



# LBA

## 85°C Snap-Mount Aluminum Electrolytic Capacitors



### FEATURES

Multiple case sizes - High voltage – High Current

### APPLICATIONS

Filtering – Switching Power Supplies

|   |             |   |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
|---|-------------|---|----------------------------------|-----|-----|-----|------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Operating Temperature Range               |             | <b>-40°C to +85°C</b>   |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
| Capacitance Tolerance                     |             | <b>+20% at 120 Hz, 20°C</b>   |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
| Surge voltage                             | WVDC        | 16  | 25                               | 35  | 50  | 63  | 80               | 100 | 160 | 200 | 250 | 350 | 400 | 450 | 500 |
|   | SVDC        | 20  | 32                               | 44  | 63  | 79  | 100              | 120 | 200 | 250 | 300 | 400 | 450 | 500 | 550 |
| Dissipation Factor (120 Hz)               | WVDC        | 16  | 25                               | 35  | 50  | 63  | 80               | 100 | 160 | 200 | 250 | 350 | 400 | 450 | 500 |
|   | tan δ       | .5  | .4                               | .25 | .2  | .15 | .15              | .15 | .1* | .1* | .1* | .15 | .15 | .15 | .15 |
|   |             | *Note: .15 for 35 mm Diameter   |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
| Leakage current @20°C, Rated WVDC applied |             | Time  | <b>5 Minutes</b>                 |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | .02CV or 2000uA, whichever is less  |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
| Impedance ratio (120 Hz)                  | WVDC        | 16  | 25                               | 35  | 50  | 63  | 80               | 100 | 160 | 200 | 250 | 350 | 400 | 450 | 500 |
|   | -25°C/+20°C | 4   | 3                                | 3   | 2   | 2   | 2                | 2   | 6   | 6   | 6   | 8   | 8   | 8   | 8   |
|   | -40°C/+20°C | 15  | 10                               | 8   | 6   | 6   | 5                | 5   | 9   | 9   | 9   | 12  | 12  | 12  | 12  |
| Load Life                                 |             | <b>2000 hours with rated voltage applied at 85°C with full rated ripple current applied</b> |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Capacitance change  | ≤20% of initial measured value   |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Dissipation factor  | ≤175% of maximum specified value |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Leakage current   | ≤100% of maximum specified value |     |     |     |                  |     |     |     |     |     |     |     |     |
| Shelf Life                                |             | <b>1000 hours at 85°C with no voltage applied</b>   |                                  |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Capacitance change  | ≤20% of initial measured value   |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Dissipation factor  | ≤175% of maximum specified value |     |     |     |                  |     |     |     |     |     |     |     |     |
|   |             | Leakage current   | ≤100% of maximum specified value |     |     |     |                  |     |     |     |     |     |     |     |     |
| Ripple Current Multipliers                |             | Frequency (Hz)  |                                  |     |     |     | Temperature (°C) |     |     |     |     |     |     |     |     |
|   | WVDC        | 60  | 120                              | 400 | 1k  | 10k | 40               | 60  | 70  | 85  |     |     |     |     |     |
|   | ≤100        | 0.8   | 1.0                              | 1.1 | 1.2 | 1.2 | 1.8              | 1.4 | 1.2 | 1.0 |     |     |     |     |     |
| ≥160                                      | 0.8         | 1.0   | 1.1                              | 1.3 | 1.4 | 1.8 | 1.4              | 1.2 | 1.0 |     |     |     |     |     |     |



Your Global Source for World-Class Capacitors

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North America  
Tel: 847.675.1760  
sales@illcap.com

Asia  
Tel: 852.2793 0931  
sales@illcap.com.hk

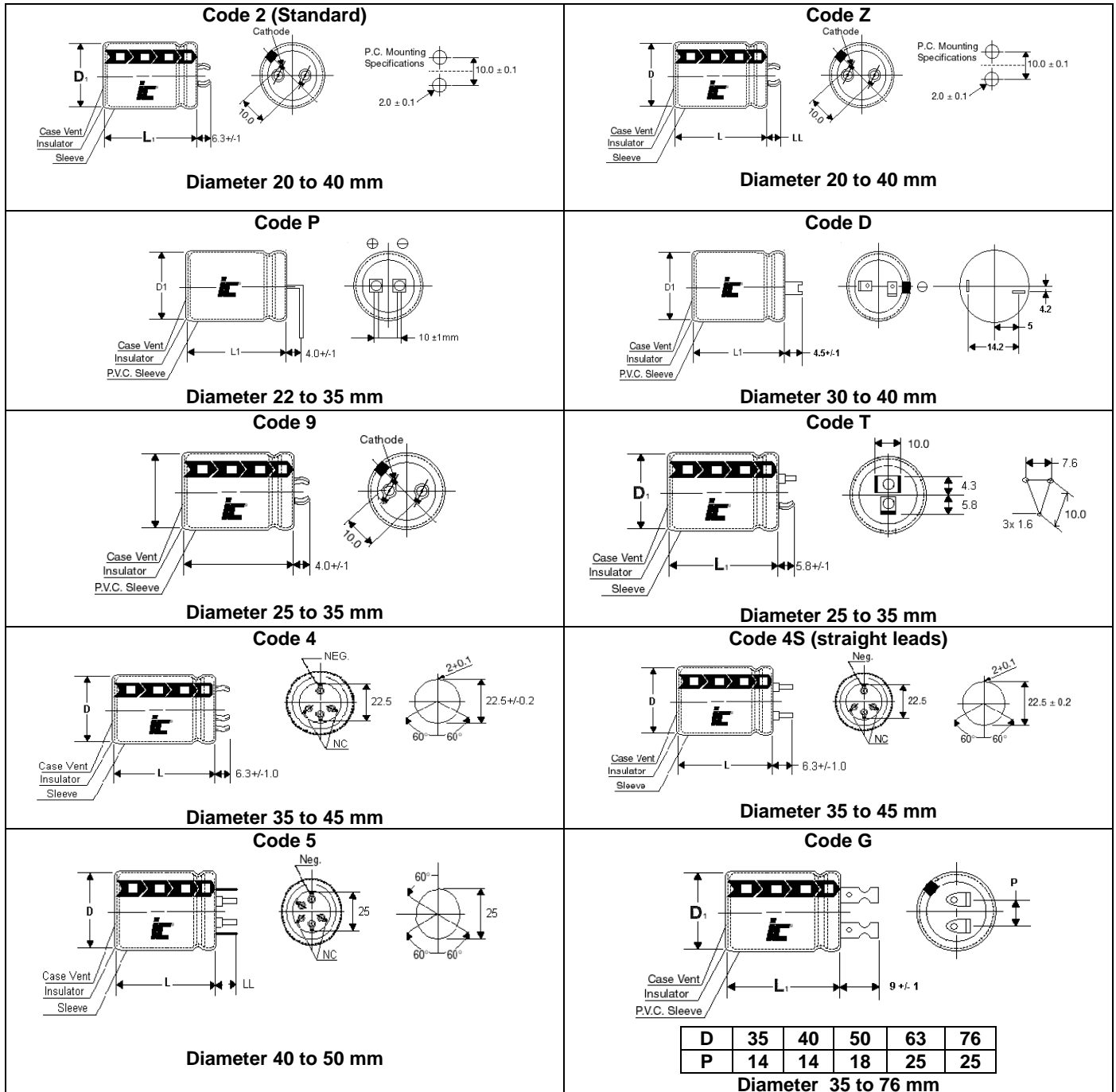


# LBA

## 85°C Snap-Mount Aluminum Electrolytic Capacitors



### Lead style options



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North America  
Tel: 847.675.1760  
sales@illcap.com

Asia  
Tel: 852.2793 0931  
sales@illcap.com.hk

# LBA

+85°C Standard 2000 hrs

| Capacitance (µF) | VVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (A)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|----------------|--------------------------------------|---|---------------|
| 47               | 450  | 476LBA450M2BC  | 5291.06                              | 0.46  | 22x25         |
| 68               | 450  | 686LBA450M2CC  | 3657.05                              | 0.6   | 22x25         |
| 100              | 350  | 107LBA350M2CC  | 3315.73                              | 0.63  | 25x25         |
| 100              | 350  | 107LBA350M2BD  | 3315.73                              | 0.65  | 22x30         |
| 100              | 400  | 107LBA400M2BD  | 3315.73                              | 0.68  | 22x30         |
| 100              | 450  | 107LBA450M2BE  | 3315.73                              | 0.77  | 22x35         |
| 100              | 500  | 107LBA500M2DC  | 2486.8                               | 0.84  | 30x25         |
| 100              | 500  | 107LBA500M2BF  | 2486.8                               | 0.85  | 22x40         |
| 100              | 500  | 107LBA500M2CD  | 2486.8                               | 0.81  | 25x30         |
| 150              | 250  | 157LBA250M2CA  | 1105.24                              | 0.85  | 25x20         |
| 150              | 350  | 157LBA350M2CD  | 1657.86                              | 0.97  | 25x30         |
| 150              | 400  | 157LBA400M2BF  | 1657.86                              | 0.94  | 22x40         |
| 150              | 400  | 157LBA400M2CD  | 1657.86                              | 0.89  | 25x30         |
| 150              | 450  | 157LBA450M2CF  | 1657.86                              | 1.08  | 25x40         |
| 150              | 500  | 157LBA500M2BH  | 1657.86                              | 1.15  | 22x50         |
| 150              | 500  | 157LBA500M2CF  | 1657.86                              | 1.12  | 25x40         |
| 150              | 500  | 157LBA500M2DE  | 1657.86                              | 1.18  | 30x35         |
| 150              | 500  | 157LBA500M2ED  | 1657.86                              | 1.22  | 35x30         |
| 220              | 160  | 227LBA160M2BA  | 753.58                               | 1   | 22x20         |
| 220              | 200  | 227LBA200M2BC  | 753.58                               | 1.14  | 22x25         |
| 220              | 200  | 227LBA200M2CA  | 753.58                               | 1.1   | 25x20         |
| 220              | 250  | 227LBA250M2DA  | 753.58                               | 1.1   | 30x20         |
| 220              | 250  | 227LBA250M2BD  | 753.58                               | 1.2   | 22x30         |
| 220              | 250  | 227LBA250M2CC  | 753.58                               | 1.15  | 25x25         |
| 220              | 350  | 227LBA350M2DD  | 1130.36                              | 1.29  | 30x30         |
| 220              | 400  | 227LBA400M2BH  | 1130.36                              | 1.26  | 22x50         |
| 220              | 400  | 227LBA400M2CF  | 1130.36                              | 1.22  | 25x40         |
| 220              | 450  | 227LBA450M2DF  | 1130.36                              | 1.44  | 30x40         |
| 220              | 500  | 227LBA500M2EE  | 1130.36                              | 1.57  | 35x35         |
| 220              | 500  | 227LBA500M2DG  | 1130.36                              | 1.59  | 30x45         |
| 220              | 500  | 227LBA500M2CH  | 1130.36                              | 1.5   | 25x50         |
| 330              | 160  | 337LBA160M2BC  | 502.38                               | 1.2   | 22x25         |
| 330              | 200  | 337LBA200M2BD  | 502.38                               | 1.48  | 22x30         |
| 330              | 200  | 337LBA200M2CC  | 502.38                               | 1.48  | 25x25         |
| 330              | 250  | 337LBA250M2CD  | 502.38                               | 1.67  | 25x30         |
| 330              | 250  | 337LBA250M2BF  | 502.38                               | 1.72  | 22x40         |
| 330              | 250  | 337LBA250M2DC  | 502.38                               | 1.61  | 30x25         |
| 330              | 350  | 337LBA350M2DD  | 753.58                               | 2.03  | 30x30         |
| 330              | 350  | 337LBA350M2DF  | 753.58                               | 1.72  | 30x40         |
| 330              | 350  | 337LBA350M2ED  | 753.58                               | 1.88  | 35x30         |
| 330              | 400  | 337LBA400M2DG  | 753.58                               | 1.74  | 30x45         |
| 330              | 450  | 337LBA450M2EF  | 753.58                               | 1.92  | 35x40         |
| 330              | 500  | 337LBA500M2EG  | 753.58                               | 2.13  | 35x45         |
| 470              | 160  | 477LBA160M2CC  | 352.74                               | 1.52  | 25x25         |
| 470              | 200  | 477LBA200M2BF  | 352.74                               | 2.02  | 22x40         |
| 470              | 200  | 477LBA200M2CE  | 352.74                               | 1.8   | 25x35         |
| 470              | 200  | 477LBA200M2DC  | 352.74                               | 1.97  | 30x25         |
| 470              | 200  | 477LBA200M2CD  | 352.74                               | 1.91  | 25x30         |
| 470              | 250  | 477LBA250M2BH  | 352.74                               | 2.08  | 22x50         |
| 470              | 250  | 477LBA250M2CF  | 352.74                               | 2.03  | 25x40         |
| 470              | 250  | 477LBA250M2DD  | 352.74                               | 1.97  | 30x30         |
| 470              | 350  | 477LBA350M2EF  | 529.11                               | 2.3   | 35x40         |
| 470              | 400  | 477LBA400M2EG  | 529.11                               | 2.23  | 35x45         |
| 470              | 400  | 477LBA400M2FE  | 529.11                               | 2.16  | 40x35         |
| 470              | 450  | 477LBA450M2EH  | 529.11                               | 2.5   | 35x50         |
| 560              | 200  | 567LBA200M2CE  | 296.05                               | 2.22  | 25x35         |
| 560              | 250  | 567LBA250M2DE  | 296.05                               | 2.3   | 30x35         |
| 680              | 100  | 687LBA100M2BC  | 365.71                               | 1.85  | 22x25         |

| Capacitance (µF) | VVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (A)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|----------------|--------------------------------------|---|---------------|
| 680              | 160  | 687LBA160M2DC  | 243.8                                | 2.1   | 30x25         |
| 680              | 200  | 687LBA200M2CF  | 243.8                                | 2.43  | 25x40         |
| 680              | 200  | 687LBA200M2EC  | 365.71                               | 2.3   | 35x25         |
| 680              | 250  | 687LBA250M2DE  | 243.8                                | 2.4   | 30x35         |
| 680              | 250  | 687LBA250M2DF  | 243.8                                | 2.55  | 30x40         |
| 680              | 250  | 687LBA250M2ED  | 365.71                               | 2.48  | 35x30         |
| 820              | 200  | 827LBA200M2DF  | 202.18                               | 2.85  | 30x40         |
| 820              | 250  | 827LBA250M2DG  | 202.18                               | 2.9   | 30x45         |
| 820              | 250  | 827LBA250M2EE  | 303.27                               | 2.83  | 35x35         |
| 820              | 400  | 827LBA400M2EH  | 0.3033                               | 4   | 35x50         |
| 1000             | 80   | 108LBA080M2BC  | 248.68                               | 1.65  | 22x25         |
| 1000             | 100  | 108LBA100M2CC  | 248.68                               | 2.03  | 25x25         |
| 1000             | 100  | 108LBA100M2BE  | 248.68                               | 2.08  | 22x35         |
| 1000             | 160  | 108LBA160M2EC  | 248.68                               | 2.8   | 35x25         |
| 1000             | 160  | 108LBA160M2DD  | 165.79                               | 2.8   | 30x30         |
| 1000             | 160  | 108LBA160M2DE  | 165.79                               | 2.77  | 30x35         |
| 1000             | 200  | 108LBA200M2DG  | 166.79                               | 3.42  | 30x45         |
| 1000             | 200  | 108LBA200M2EE  | 248.68                               | 3.35  | 35x35         |
| 1000             | 200  | 108LBA200M2ED  | 248.68                               | 3.42  | 35x30         |
| 1000             | 250  | 108LBA250M2EF  | 248.68                               | 3.58  | 35x40         |
| 1000             | 250  | 108LBA250M2DG  | 165.79                               | 3   | 30x45         |
| 1000             | 250  | 108LBA250M2DH  | 165.79                               | 3.65  | 30x50         |
| 1200             | 160  | 128LBA160M2DE  | 138.16                               | 3.2   | 30x35         |
| 1200             | 160  | 128LBA160M2ED  | 207.23                               | 3.2   | 35x30         |
| 1200             | 200  | 128LBA200M2DG  | 138.16                               | 3.4   | 30x45         |
| 1200             | 200  | 128LBA200M2EE  | 207.23                               | 3.54  | 35x35         |
| 1200             | 200  | 128LBA200M2EH  | 138.16                               | 3.4   | 30x50         |
| 1200             | 200  | 128LBA200M2EF  | 207.23                               | 3.47  | 35x40         |
| 1200             | 250  | 128LBA250M2EG  | 207.23                               | 3.5   | 35x45         |
| 1500             | 63   | 158LBA063M2BC  | 165.79                               | 2   | 22x25         |
| 1500             | 80   | 158LBA080M2CC  | 165.79                               | 2.15  | 25x25         |
| 1500             | 100  | 158LBA100M2CE  | 165.79                               | 2.76  | 25x35         |
| 1500             | 160  | 158LBA160M2EE  | 165.79                               | 3.48  | 35x35         |
| 1500             | 200  | 158LBA200M2DG  | 165.79                               | 3.75  | 30x45         |
| 1500             | 200  | 158LBA200M2EG  | 165.79                               | 4.1   | 35x45         |
| 1500             | 200  | 158LBA200M2EF  | 165.79                               | 3.8   | 35x40         |
| 1500             | 250  | 158LBA250M2EH  | 165.79                               | 4   | 35x50         |
| 1800             | 160  | 188LBA160M2DH  | 92.1                                 | 4.1   | 30x50         |
| 1800             | 160  | 188LBA160M2EF  | 138.16                               | 4.1   | 35x40         |
| 1800             | 200  | 188LBA200M2EG  | 138.16                               | 4.2   | 35x45         |
| 1800             | 200  | 188LBA200M2EH  | 138.16                               | 4.38  | 35x50         |
| 2200             | 35   | 228LBA035M2CA  | 188.39                               | 1.7   | 25x20         |
| 2200             | 50   | 228LBA050M2BC  | 150.72                               | 2   | 22x25         |
| 2200             | 63   | 228LBA063M2CC  | 113.04                               | 2.3   | 25x25         |
| 2200             | 80   | 228LBA080M2BF  | 113.04                               | 2.71  | 22x40         |
| 2200             | 80   | 228LBA080M2CE  | 113.04                               | 2.66  | 25x35         |
| 2200             | 100  | 228LBA100M2CG  | 113.04                               | 3.41  | 25x45         |
| 2200             | 100  | 228LBA100M2DE  | 113.04                               | 3.35  | 30x35         |
| 2200             | 100  | 228LBA100M2ED  | 113.04                               | 3.28  | 35x30         |
| 2200             | 160  | 228LBA160M2EH  | 113.04                               | 4.97  | 35x50         |
| 2200             | 160  | 228LBA160M4FF  | 113.04                               | 4.57  | 40x40         |
| 2200             | 200  | 228LBA200M2EH  | 113.04                               | 4.7   | 35x50         |
| 3300             | 35   | 338LBA035M2BC  | 125.6                                | 2.2   | 22x25         |
| 3300             | 50   | 338LBA050M2CC  | 100.48                               | 2.35  | 25x25         |
| 3300             | 50   | 338LBA050M2BD  | 100.48                               | 2.4   | 22x30         |
| 3300             | 50   | 338LBA050M2BC  | 401.9                                | 1.8   | 22x25         |
| 3300             | 63   | 338LBA063M2CE  | 75.358                               | 2.81  | 25x35         |
| 3300             | 80   | 338LBA080M2CG  | 75.358                               | 3.41  | 25x45         |

# LBA

+85°C Standard 2000 hrs

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (A)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|----------------|--------------------------------------|---|---------------|
| 3300             | 80   | 338LBA080M2ED  | 75.358                               | 3.28  | 35x30         |
| 3300             | 100  | 338LBA100M2EE  | 75.358                               | 3.58  | 35x35         |
| 3300             | 100  | 338LBA100M2FD  | 75.358                               | 3.5   | 40x30         |
| 4700             | 25   | 478LBA025M2BC  | 105.82                               | 2.2   | 22x25         |
| 4700             | 35   | 478LBA035M2BD  | 88.18                                | 2.4   | 22x30         |
| 4700             | 35   | 478LBA035M2CC  | 88.18                                | 2.35  | 25x25         |
| 4700             | 50   | 478LBA050M2BF  | 70.55                                | 2.91  | 22x40         |
| 4700             | 50   | 478LBA050M2CE  | 70.55                                | 2.86  | 25x35         |
| 4700             | 50   | 478LBA050M2DC  | 70.55                                | 2.8   | 30x25         |
| 4700             | 63   | 478LBA063M2CG  | 52.91                                | 3.25  | 25x45         |
| 4700             | 63   | 478LBA063M2DD  | 52.91                                | 3.2   | 30x30         |
| 4700             | 63   | 478LBA063M2EC  | 52.91                                | 3.13  | 35x25         |
| 4700             | 63   | 478LBA063M2CE  | 52.91                                | 3.59  | 25x35         |
| 4700             | 80   | 478LBA080M2BE  | 52.91                                | 3.5   | 22x35         |
| 4700             | 80   | 478LBA080M2ED  | 52.91                                | 3.3   | 35x30         |
| 4700             | 80   | 478LBA080M2EE  | 52.91                                | 3.73  | 35x35         |
| 4700             | 100  | 478LBA100M2EG  | 52.91                                | 4.3   | 35x45         |
| 4700             | 100  | 478LBA100M2FE  | 52.91                                | 4.22  | 40x35         |
| 5600             | 25   | 568LBA025M2BD  | 88.81                                | 2.4   | 22x30         |
| 6800             | 25   | 688LBA025M2BE  | 73.14                                | 2.6   | 22x35         |
| 6800             | 25   | 688LBA025M2CC  | 73.14                                | 2.55  | 25x25         |
| 6800             | 35   | 688LBA035M2DC  | 60.95                                | 2.95  | 30x25         |
| 6800             | 35   | 688LBA035M2BF  | 60.95                                | 3.06  | 22x40         |
| 6800             | 35   | 688LBA035M2CD  | 60.95                                | 3.01  | 25x30         |
| 6800             | 35   | 688LBA035M2BE  | 60.95                                | 2.9   | 22x35         |
| 6800             | 50   | 688LBA050M2DD  | 85.331                               | 3.69  | 30x30         |
| 6800             | 50   | 688LBA050M2CG  | 60.95                                | 3.86  | 25x45         |
| 6800             | 50   | 688LBA050M2ED  | 60.95                                | 3.73  | 35x30         |
| 6800             | 63   | 688LBA063M2EE  | 36.57                                | 4.15  | 35x35         |
| 6800             | 80   | 688LBA080M2EG  | 36.57                                | 4.8   | 35x45         |
| 8200             | 16   | 828LBA016M2BC  | 80.87                                | 2.37  | 22x25         |
| 8200             | 25   | 828LBA025M2BE  | 60.65                                | 3.31  | 22x35         |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (mΩ)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (A)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|----------------|--------------------------------------|---|---------------|
| 8200             | 35   | 828LBA035M2CE  | 50.55                                | 3.45  | 25x35         |
| 8200             | 50   | 828LBA050M2DF  | 40.44                                | 4.35  | 30x40         |
| 10000            | 16   | 109LBA016M2BD  | 66.32                                | 2.84  | 22x30         |
| 10000            | 16   | 109LBA016M2CC  | 66.32                                | 2.76  | 25x25         |
| 10000            | 25   | 109LBA025M2BG  | 49.74                                | 3.4   | 22x45         |
| 10000            | 25   | 109LBA025M2CE  | 49.74                                | 3.32  | 25x35         |
| 10000            | 25   | 109LBA025M2DC  | 49.74                                | 3.31  | 30x25         |
| 10000            | 35   | 109LBA035M2CF  | 41.45                                | 4.06  | 25x40         |
| 10000            | 35   | 109LBA035M2DD  | 41.45                                | 4   | 30x30         |
| 10000            | 35   | 109LBA035M2EC  | 41.45                                | 3.93  | 35x25         |
| 10000            | 50   | 109LBA050M2EE  | 33.16                                | 4.7   | 35x35         |
| 10000            | 63   | 109LBA063M2EG  | 24.868                               | 5.2   | 35x45         |
| 15000            | 10   | 159LBA010M2CC  | 55.26                                | 2.76  | 25x25         |
| 15000            | 16   | 159LBA016M2BF  | 44.21                                | 3.94  | 22x40         |
| 15000            | 16   | 159LBA016M2DC  | 44.21                                | 3.51  | 30x25         |
| 15000            | 25   | 159LBA025M2CG  | 33.16                                | 4.5   | 25x45         |
| 15000            | 25   | 159LBA025M2ED  | 33.16                                | 4.39  | 35x30         |
| 15000            | 35   | 159LBA035M2DF  | 27.63                                | 5.07  | 30x40         |
| 15000            | 35   | 159LBA035M2EE  | 27.63                                | 5   | 35x35         |
| 15000            | 50   | 159LBA050M2EG  | 22.11                                | 5.9   | 35x45         |
| 22000            | 10   | 229LBA010M2DC  | 37.68                                | 3.49  | 30x25         |
| 22000            | 16   | 229LBA016M2DD  | 30.14                                | 4.45  | 30x30         |
| 22000            | 16   | 229LBA016M2EC  | 30.14                                | 4.13  | 35x25         |
| 22000            | 16   | 229LBA016M2BH  | 30.14                                | 5.23  | 22x50         |
| 22000            | 25   | 229LBA025M2EE  | 22.61                                | 5.73  | 35x35         |
| 22000            | 25   | 229LBA025M2FD  | 22.61                                | 5.65  | 40x30         |
| 22000            | 35   | 229LBA035M2EG  | 18.84                                | 6.25  | 35x45         |
| 33000            | 16   | 339LBA016M2DF  | 20.1                                 | 5.8   | 30x40         |
| 33000            | 16   | 339LBA016M2ED  | 20.1                                 | 5.15  | 35x30         |
| 33000            | 25   | 339LBA025M2EH  | 15.07                                | 7.2   | 35x50         |
| 47000            | 16   | 479LBA016M2DH  | 14.11                                | 6.78  | 30x50         |
| 47000            | 16   | 479LBA016M2EF  | 14.11                                | 6.71  | 35x40         |