

# CKH/CKE

## +105°C General Purpose Radial Lead Aluminum Electrolytic Capacitors



### Features

- Standard case sizes
- Multiple case sizes
- Lead free leads

### Applications

- Bypass
- Coupling
- Filtering
- De-coupling

### Specifications

|   |                       |   |     |                                  |      |                                    |      |                         |                        |     |      |     |     |     |     |  |
|---|-----------------------|---|-----|----------------------------------|------|------------------------------------|------|-------------------------|------------------------|-----|------|-----|-----|-----|-----|--|
| <b>Operating Temperature Range</b>                        |                       | <b>-55°C to +105°C (6.3 to 100 WVDC), -40°C to +105°C (160 to 400 WVDC)<br/>-25°C to +85°C (450 WVDC)</b> |     |                                  |      |                                    |      |                         |                        |     |      |     |     |     |     |  |
| <b>Capacitance Tolerance</b>                              |                       | <b>+20% at 120 Hz, 20°C</b>   |     |                                  |      |                                    |      |                         |                        |     |      |     |     |     |     |  |
| <b>Surge voltage</b>                                      | <b>WVDC</b>           | 6.3   | 10  | 16                               | 25   | 35                                 | 50   | 63                      | 100                    | 160 | 200  | 250 | 350 | 400 | 450 |  |
|   | <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>           | 6.3   | 10  | 16                               | 25   | 35                                 | 50   | 63                      | 100                    | 160 | 200  | 250 | 350 | 400 | 450 |  |
|   | <b>Tan δ</b>          | .24   | .2  | .17                              | .15  | .12                                | .1   | .1                      | .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>1 Minutes</b>  |     |                                  |      | <b>2 Minutes</b>                   |      |                         | <b>2 Minutes</b>       |     |      |     |     |     |     |  |
|   |                       | .03CV or 4uA, Whichever is greater  |     |                                  |      | .01CV or 3uA, Whichever is greater |      |                         | .03CV+40uA             |     |      |     |     |     |     |  |
| <b>Low temperature stability Impedance ratio (120 Hz)</b> | <b>WVDC</b>           | 6.3   | 10  | 16                               | 25   | 35                                 | 50   | 63                      | 100                    | 160 | 200  | 250 | 350 | 400 | 450 |  |
|   | <b>-25°C to +20°C</b> | 4   | 3   | 2                                | 2    | 2                                  | 2    | 2                       | 2                      | 3   | 3    | 3   | 6   | 6   | 15  |  |
|   | <b>-40°C to +20°C</b> | 5   | 10  | 8                                | 6    | 4                                  | 3    | 3                       | 3                      | 3   | 4    | 4   | 10  | 10  | -   |  |
| <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>   |     | ≤150% 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% 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> |                        |     |      |     |     |     |     |  |
|   |                       |   |     | 50                               | 120  | 1k                                 | 10k  | +105                    | +85                    | +70 | +60  |     |     |     |     |  |
|   |                       | <b>6.3 to 25V</b>   |     | .85                              | 1.0  | 1.10                               | 1.20 | 1.0                     | 1.4                    | 1.4 | 1.75 |     |     |     |     |  |
|   |                       | <b>35 to 100V</b>   |     | .8                               | 1.0  | 1.15                               | 1.25 | 1.0                     | 1.4                    | 1.4 | 1.75 |     |     |     |     |  |
|   |                       | <b>160 to 250V</b>  |     | .75                              | 1.0  | 1.25                               | 1.40 | 1.0                     | 1.4                    | 1.4 | 1.75 |     |     |     |     |  |
| <b>350 to 450V</b>  |                       | .7  | 1.0 | 1.30                             | 1.80 | 1.0                                | 1.4  | 1.4                     | 1.75                   |     |      |     |     |     |     |  |



|          |     |     |     |     |      |     |     |
|----------|-----|-----|-----|-----|------|-----|-----|
| <b>D</b> | 5   | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
| <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 |

$L_1 = L + 1.5\text{mm Max.}$   
 $D_1 = D + 0.5\text{mm Max.}$   
 $S_1 = S + 0.5\text{mm}$



| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxDL (mm) |
|------------------|------|----------------|--------------------------------------|--|----------------|
| 0.1              | 50   | 104CKH050M     | 1657.86                              | 5  | 5x11           |
| 0.15             | 50   | 154CKH050M     | 1105.24                              | 5  | 5x11           |
| 0.22             | 50   | 224CKH050M     | 753.575                              | 7  | 5x11           |
| 0.33             | 50   | 334CKH050M     | 502.38                               | 10   | 5x11           |
| 0.47             | 100  | 474CKH100M     | 282.19                               | 12   | 5x11           |
| 0.47             | 250  | 474CKH250M     | 529.106                              | 15   | 6.3x11         |
| 0.68             | 50   | 684CKH050M     | 243.804                              | 10   | 5x11           |
| 1                | 50   | 105CKH050M     | 165.79                               | 17   | 5x11           |
| 1                | 100  | 105CKE100M     | 132.63                               | 19   | 5x11           |
| 1                | 250  | 105CKE250M     | 248.68                               | 21   | 6.3x11         |
| 1                | 350  | 105CKE350M     | 331.57                               | 21   | 6.3x11         |
| 1                | 400  | 105CKE400M     | 331.57                               | 21   | 8x11.5         |
| 1                | 450  | 105CKE450M     | 331.57                               | 22   | 10x12.5        |
| 1.5              | 50   | 155CKH050M     | 110.52                               | 15   | 5x11           |
| 2.2              | 50   | 225CKH050M     | 75.358                               | 25   | 5x11           |
| 2.2              | 100  | 225CKE100M     | 60.286                               | 28   | 5x11           |
| 2.2              | 250  | 225CKH250M     | 113.036                              | 31   | 6.3x11         |
| 2.2              | 350  | 225CKE350M     | 150.71                               | 21   | 6.3x11         |
| 2.2              | 400  | 225CKE400M     | 150.71                               | 26   | 8x11.5         |
| 2.2              | 450  | 225CKE450MJM   | 150.71                               | 20   | 8x11.5         |
| 2.2              | 450  | 225CKE450M     | 150.71                               | 31   | 10x12.5        |
| 3.3              | 50   | 335CKE050M     | 50.238                               | 31   | 5x11           |
| 3.3              | 100  | 335CKE100M     | 40.19                                | 34   | 5x11           |
| 3.3              | 200  | 335CKE200M     | 75.358                               | 34   | 6.3x11         |
| 3.3              | 250  | 335CKE250M     | 75.358                               | 44   | 8x11.5         |
| 3.3              | 250  | 335CKE250MGM   | 75.358                               | 28   | 6.3x11         |
| 3.3              | 350  | 335CKE350MJM   | 100.477                              | 30   | 8x11.5         |
| 3.3              | 400  | 335CKE400M     | 100.477                              | 41   | 10x12.5        |
| 3.3              | 400  | 335CKE400MJM   | 100.477                              | 34   | 8x11.5         |
| 3.3              | 450  | 335CKE450MLN   | 100.477                              | 28   | 10x13          |
| 3.3              | 450  | 335CKE450M     | 100.477                              | 50   | 12.5x20        |
| 4.7              | 100  | 475CKE100M     | 28.219                               | 41   | 5x11           |
| 4.7              | 160  | 475CKE160M     | 52.911                               | 38   | 6.3x11         |
| 4.7              | 200  | 475CKE200M     | 52.911                               | 35   | 6.3x11         |
| 4.7              | 250  | 475CKE250MGM   | 52.911                               | 35   | 6.3x11         |
| 4.7              | 250  | 475CKH250M     | 52.911                               | 60   | 10x12.5        |
| 4.7              | 250  | 475CKE250M     | 52.911                               | 50   | 8x11.5         |
| 4.7              | 350  | 475CKE350M     | 70.547                               | 47   | 10x12.5        |
| 4.7              | 350  | 475CKE350MJM   | 70.547                               | 39   | 8x11.5         |
| 4.7              | 400  | 475CKE400M     | 70.547                               | 55   | 10x16          |
| 4.7              | 400  | 475CKE400MLN   | 70.547                               | 42   | 10x12.5        |
| 4.7              | 450  | 475CKH450M     | 70.547                               | 60   | 12.5x20        |
| 4.7              | 450  | 475CKE450M     | 70.547                               | 43   | 10x20          |
| 4.7              | 450  | 475CKE450MLN   | 70.547                               | 32   | 10x12.5        |
| 6.8              | 50   | 685CKH050M     | 24.381                               | 40   | 5x11           |
| 6.8              | 63   | 685CKH063M     | 24.381                               | 42   | 5x11           |
| 6.8              | 100  | 685CKH100M     | 19.504                               | 52   | 6.3x11         |
| 6.8              | 250  | 685CKH250M     | 36.571                               | 65   | 10x16          |
| 10               | 50   | 106CKH050M     | 16.579                               | 55   | 5x11           |
| 10               | 63   | 106CKE063M     | 16.579                               | 55   | 5x11           |
| 10               | 100  | 106CKH100M     | 13.263                               | 65   | 6.3x11         |
| 10               | 100  | 106CKE100MEM   | 13.263                               | 50   | 5x11           |
| 10               | 160  | 106CKE160M     | 24.868                               | 65   | 8x11.5         |
| 10               | 200  | 106CKE200M     | 24.868                               | 75   | 10x12.5        |
| 10               | 200  | 106CKE200MJM   | 24.868                               | 57   | 8x11.5         |
| 10               | 250  | 106CKE250MLN   | 24.868                               | 71   | 10x12.5        |
| 10               | 250  | 106CKH250M     | 24.868                               | 90   | 10x16          |
| 10               | 350  | 106CKE350M     | 33.157                               | 85   | 10x20          |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxDL (mm) |
|------------------|------|----------------|--------------------------------------|--|----------------|
| 10               | 350  | 106CKE350MLQ   | 33.157                               | 64   | 10x16          |
| 10               | 400  | 106CKE400M     | 33.157                               | 73   | 10x20          |
| 10               | 400  | 106CKE400MLQ   | 33.157                               | 64   | 10x16          |
| 10               | 450  | 106CKE450MLU   | 33.157                               | 27   | 10x21          |
| 10               | 450  | 106CKE450M     | 33.157                               | 65   | 12.5x20        |
| 15               | 50   | 156CKH050M     | 11.052                               | 58   | 5x11           |
| 15               | 63   | 156CKH063M     | 11.052                               | 65   | 6.3x11         |
| 15               | 100  | 156CKH100M     | 8.842                                | 80   | 8x11.5         |
| 15               | 160  | 156CKH160M     | 11.052                               | 80   | 10x16          |
| 15               | 250  | 156CKH250M     | 11.052                               | 90   | 10x20          |
| 22               | 50   | 226CKH050M     | 7.536                                | 80   | 5x11           |
| 22               | 63   | 226CKH063M     | 7.536                                | 85   | 6.3x11         |
| 22               | 63   | 226CKE063M     | 7.536                                | 80   | 5x11           |
| 22               | 100  | 226CKH100M     | 6.029                                | 110  | 8x11.5         |
| 22               | 100  | 226CKE100M     | 6.029                                | 100  | 6.3x11         |
| 22               | 160  | 226CKE160MLN   | 11.304                               | 92   | 10x12.5        |
| 22               | 160  | 226CKE160M     | 11.304                               | 110  | 10x16          |
| 22               | 200  | 226CKE200MLQ   | 11.304                               | 105  | 10x16          |
| 22               | 200  | 226CKH200M     | 11.3036                              | 130  | 10x20          |
| 22               | 250  | 226CKE250MLU   | 11.304                               | 105  | 10x20          |
| 22               | 250  | 226CKE250M     | 11.304                               | 160  | 12.5x20        |
| 22               | 350  | 226CKE350MNU   | 15.072                               | 105  | 12.5x20        |
| 22               | 400  | 226CKE400M     | 15.072                               | 150  | 12.5x25        |
| 22               | 450  | 226CKE450M     | 15.072                               | 130  | 16x25          |
| 22               | 450  | 226CKH450M     | 15.071                               | 160  | 16x31.5        |
| 22               | 450  | 226CKE450MNV   | 15.0715                              | 100  | 13x26          |
| 33               | 50   | 336CKE050M     | 5.024                                | 95   | 5x11           |
| 33               | 63   | 336CKE063M     | 5.024                                | 110  | 6.3x11         |
| 33               | 100  | 336CKE100M     | 4.019                                | 140  | 8x11.5         |
| 33               | 100  | 336CKH100M     | 4.019                                | 140  | 10x12.5        |
| 33               | 160  | 336CKE160M     | 7.536                                | 150  | 10x20          |
| 33               | 160  | 336CKE160MLQ   | 7.536                                | 125  | 10x16          |
| 33               | 200  | 336CKE200MLU   | 7.536                                | 140  | 10x20          |
| 33               | 250  | 336CKE250M     | 7.536                                | 190  | 12.5x20        |
| 33               | 350  | 336CKE350MNV   | 10.048                               | 170  | 12.5x25        |
| 33               | 400  | 336CKE400M     | 10.048                               | 160  | 16x25          |
| 33               | 400  | 336CKH400M     | 10.048                               | 210  | 16x31.5        |
| 33               | 450  | 336CKE450MQV   | 10.048                               | 120  | 16x25          |
| 33               | 450  | 336CKE450M     | 10.048                               | 230  | 18x35.5        |
| 47               | 25   | 476CKH025M     | 5.291                                | 95   | 5x11           |
| 47               | 35   | 476CKE035M     | 4.233                                | 110  | 5x11           |
| 47               | 50   | 476CKE050M     | 3.527                                | 130  | 6.3x11         |
| 47               | 63   | 476CKE063M     | 3.527                                | 130  | 6.3x11         |
| 47               | 63   | 476CKH063M     | 3.527                                | 135  | 8x11.5         |
| 47               | 100  | 476CKE100MJM   | 2.822                                | 140  | 8x11.5         |
| 47               | 100  | 476CKH100M     | 2.822                                | 190  | 10x16          |
| 47               | 100  | 476CKE100M     | 2.822                                | 180  | 10x12.5        |
| 47               | 160  | 476CKE160MLU   | 5.291                                | 150  | 10x20          |
| 47               | 160  | 476CKE160M     | 5.291                                | 190  | 12.5x20        |
| 47               | 200  | 476CKE200M     | 5.291                                | 210  | 12.5x20        |
| 47               | 250  | 476CKE250MNU   | 5.291                                | 190  | 13x21          |
| 47               | 250  | 476CKE250M     | 5.291                                | 250  | 12.5x25        |
| 47               | 350  | 476CKH350M     | 7.055                                | 250  | 16x35.5        |
| 47               | 350  | 476CKE350M     | 7.055                                | 190  | 16x25          |
| 47               | 400  | 476CKE400M     | 7.055                                | 210  | 16x31.5        |
| 47               | 400  | 476CKE400MQV   | 7.055                                | 200  | 16x25          |
| 47               | 450  | 476CKE450MQW   | 7.055                                | 155  | 16x31.5        |
| 68               | 16   | 686CKH016M     | 4.145                                | 95   | 5x11           |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxDL (mm) |
|------------------|------|----------------|--------------------------------------|--|----------------|
| 68               | 25   | 686CKH025M     | 3.657                                | 105  | 6.3x11         |
| 68               | 50   | 686CKH050M     | 2.438                                | 165  | 8x11.5         |
| 68               | 63   | 686CKH063M     | 2.438                                | 190  | 10x12.5        |
| 68               | 100  | 686CKH100M     | 1.95                                 | 255  | 10x16          |
| 68               | 200  | 686CKH200M     | 3.657                                | 235  | 16x25          |
| 68               | 250  | 686CKH250M     | 3.657                                | 255  | 16x31.5        |
| 100              | 16   | 107CKE016M     | 2.818                                | 130  | 5x11           |
| 100              | 25   | 107CKE025MEM   | 2.487                                | 125  | 5x11           |
| 100              | 35   | 107CKE035M     | 1.989                                | 170  | 6.3x11         |
| 100              | 50   | 107CKH050M     | 1.658                                | 220  | 8x11.5         |
| 100              | 63   | 107CKH063M     | 1.658                                | 240  | 10x12.5        |
| 100              | 63   | 107CKE063MJM   | 1.658                                | 200  | 8x11.5         |
| 100              | 100  | 107CKE100MLQ   | 1.326                                | 240  | 10x16          |
| 100              | 100  | 107CKE100M     | 1.326                                | 320  | 10x20          |
| 100              | 160  | 107CKE160M     | 2.487                                | 310  | 12.5x25        |
| 100              | 200  | 107CKE200M     | 2.487                                | 340  | 16x25          |
| 100              | 250  | 107CKE250M     | 2.487                                | 410  | 16x31.5        |
| 100              | 250  | 107CKE250MQV   | 2.487                                | 310  | 16x25          |
| 100              | 350  | 107CKE350M     | 3.316                                | 410  | 18x40          |
| 100              | 350  | 107CKE350MRY   | 3.316                                | 370  | 18x35.5        |
| 100              | 400  | 107CKE400M     | 3.316                                | 310  | 18x35.5        |
| 150              | 10   | 157CKH010M     | 2.211                                | 125  | 6.3x11         |
| 150              | 25   | 157CKH025M     | 1.658                                | 180  | 8x11.5         |
| 150              | 35   | 157CKH035M     | 1.326                                | 230  | 10x12.5        |
| 150              | 50   | 157CKH050M     | 1.105                                | 260  | 10x16          |
| 150              | 63   | 157CKH063M     | 1.105                                | 315  | 10x20          |
| 150              | 100  | 157CKH100M     | 0.884                                | 410  | 12.5x20        |
| 150              | 160  | 157CKH160M     | 1.658                                | 330  | 16x31.5        |
| 150              | 200  | 157CKH200M     | 1.658                                | 350  | 16x35.5        |
| 220              | 10   | 227CKE010M     | 1.5072                               | 180  | 5x11           |
| 220              | 16   | 227CKE016M     | 1.2811                               | 220  | 6.3x11         |
| 220              | 25   | 227CKE025MGM   | 1.13                                 | 200  | 6.3x11         |
| 220              | 35   | 227CKE035M     | 0.904                                | 300  | 8x11.5         |
| 220              | 50   | 227CKE050M     | 0.754                                | 350  | 10x12.5        |
| 220              | 50   | 227CKH050M     | 0.7536                               | 360  | 10x16          |
| 220              | 63   | 227CKH063M     | 0.7536                               | 400  | 10x20          |
| 220              | 63   | 227CKE063M     | 0.754                                | 390  | 10x16          |
| 220              | 100  | 227CKE100M     | 0.603                                | 560  | 12.5x25        |
| 220              | 100  | 227CKH100M     | 0.603                                | 540  | 16x25          |
| 220              | 100  | 227CKE100MNU   | 0.603                                | 390  | 12.5x20        |
| 220              | 160  | 227CKE160MQW   | 1.13                                 | 410  | 16x31.5        |
| 220              | 200  | 227CKE200M     | 1.13                                 | 500  | 16x35.5        |
| 220              | 250  | 227CKE250M     | 1.13                                 | 485  | 18x35.5        |
| 330              | 10   | 337CKE010M     | 1.005                                | 250  | 6.3x11         |
| 330              | 16   | 337CKE016MGM   | 0.854                                | 225  | 6.3x11         |
| 330              | 25   | 337CKE025M     | 0.754                                | 330  | 8x11.5         |
| 330              | 35   | 337CKE035M     | 0.603                                | 390  | 10x12.5        |
| 330              | 50   | 337CKH050M     | 0.502                                | 490  | 10x20          |
| 330              | 50   | 337CKE050M     | 0.502                                | 480  | 10x16          |
| 330              | 63   | 337CKE063M     | 0.502                                | 520  | 10x20          |
| 330              | 63   | 337CKH063M     | 0.502                                | 530  | 12.5x20        |
| 330              | 100  | 337CKH100M     | 0.402                                | 660  | 16x25          |
| 330              | 100  | 337CKE100M     | 0.402                                | 690  | 12.5x25        |
| 330              | 160  | 337CKE160M     | 0.754                                | 550  | 18x35.5        |
| 330              | 200  | 337CKE200M     | 0.754                                | 675  | 18x40          |
| 470              | 10   | 477CKE010M     | 0.7055                               | 290  | 6.3x11         |
| 470              | 16   | 477CKE016M     | 0.5997                               | 370  | 8x11.5         |
| 470              | 16   | 477CKH016M     | 0.599                                | 370  | 10x12.5        |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxDL (mm) |
|------------------|------|----------------|--------------------------------------|--|----------------|
| 470              | 25   | 477CKE025M     | 0.529                                | 420  | 10x12.5        |
| 470              | 35   | 477CKE035M     | 0.423                                | 520  | 10x16          |
| 470              | 50   | 477CKE050M     | 0.353                                | 630  | 10x20          |
| 470              | 50   | 477CKH050M     | 0.353                                | 630  | 12.5x20        |
| 470              | 63   | 477CKH063M     | 0.353                                | 690  | 12.5x25        |
| 470              | 63   | 477CKE063M     | 0.353                                | 670  | 12.5x20        |
| 470              | 100  | 477CKE100M     | 0.282                                | 830  | 16x25          |
| 470              | 100  | 477CKH100M     | 0.282                                | 870  | 16x31.5        |
| 680              | 6.3  | 687CKH6R3M     | 0.585                                | 375  | 10x12.5        |
| 680              | 16   | 687CKH016M     | 0.415                                | 490  | 10x16          |
| 680              | 35   | 687CKH035M     | 0.293                                | 695  | 12.5x20        |
| 680              | 50   | 687CKH050M     | 0.244                                | 825  | 12.5x25        |
| 680              | 63   | 687CKH063M     | 0.244                                | 925  | 16x25          |
| 1000             | 6.3  | 108CKE6R3M     | 0.398                                | 460  | 8x11.5         |
| 1000             | 10   | 108CKE010M     | 0.332                                | 530  | 10x12.5        |
| 1000             | 16   | 108CKE016M     | 0.282                                | 630  | 10x16          |
| 1000             | 16   | 108CKE016MLN   | 0.282                                | 500  | 10x12.5        |
| 1000             | 16   | 108CKH016M     | 0.282                                | 660  | 10x20          |
| 1000             | 25   | 108CKE025M     | 0.249                                | 740  | 10x20          |
| 1000             | 25   | 108CKE025MLQ   | 0.249                                | 610  | 10x16          |
| 1000             | 35   | 108CKH035M     | 0.199                                | 890  | 12.5x20        |
| 1000             | 50   | 108CKH050M     | 0.166                                | 1010   | 16x25          |
| 1000             | 50   | 108CKE050M     | 0.166                                | 1070   | 12.5x25        |
| 1000             | 63   | 108CKE063M     | 0.166                                | 1080   | 16x25          |
| 1000             | 63   | 108CKH063M     | 0.166                                | 1120   | 16x31.5        |
| 1000             | 100  | 108CKE100M     | 0.133                                | 1580   | 18x40          |
| 1000             | 100  | 108CKE100MRY   | 0.133                                | 1000   | 18x35.5        |
| 1500             | 6.3  | 158CKH6R3M     | 0.287                                | 585  | 10x20          |
| 1500             | 16   | 158CKH016M     | 0.21                                 | 800  | 12.5x20        |
| 1500             | 25   | 158CKH025M     | 0.188                                | 905  | 12.5x25        |
| 1500             | 35   | 158CKH035M     | 0.1547                               | 1140   | 16x25          |
| 1500             | 50   | 158CKH050M     | 0.133                                | 1250   | 18x31.5        |
| 2200             | 6.3  | 228CKE6R3M     | 0.211                                | 760  | 10x16          |
| 2200             | 10   | 228CKE010MLQ   | 0.1809                               | 705  | 10x16          |
| 2200             | 10   | 228CKE010M     | 0.1809                               | 910  | 10x20          |
| 2200             | 16   | 228CKE016M     | 0.1583                               | 1050   | 12.5x20        |
| 2200             | 16   | 228CKE016MLU   | 0.1583                               | 710  | 10x20          |
| 2200             | 16   | 228CKH016M     | 0.158                                | 1090   | 12.5x25        |
| 2200             | 25   | 228CKE025M     | 0.1432                               | 1220   | 12.5x25        |
| 2200             | 25   | 228CKH025M     | 0.143                                | 1210   | 16x25          |
| 2200             | 35   | 228CKH035M     | 0.121                                | 1440   | 16x31.5        |
| 2200             | 35   | 228CKE035M     | 0.1206                               | 1350   | 16x25          |
| 2200             | 50   | 228CKE050MQW   | 0.1055                               | 1410   | 16x31.5        |
| 2200             | 50   | 228CKH050M     | 0.106                                | 1700   | 18x35.5        |
| 2200             | 50   | 228CKE050M     | 0.1055                               | 1700   | 16x35.5        |
| 2200             | 63   | 228CKE063M     | 0.1055                               | 1650   | 18x35.5        |
| 3300             | 6.3  | 338CKE6R3M     | 0.1507                               | 990  | 10x20          |
| 3300             | 10   | 338CKE010M     | 0.131                                | 1140   | 12.5x20        |
| 3300             | 16   | 338CKE016M     | 0.116                                | 1340   | 12.5x25        |
| 3300             | 16   | 338CKH016M     | 0.116                                | 1270   | 16x25          |
| 3300             | 25   | 338CKH025M     | 0.106                                | 1530   | 16x31.5        |
| 3300             | 25   | 338CKE025M     | 0.106                                | 1420   | 16x25          |
| 3300             | 35   | 338CKE035M     | 0.0905                               | 1810   | 16x35.5        |
| 3300             | 35   | 338CKE035MQW   | 0.0905                               | 1500   | 16x31.5        |
| 3300             | 50   | 338CKE050M     | 0.0804                               | 2060   | 18x35.5        |
| 4700             | 10   | 478CKE010M     | 0.0847                               | 1420   | 12.5x25        |
| 4700             | 10   | 478CKH010M     | 0.0988                               | 1350   | 16x25          |
| 4700             | 16   | 478CKH016M     | 0.0882                               | 1560   | 16x31.5        |

| Capacitance (µF) | WVDC | IC PART NUMBER               | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|------------------------------|--------------------------------------|--|---------------|
| 4700             | 16   | <a href="#">478CKE016M</a>   | 0.0741                               | 1510   | 16x25         |
| 4700             | 25   | <a href="#">478CKE025M</a>   | 0.081                                | 1740   | 16x31.5       |
| 4700             | 25   | <a href="#">478CKH025M</a>   | 0.081                                | 1780   | 18x31.5       |
| 4700             | 25   | <a href="#">478CKE025MQV</a> | 0.081                                | 1570   | 16x25         |
| 4700             | 35   | <a href="#">478CKE035M</a>   | 0.0706                               | 2110   | 18x35.5       |
| 4700             | 35   | <a href="#">478CKE035MQY</a> | 0.0706                               | 1780   | 16x35.5       |
| 6800             | 6.3  | <a href="#">688CKE6R3M</a>   | 0.0585                               | 1500   | 12.5x25       |
| 6800             | 10   | <a href="#">688CKE010M</a>   | 0.0488                               | 1600   | 16x25         |
| 6800             | 16   | <a href="#">688CKE016M</a>   | 0.071                                | 1860   | 16x31.5       |
| 6800             | 16   | <a href="#">688CKE016MQV</a> | 0.071                                | 1600   | 16x25         |
| 6800             | 25   | <a href="#">688CKE025M</a>   | 0.0658                               | 2170   | 18x35.5       |
| 6800             | 25   | <a href="#">688CKE025MQY</a> | 0.0658                               | 1850   | 16x35.5       |
| 6800             | 35   | <a href="#">688CKE035M</a>   | 0.0585                               | 2000   | 18x40         |
| 10000            | 6.3  | <a href="#">109CKH6R3M</a>   | 0.07                                 | 1730   | 16x31.5       |

| Capacitance (µF) | WVDC | IC PART NUMBER               | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|------------------------------|--------------------------------------|--|---------------|
| 10000            | 6.3  | <a href="#">109CKE6R3M</a>   | 0.0398                               | 1660   | 16x25         |
| 10000            | 10   | <a href="#">109CKE010MLQ</a> | 0.063                                | 1820   | 16x31.5       |
| 10000            | 10   | <a href="#">109CKH010M</a>   | 0.063                                | 2030   | 18x35.5       |
| 10000            | 10   | <a href="#">109CKE010M</a>   | 0.063                                | 2040   | 16x35.5       |
| 10000            | 16   | <a href="#">109CKE016M</a>   | 0.058                                | 1960   | 18x35.5       |
| 10000            | 16   | <a href="#">109CKE016MQY</a> | 0.058                                | 1930   | 16x35.5       |
| 10000            | 25   | <a href="#">109CKE025M</a>   | 0.0547                               | 2000   | 18x40         |
| 15000            | 6.3  | <a href="#">159CKE6R3M</a>   | 0.0575                               | 2140   | 16x35.5       |
| 15000            | 6.3  | <a href="#">159CKE6R3MQW</a> | 0.0575                               | 1820   | 16x31.5       |
| 15000            | 10   | <a href="#">159CKE010M</a>   | 0.0531                               | 2370   | 18x35.5       |
| 15000            | 10   | <a href="#">159CKE010MQY</a> | 0.0531                               | 2050   | 16x35.5       |
| 15000            | 16   | <a href="#">159CKE016M</a>   | 0.0497                               | 2210   | 18x40         |
| 22000            | 6.3  | <a href="#">229CKE6R3MRY</a> | 0.0497                               | 2280   | 18x35.5       |
| 22000            | 10   | <a href="#">229CKE010M</a>   | 0.0467                               | 2420   | 18x40         |

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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