |                       | Add .02 for every 1000uF above 1000uF  |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
| <b>Leakage Current</b>                                    |                       | <b>6.3 to 100 WVDC</b>   |                         |                                  |            |            |           |            | <b>160 to 450 WVDC</b> |                         |            |            |            |            |            |  |
|   |                       | <b>2 Minutes</b>   |                         |                                  |            |            |           |            | <b>2 Minutes</b>       |                         |            |            |            |            |            |  |
|   |                       | .01CV or 3uA,<br>Whichever is greater  |                         |                                  |            |            |           |            | .03CV+40uA             |                         |            |            |            |            |            |  |
| <b>Low temperature Stability Impedance Ratio (120 Hz)</b> | <b>WVDC</b>           | <b>6.3</b>   | <b>10</b>               | <b>16</b>                        | <b>25</b>  | <b>35</b>  | <b>50</b> | <b>63</b>  | <b>100</b>             | <b>160</b>              | <b>200</b> | <b>250</b> | <b>350</b> | <b>400</b> | <b>450</b> |  |
|   | <b>-25°C to +20°C</b> | 4  | 3                       | 2                                | 2          | 2          | 2         | 2          | 2                      | 4                       | 4          | 4          | 6          | 6          | 7          |  |
|   | <b>-40°C to +20°C</b> | 8  | 6                       | 4                                | 3          | 3          | 3         | 3          | 3                      | -                       | -          | -          | -          | -          | -          |  |
| <b>Load Life</b>  |                       | <b>2000 hours at 105°C with rated WVDC and ripple current applied</b>          |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Capacitance Change</b>  |                         | ≤20% of initial measured value   |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Dissipation Factor</b>  |                         | ≤200% of maximum specified value |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Leakage Current</b>   |                         | ≤100% of maximum specified value |            |            |           |            |                        |                         |            |            |            |            |            |  |
| <b>Shelf Life</b>   |                       | <b>1000 hours at 105°C with no voltage applied</b>                             |                         |                                  |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Capacitance Change</b>  |                         | ≤20% of initial measured value   |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Dissipation Factor</b>  |                         | ≤200% of maximum specified value |            |            |           |            |                        |                         |            |            |            |            |            |  |
|   |                       | <b>Leakage Current</b>   |                         | ≤100% of maximum specified value |            |            |           |            |                        |                         |            |            |            |            |            |  |
| <b>Ripple Current Multipliers</b>                         |                       |  |                         | <b>Frequency (Hz)</b>            |            |            |           |            |                        | <b>Temperature (°C)</b> |            |            |            |            |            |  |
|   |                       | <b>WVDC</b>  | <b>Capacitance (uF)</b> | <b>50</b>                        | <b>120</b> | <b>300</b> | <b>1k</b> | <b>10k</b> | <b>100k</b>            | <b>105</b>              | <b>85</b>  | <b>70</b>  | <b>65</b>  | <b>45</b>  |            |  |
|   |                       | <b>6.3 to 100V</b>   | <47                     | .75                              | 1.0        | 1.36       | 1.57      | 2.0        | 2.3                    | 1                       | 1.75       | 1.9        | 2          | 2.23       |            |  |
|   |                       |  | 68 to 470               | .8                               | 1.0        | 1.23       | 1.34      | 1.5        | 1.65                   | 1                       | 1.75       | 1.9        | 2          | 2.23       |            |  |
|   |                       |  | ≥560                    | .85                              | 1.0        | 1.1        | 1.13      | 1.15       | 1.4                    | 1                       | 1.75       | 1.9        | 2          | 2.23       |            |  |
|   |                       | <b>160 to 450V</b>   | .47 to 4.7              | .65                              | 1.0        | 1.35       | 1.75      | 2.3        | 2.5                    | 1                       | 1.75       | 1.9        | 2          | 2.23       |            |  |
|   |                       |  | 6.8 to 82               | .75                              | 1.0        | 1.25       | 1.5       | 1.75       | 1.8                    | 1                       | 1.75       | 1.9        | 2          | 2.23       |            |  |
| 100 to 1000   | .8                    |  | 1.0                     | 1.15                             | 1.3        | 1.4        | 1.5       | 1          | 1.75                   | 1.9                     | 2          | 2.23       |            |            |            |  |



|          |          |            |          |           |             |           |           |
|----------|----------|------------|----------|-----------|-------------|-----------|-----------|
| <b>D</b> | <b>5</b> | <b>6.3</b> | <b>8</b> | <b>10</b> | <b>12.5</b> | <b>16</b> | <b>18</b> |
| <b>S</b> | 2.0      | 2.5        | 3.5      | 5.0       | 5.0         | 7.5       | 7.5       |
| <b>d</b> | 0.5      | 0.5        | 0.6      | 0.6       | 0.6         | 0.8       | 0.8       |

L<sub>1</sub>=L+1.5mm Max.  
D<sub>1</sub>=D+0.5mm Max.  
S<sub>1</sub>=S+0.5 mm



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# CKH\_CKE

+105°C, Extended life 2000 hour

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +105°C | Dims DxL (mm) |
|------------------|------|----------------|-------------------------------|--|---------------|
| 0.47             | 100  | 474CKH100M     | 282.19                        | 12   | 5x11          |
| 1                | 50   | 105CKH050M     | 165.79                        | 13   | 5x11          |
| 1                | 100  | 105CKE100M     | 165.79                        | 15   | 5x11          |
| 1                | 250  | 105CKE250M     | 248.68                        | 16   | 6.3x11        |
| 1                | 400  | 105CKE400M     | 331.57                        | 21   | 8x11.5        |
| 1                | 450  | 105CKE450M     | 331.57                        | 22   | 10x12.5       |
| 1                | 450  | 105CKE450MEBB  | 331.573                       | 18   | 6.3x11        |
| 2.2              | 50   | 225CKH050M     | 75.358                        | 20   | 5x11          |
| 2.2              | 100  | 225CKE100M     | 75.3575                       | 35   | 5x11          |
| 2.2              | 250  | 225CKH250M     | 113.036                       | 29   | 6.3x11        |
| 2.2              | 350  | 225CKE350M     | 150.71                        | 30   | 6.3x11        |
| 2.2              | 400  | 225CKE400M     | 150.71                        | 26   | 8x11.5        |
| 2.2              | 450  | 225CKE450M     | 150.71                        | 31   | 10x12.5       |
| 2.2              | 450  | 225CKE450MJM   | 150.71                        | 30   | 8x11.5        |
| 3.3              | 50   | 335CKE050M     | 50.238                        | 35   | 5x11          |
| 3.3              | 100  | 335CKE100M     | 40.19                         | 35   | 5x11          |
| 3.3              | 200  | 335CKE200M     | 75.358                        | 35   | 6.3x11        |
| 3.3              | 250  | 335CKE250M     | 75.358                        | 44   | 8x11.5        |
| 3.3              | 250  | 335CKE250MGGM  | 75.358                        | 37   | 6.3x11        |
| 3.3              | 350  | 335CKE350MJM   | 100.477                       | 30   | 8x11.5        |
| 3.3              | 400  | 335CKE400MJM   | 100.477                       | 42   | 8x11.5        |
| 3.3              | 400  | 335CKE400M     | 100.477                       | 41   | 10x12.5       |
| 3.3              | 450  | 335CKE450MFH   | 100.477                       | 40   | 8x11.5        |
| 3.3              | 450  | 335CKE450MGJG  | 100.477                       | 44   | 10x20         |
| 4.7              | 100  | 475CKE100M     | 35.274                        | 40   | 5x11          |
| 4.7              | 160  | 475CKE160M     | 52.911                        | 51   | 6.3x11        |
| 4.7              | 200  | 475CKE200M     | 52.911                        | 53   | 6.3x11        |
| 4.7              | 250  | 475CKE250M     | 52.911                        | 53   | 8x11.5        |
| 4.7              | 250  | 475CKH250M     | 52.911                        | 60   | 10x12.5       |
| 4.7              | 350  | 475CKE350M     | 70.547                        | 47   | 10x12.5       |
| 4.7              | 400  | 475CKE400M     | 70.547                        | 55   | 10x16         |
| 4.7              | 400  | 475CKE400MFH   | 70.5474                       | 56   | 8x11.5        |
| 4.7              | 450  | 475CKE450MLN   | 70.547                        | 32   | 10x12.5       |
| 4.7              | 450  | 475CKE450M     | 70.547                        | 43   | 10x20         |
| 6.8              | 50   | 685CKH050M     | 24.381                        | 40   | 5x11          |
| 6.8              | 450  | 685CKE450MGBW  | 48.7607                       | 90   | 10x16         |
| 10               | 50   | 106CKH050M     | 16.579                        | 55   | 5x11          |
| 10               | 63   | 106CKE063M     | 16.579                        | 60   | 5x11          |
| 10               | 100  | 106CKH100M     | 16.579                        | 85   | 6.3x11        |
| 10               | 160  | 106CKE160M     | 24.868                        | 91   | 8x11.5        |
| 10               | 200  | 106CKE200M     | 24.868                        | 75   | 10x12.5       |
| 10               | 200  | 106CKE200MJM   | 24.868                        | 91   | 8x11.5        |
| 10               | 250  | 106CKH250M     | 24.868                        | 90   | 10x16         |
| 10               | 350  | 106CKE350M     | 24.868                        | 85   | 10x20         |
| 10               | 350  | 106CKE350MLQ   | 33.157                        | 64   | 10x16         |
| 10               | 400  | 106CKE400MLQ   | 33.157                        | 64   | 10x16         |
| 10               | 400  | 106CKE400M     | 33.157                        | 73   | 10x20         |
| 10               | 450  | 106CKE450M     | 33.157                        | 65   | 12.5x20       |
| 10               | 450  | 106CKE450MLU   | 33.157                        | 120  | 10x20         |
| 15               | 50   | 156CKH050M     | 11.052                        | 58   | 5x11          |
| 15               | 250  | 156CKE250MGBW  | 22.1049                       | 112  | 10x16         |
| 15               | 400  | 156CKE400MGJG  | 22.1049                       | 150  | 10x20         |
| 15               | 450  | 156CKE450MTJG  | 22.1049                       | 112  | 12.5x20       |
| 22               | 50   | 226CKH050M     | 7.536                         | 80   | 5x11          |
| 22               | 63   | 226CKH063M     | 7.536                         | 90   | 6.3x11        |
| 22               | 63   | 226CKE063M     | 7.536                         | 80   | 5x11          |
| 22               | 100  | 226CKE100M     | 7.536                         | 95   | 6.3x11        |
| 22               | 100  | 226CKH100M     | 7.536                         | 150  | 8x11.5        |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +105°C | Dims DxL (mm) |
|------------------|------|----------------|-------------------------------|--|---------------|
| 22               | 160  | 226CKE160MLN   | 11.304                        | 150  | 10x12.5       |
| 22               | 200  | 226CKE200MLQ   | 11.304                        | 165  | 10x16         |
| 22               | 250  | 226CKE250MLU   | 11.304                        | 180  | 10x20         |
| 22               | 350  | 226CKE350MNU   | 15.072                        | 105  | 12.5x20       |
| 22               | 450  | 226CKE450MNV   | 15.0715                       | 215  | 12.5x25       |
| 33               | 50   | 336CKE050M     | 5.024                         | 100  | 5x11          |
| 33               | 63   | 336CKE063M     | 5.024                         | 120  | 6.3x11        |
| 33               | 100  | 336CKE100M     | 5.024                         | 145  | 8x11.5        |
| 33               | 100  | 336CKH100M     | 5.0238                        | 260  | 10x12.5       |
| 33               | 160  | 336CKE160MLQ   | 7.536                         | 205  | 10x16         |
| 33               | 200  | 336CKE200MLU   | 7.536                         | 225  | 10x20         |
| 33               | 250  | 336CKE250M     | 7.536                         | 190  | 12.5x20       |
| 33               | 350  | 336CKE350MNV   | 10.048                        | 270  | 12.5x25       |
| 33               | 400  | 336CKE400M     | 10.048                        | 160  | 16x25         |
| 33               | 450  | 336CKE450MQV   | 10.048                        | 120  | 16x25         |
| 47               | 25   | 476CKH025M     | 4.9383                        | 100  | 5x11          |
| 47               | 35   | 476CKE035M     | 4.233                         | 92   | 5x11          |
| 47               | 50   | 476CKE050M     | 3.527                         | 135  | 6.3x11        |
| 47               | 63   | 476CKE063M     | 3.527                         | 145  | 6.3x11        |
| 47               | 63   | 476CKH063M     | 3.527                         | 155  | 8x11.5        |
| 47               | 100  | 476CKH100M     | 3.527                         | 280  | 10x16         |
| 47               | 100  | 476CKE100M     | 3.527                         | 280  | 10x12.5       |
| 47               | 160  | 476CKE160MLU   | 5.291                         | 270  | 10x20         |
| 47               | 200  | 476CKE200M     | 5.291                         | 210  | 12.5x20       |
| 47               | 250  | 476CKE250M     | 5.291                         | 320  | 12.5x25       |
| 47               | 250  | 476CKE250MNU   | 5.291                         | 190  | 13x21         |
| 47               | 350  | 476CKE350M     | 7.055                         | 190  | 16x25         |
| 47               | 400  | 476CKE400M     | 7.055                         | 210  | 16x30         |
| 47               | 400  | 476CKE400MQV   | 7.055                         | 360  | 16x25         |
| 47               | 450  | 476CKE450MQW   | 7.055                         | 395  | 16x30         |
| 68               | 50   | 686CKH050M     | 2.438                         | 165  | 8x11.5        |
| 68               | 63   | 686CKH063M     | 2.438                         | 190  | 10x12.5       |
| 68               | 100  | 686CKH100M     | 2.438                         | 300  | 10x16         |
| 68               | 160  | 686CKE160MTJG  | 4.8761                        | 350  | 12.5x20       |
| 68               | 200  | 686CKE200MTJG  | 4.8761                        | 380  | 12.5x25       |
| 68               | 250  | 686CKE250MKJG  | 4.8761                        | 400  | 16x20         |
| 68               | 400  | 686CKE400MKAG  | 4.8761                        | 475  | 16x30         |
| 68               | 450  | 686CKE450MKAD  | 4.8761                        | 510  | 16x35         |
| 100              | 25   | 107CKE025MEM   | 2.321                         | 125  | 5x11          |
| 100              | 35   | 107CKE035M     | 1.989                         | 170  | 6.3x11        |
| 100              | 50   | 107CKH050M     | 1.658                         | 230  | 8x11.5        |
| 100              | 63   | 107CKH063M     | 1.658                         | 260  | 10x12.5       |
| 100              | 100  | 107CKE100MLQ   | 1.658                         | 240  | 10x16         |
| 100              | 160  | 107CKE160M     | 2.487                         | 470  | 12.5x25       |
| 100              | 250  | 107CKE250MQV   | 2.487                         | 530  | 16x25         |
| 100              | 350  | 107CKE350MKCG  | 3.3157                        | 510  | 16x40         |
| 100              | 350  | 107CKE350M     | 3.316                         | 410  | 18x40         |
| 100              | 400  | 107CKE400M     | 3.316                         | 310  | 18x35         |
| 150              | 100  | 157CKH100M     | 1.105                         | 410  | 12.5x20       |
| 150              | 160  | 157CKE160MKJD  | 1.65786                       | 515  | 16x25         |
| 150              | 200  | 157CKE200MKJD  | 1.65786                       | 660  | 16x25         |
| 150              | 250  | 157CKE250MKAD  | 1.65786                       | 750  | 16x35         |
| 150              | 450  | 157CKE450MLCD  | 2.2105                        | 880  | 18x45         |
| 220              | 10   | 227CKE010M     | 1.6579                        | 170  | 5x11          |
| 220              | 16   | 227CKE016M     | 1.2057                        | 215  | 6.3x11        |
| 220              | 25   | 227CKE025MGGM  | 1.055                         | 200  | 6.3x11        |
| 220              | 35   | 227CKE035M     | 0.904                         | 295  | 8x11.5        |
| 220              | 50   | 227CKE050M     | 0.754                         | 350  | 10x12.5       |

# CKH\_CKE

+105°C, Extended life 2000 hour

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +105°C | Dims DxDL (mm) |
|------------------|------|----------------|-------------------------------|--|----------------|
| 220              | 50   | 227CKH050M     | 0.7536                        | 510  | 10x16          |
| 220              | 63   | 227CKH063M     | 0.7536                        | 505  | 10x20          |
| 220              | 63   | 227CKE063M     | 0.754                         | 390  | 10x16          |
| 220              | 100  | 227CKE100M     | 0.754                         | 660  | 12.5x25        |
| 220              | 100  | 227CKH100M     | 0.7536                        | 960  | 16x25          |
| 220              | 100  | 227CKE100MNU   | 0.754                         | 390  | 12.5x20        |
| 220              | 160  | 227CKE160MQW   | 1.13                          | 860  | 16x30          |
| 220              | 200  | 227CKE200M     | 1.13                          | 920  | 16x35          |
| 220              | 250  | 227CKE250MLCG  | 1.5071                        | 1010   | 18x40          |
| 220              | 250  | 227CKE250M     | 1.13                          | 485  | 18x35          |
| 330              | 10   | 337CKE010M     | 1.1052                        | 240  | 6.3x11         |
| 330              | 16   | 337CKE016MGM   | 0.8038                        | 225  | 6.3x11         |
| 330              | 25   | 337CKE025M     | 0.4938                        | 340  | 8x11.5         |
| 330              | 35   | 337CKE035M     | 0.603                         | 420  | 10x12.5        |
| 330              | 50   | 337CKE050M     | 0.502                         | 590  | 10x16          |
| 330              | 50   | 337CKH050M     | 0.502                         | 490  | 10x20          |
| 330              | 63   | 337CKH063M     | 0.502                         | 690  | 12.5x20        |
| 330              | 100  | 337CKH100M     | 0.502                         | 1000   | 16x25          |
| 330              | 100  | 337CKE100M     | 0.502                         | 800  | 12.5x25        |
| 330              | 160  | 337CKE160MKCG  | 1.0048                        | 1200   | 16x40          |
| 330              | 200  | 337CKE200M     | 0.754                         | 675  | 18x40          |
| 470              | 10   | 477CKE010M     | 0.776                         | 285  | 6.3x11         |
| 470              | 16   | 477CKE016M     | 0.5644                        | 365  | 8x11.5         |
| 470              | 16   | 477CKH016M     | 0.5644                        | 440  | 10x12.5        |
| 470              | 25   | 477CKE025M     | 0.4938                        | 470  | 10x12.5        |
| 470              | 35   | 477CKE035M     | 0.423                         | 545  | 10x16          |
| 470              | 50   | 477CKE050M     | 0.353                         | 705  | 10x20          |
| 470              | 50   | 477CKH050M     | 0.353                         | 630  | 12.5x20        |
| 470              | 63   | 477CKH063M     | 0.353                         | 690  | 12.5x25        |
| 470              | 63   | 477CKE063M     | 0.353                         | 810  | 12.5x20        |
| 470              | 100  | 477CKE100M     | 0.353                         | 1050   | 16x25          |
| 680              | 6.3  | 687CKH6R3M     | 0.0585                        | 375  | 10x12.5        |
| 680              | 16   | 687CKH016M     | 0.3901                        | 490  | 10x16          |
| 680              | 35   | 687CKE035MGJG  | 0.2926                        | 680  | 10x20          |
| 680              | 50   | 687CKE050MTJG  | 0.2438                        | 925  | 12.5x20        |
| 680              | 63   | 687CKH063M     | 0.244                         | 925  | 16x25          |
| 1000             | 6.3  | 108CKE6R3M     | 0.3979                        | 445  | 8x11.5         |
| 1000             | 10   | 108CKE010M     | 0.3647                        | 570  | 10x12.5        |
| 1000             | 16   | 108CKE016M     | 0.2653                        | 680  | 10x16          |
| 1000             | 16   | 108CKE016MLN   | 0.2653                        | 500  | 10x12.5        |
| 1000             | 16   | 108CKH016M     | 0.2653                        | 720  | 10x20          |
| 1000             | 25   | 108CKE025MLQ   | 0.2321                        | 610  | 10x16          |
| 1000             | 25   | 108CKE025M     | 0.2321                        | 820  | 10x20          |
| 1000             | 35   | 108CKH035M     | 0.199                         | 1025   | 12.5x20        |
| 1000             | 50   | 108CKH050M     | 0.166                         | 1010   | 16x25          |
| 1000             | 50   | 108CKE050M     | 0.166                         | 1285   | 12.5x25        |
| 1000             | 63   | 108CKE063M     | 0.166                         | 1450   | 16x25          |
| 1000             | 100  | 108CKE100M     | 0.166                         | 2020   | 18x40          |
| 1000             | 100  | 108CKE100MRY   | 0.166                         | 1000   | 18x35          |
| 1500             | 6.3  | 158CKH6R3M     | 0.2874                        | 585  | 10x20          |
| 1500             | 16   | 158CKH016M     | 0.1989                        | 800  | 12.5x20        |
| 1500             | 25   | 158CKH025M     | 0.1768                        | 905  | 12.5x25        |
| 1500             | 35   | 158CKH035M     | 0.1547                        | 1140   | 16x25          |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +105°C | Dims DxDL (mm) |
|------------------|------|----------------|-------------------------------|--|----------------|
| 1500             | 35   | 158CKE035MTJD  | 0.1326                        | 1125   | 12.5x25        |
| 1500             | 50   | 158CKH050M     | 0.1326                        | 1250   | 18x30          |
| 2200             | 6.3  | 228CKE6R3M     | 0.211                         | 740  | 10x16          |
| 2200             | 10   | 228CKE010MLQ   | 0.1959                        | 705  | 10x16          |
| 2200             | 10   | 228CKE010M     | 0.1959                        | 900  | 10x20          |
| 2200             | 16   | 228CKE016M     | 0.1507                        | 1110   | 12.5x20        |
| 2200             | 16   | 228CKH016M     | 0.1507                        | 1250   | 12.5x25        |
| 2200             | 16   | 228CKE016MLU   | 0.1507                        | 710  | 10x20          |
| 2200             | 25   | 228CKH025M     | 0.1356                        | 1210   | 16x25          |
| 2200             | 25   | 228CKE025M     | 0.1356                        | 1175   | 12.5x25        |
| 2200             | 35   | 228CKE035M     | 0.1206                        | 1500   | 16x25          |
| 2200             | 35   | 228CKH035M     | 0.121                         | 1730   | 16x30          |
| 2200             | 50   | 228CKH050M     | 0.106                         | 1700   | 18x35          |
| 2200             | 50   | 228CKE050MQW   | 0.1055                        | 1410   | 16x30          |
| 2200             | 50   | 228CKE050M     | 0.1055                        | 1885   | 16x35          |
| 3300             | 6.3  | 338CKE6R3M     | 0.1507                        | 1030   | 10x20          |
| 3300             | 10   | 338CKE010M     | 0.1407                        | 1205   | 12.5x20        |
| 3300             | 16   | 338CKE016M     | 0.1105                        | 1390   | 12.5x25        |
| 3300             | 25   | 338CKE025M     | 0.1005                        | 1645   | 16x25          |
| 3300             | 25   | 338CKH025M     | 0.1005                        | 1800   | 16x30          |
| 3300             | 35   | 338CKE035MQW   | 0.0905                        | 1810   | 16x30          |
| 3300             | 35   | 338CKE035M     | 0.0905                        | 1820   | 16x35          |
| 3300             | 50   | 338CKE050M     | 0.0804                        | 2165   | 18x35          |
| 4700             | 10   | 478CKE010M     | 0.1058                        | 1490   | 12.5x25        |
| 4700             | 10   | 478CKH010M     | 0.1058                        | 1350   | 16x25          |
| 4700             | 16   | 478CKH016M     | 0.0847                        | 1560   | 16x30          |
| 4700             | 16   | 478CKE016M     | 0.0847                        | 1740   | 16x25          |
| 4700             | 25   | 478CKE025M     | 0.0776                        | 2010   | 16x30          |
| 4700             | 25   | 478CKE025MQV   | 0.0776                        | 1570   | 16x25          |
| 4700             | 35   | 478CKE035MQV   | 0.0706                        | 1780   | 16x35          |
| 4700             | 35   | 478CKE035M     | 0.0706                        | 2335   | 18x35          |
| 6800             | 6.3  | 688CKE6R3M     | 0.08777                       | 1555   | 12.5x25        |
| 6800             | 10   | 688CKE010M     | 0.0756                        | 1825   | 16x25          |
| 6800             | 16   | 688CKE016M     | 0.0707                        | 2080   | 16x30          |
| 6800             | 16   | 688CKE016MQV   | 0.0707                        | 1600   | 16x25          |
| 6800             | 25   | 688CKE025MQV   | 0.0634                        | 2308   | 16x35          |
| 6800             | 25   | 688CKE025M     | 0.0634                        | 2170   | 18x35          |
| 6800             | 35   | 688CKE035M     | 0.0585                        | 2400   | 18x40          |
| 10000            | 6.3  | 109CKE6R3M     | 0.06963                       | 1900   | 16x25          |
| 10000            | 6.3  | 109CKH6R3M     | 0.06963                       | 1730   | 16x30          |
| 10000            | 10   | 109CKH010M     | 0.0663                        | 2030   | 18x35          |
| 10000            | 10   | 109CKE010MQW   | 0.0663                        | 1980   | 16x30          |
| 10000            | 16   | 109CKE016M     | 0.0564                        | 2380   | 16x35          |
| 10000            | 25   | 109CKE025MLAD  | 0.0547                        | 2500   | 18x35          |
| 10000            | 25   | 109CKE025M     | 0.0531                        | 2000   | 18x40          |
| 15000            | 6.3  | 159CKE6R3MQW   | 0.05747                       | 1820   | 16x30          |
| 15000            | 6.3  | 159CKE6R3M     | 0.05747                       | 2140   | 16x35          |
| 15000            | 10   | 159CKE010MQV   | 0.0553                        | 2050   | 16x35          |
| 15000            | 10   | 159CKE010M     | 0.0553                        | 2370   | 18x35          |
| 15000            | 16   | 159CKE016M     | 0.0486                        | 2210   | 18x40          |
| 22000            | 6.3  | 229CKE6R3MRY   | 0.04979                       | 2400   | 18x35          |
| 22000            | 10   | 229CKE010M     | 0.0482                        | 2410   | 18x40          |