



## Polypropylene Film Capacitors

For Snubber, IGBT & Power Semiconductor Power Circuits

### FEATURES

High dvdt - Good Pulse Current -  
Stable with Temperature and Frequency

### APPLICATIONS

Inverters/Converters - Power Semiconductor Circuits -  
Induction Heating - Switching Power Supplies

|  |  |                                 |            |                           |             |  |             |             |             |             |
|--|--|---------------------------------|------------|---------------------------|-------------|--|-------------|-------------|-------------|-------------|
| <b>Operating Temperature Range</b>   | <b>-55°C to +85°C</b>  |                                 |            |                           |             |  |             |             |             |             |
| <b>Capacitance Tolerance</b>   | ±10% at 1 kHz, 25°C<br>+5% optional  |                                 |            |                           |             |  |             |             |             |             |
| <b>Surge Voltage(SVDC)</b>   | <b>WVDC</b>  | <b>700</b>                      | <b>850</b> | <b>1000</b>               | <b>1200</b> | <b>1500</b>  | <b>2000</b> | <b>2500</b> | <b>3000</b> | <b>3000</b> |
|  | <b>SVDC</b>  | 1000                            | 1200       | 1400                      | 1600        | 2000   | 2400        | 3000        | 3500        |             |
| <b>AC voltage (50/60 Hz)</b>   | <b>WVDC</b>  | <b>700</b>                      | <b>850</b> | <b>1000</b>               | <b>1200</b> | <b>1500</b>  | <b>2000</b> | <b>2500</b> | <b>3000</b> | <b>3000</b> |
|  | <b>VAC</b>   | 420                             | 450        | 480                       | 500         | 575  | 630         | 700         | 750         |             |
| <b>Dissipation Factor (MAX) 25°C</b>   | <b>Frequency (kHz)</b>   | <b>C ≤ 0.047µF</b>              |            | <b>0.047 &gt; C ≥ 1µF</b> |             | <b>C &gt; 1µF</b>  |             |             |             |             |
|  | <b>1</b>   | 0.06%                           |            | 0.05%                     |             | 0.06%  |             |             |             |             |
| <b>Insulation Resistance @25°C (&lt;70% RH) for 1 minute at 100VDC applied</b> | 30000 MΩµF<br>(not to exceed 30GΩ)   |                                 |            |                           |             |  |             |             |             |             |
| <b>Self Inductance</b>   | <1 nano-Henry per mm of lead spacing   |                                 |            |                           |             |  |             |             |             |             |
| <b>Capacitance Drift Factor</b>  | <0.5% after 2 years at 40°C  |                                 |            |                           |             |  |             |             |             |             |
| <b>Life Expectancy</b>   | 30000 hours @VAC, 70°C   |                                 |            |                           |             |  |             |             |             |             |
|  | 100000 hours @VDC, 70°C  |                                 |            |                           |             |  |             |             |             |             |
| <b>Capacitance Change</b>  | <3% of initially measured value  |                                 |            |                           |             |  |             |             |             |             |
| <b>Failure Quota</b>   | 300/ billion component hours   |                                 |            |                           |             |  |             |             |             |             |
| <b>Damp Heat test</b>  | <b>56 days at 40°C with 90 to 95%RH, +40°C and no voltage applied</b>          |                                 |            |                           |             |  |             |             |             |             |
|  | <b>Capacitance Change</b>  | ≤2% of initially measured value |            |                           |             |  |             |             |             |             |
|  | <b>Dissipation Factor</b>  | ≤0.001 at 1kHz and 25°C         |            |                           |             |  |             |             |             |             |
|  | <b>Insulation Resistance</b>   | ≥50% of maximum specified value |            |                           |             |  |             |             |             |             |
| <b>Self Inductance</b>   | <1 nano-Henry per mm of body length and lead length                            |                                 |            |                           |             |  |             |             |             |             |
| <b>Capacitance Drift Factor</b>  | <1.0% after 2 years at 40°C  |                                 |            |                           |             |  |             |             |             |             |
| <b>Capacitance Temperature Coefficient</b>                                     | -200 ppm/°C, ±100ppm/°C  |                                 |            |                           |             |  |             |             |             |             |
| <b>Dielectric Strength</b>   | <b>Terminal to Terminal</b>  |                                 |            |                           |             | <b>Terminal to case</b>  |             |             |             |             |
|  | 160% of rated VDC or 200% VDC applied for 2 Seconds and 25°C                   |                                 |            |                           |             | 3kVAC, 50/60Hz applied between the leads and case for 60 seconds |             |             |             |             |
| <b>Dielectric Construction</b>   | Polypropylene  |                                 |            |                           |             |  |             |             |             |             |
| <b>Coating</b>   | Double Metallized film with internal series connections                        |                                 |            |                           |             |  |             |             |             |             |
| <b>Leads</b>   | Flame Retardant polyester tape wrap (UL 501) with epoxy resin end fill(UL94V0) |                                 |            |                           |             |  |             |             |             |             |
| <b>Leads</b>   | Lead free tinned copper leads  |                                 |            |                           |             |  |             |             |             |             |



|        |       |     |     |     |     |     |     |
|--------|-------|-----|-----|-----|-----|-----|-----|
| L MAX  | 29    | 34  | 34  | 46  | 46  | 55  | 59  |
| D      | ≤17.5 | ≤18 | >18 | ≤25 | >25 | all | all |
| d±0.05 | 0.8   | 0.8 | 1.0 | 1.0 | 1.2 | 1.2 | 1.2 |

# PPA

High Voltage, High dvdt Axial Lead

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 700  | 0.1              | 104PPA700KG    | 950              | 3.5   | 13                              | 12x29         |
| 700  | 0.15             | 154PPA700KG    | 950              | 4.5   | 9.4                             | 13.5x29       |
| 700  | 0.22             | 224PPA700KG    | 950              | 6   | 7.1                             | 15.5x29       |
| 700  | 0.22             | 224PPA700KJ    | 700              | 5.5   | 8                               | 13.5x34       |
| 700  | 0.33             | 334PPA700KG    | 950              | 7   | 5.4                             | 17.5x29       |
| 700  | 0.33             | 334PPA700K     | 700              | 7   | 6                               | 15.5x34       |
| 700  | 0.47             | 474PPA700K     | 700              | 8   | 4.7                             | 18x34         |
| 700  | 0.68             | 684PPA700KD22  | 700              | 10.5  | 3.9                             | 21.5x34       |
| 700  | 0.68             | 684PPA700K     | 475              | 10  | 4.4                             | 18x46         |
| 700  | 1                | 105PPA700KD26  | 700              | 12.5  | 3.2                             | 26x34         |
| 700  | 1                | 105PPA700K     | 475              | 10.5  | 3.9                             | 21x46         |
| 700  | 1.5              | 155PPA700K     | 475              | 14  | 3.3                             | 25.5x46       |
| 700  | 2                | 205PPA700KN    | 475              | 14  | 3                               | 29x46         |
| 700  | 2.2              | 225PPA700K     | 475              | 14  | 2.9                             | 30x46         |
| 700  | 2.2              | 225PPA700KD27  | 350              | 14  | 3.8                             | 27x55         |
| 700  | 2.2              | 225PPA700KS    | 300              | 14  | 4.2                             | 25.5x59       |
| 700  | 2.5              | 255PPA700KN    | 475              | 14  | 2.8                             | 32x46         |
| 700  | 2.5              | 255PPA700KR    | 350              | 14  | 3.5                             | 29x55         |
| 700  | 2.5              | 255PPA700KS    | 300              | 14  | 3.9                             | 27.5x59       |
| 700  | 3                | 305PPA700KN    | 475              | 14  | 2.6                             | 35x46         |
| 700  | 3                | 305PPA700KR    | 350              | 14  | 3.2                             | 31x55         |
| 700  | 3                | 305PPA700KS    | 300              | 14  | 3.6                             | 29.5x59       |
| 700  | 3.3              | 335PPA700K     | 475              | 14  | 2.5                             | 36x46         |
| 700  | 3.3              | 335PPA700KD32  | 350              | 14  | 3.1                             | 32x55         |
| 700  | 3.3              | 335PPA700KS    | 300              | 14  | 3.5                             | 30.5x59       |
| 700  | 4                | 405PPA700KR    | 350              | 14  | 2.8                             | 34.5x59       |
| 700  | 4                | 405PPA700KS    | 300              | 14  | 3.1                             | 33x59         |
| 700  | 4.7              | 475PPA700K     | 350              | 14  | 2.6                             | 37.5x55       |
| 700  | 4.7              | 475PPA700KS    | 300              | 14  | 2.9                             | 35.5x59       |
| 700  | 5.6              | 565PPA700K     | 350              | 14  | 2.3                             | 41x55         |
| 700  | 5.6              | 565PPA700KS    | 300              | 14  | 2.6                             | 38.5x59       |
| 700  | 6.8              | 685PPA700KS    | 300              | 14  | 2.4                             | 42x59         |
| 850  | 0.068            | 683PPA850KG    | 1200             | 3.5   | 13.9                            | 11.5x29       |
| 850  | 0.1              | 104PPA850K     | 1200             | 4.5   | 10.4                            | 13x29         |
| 850  | 0.1              | 104PPA850KD11  | 900              | 4   | 11.5                            | 11x34         |
| 850  | 0.15             | 154PPA850KD15  | 1200             | 5.5   | 7.6                             | 15x29         |
| 850  | 0.15             | 154PPA850K     | 900              | 5   | 8.6                             | 13x34         |
| 850  | 0.22             | 224PPA850KG    | 1200             | 7   | 6.1                             | 17.5x29       |
| 850  | 0.22             | 224PPA850K     | 900              | 6.5   | 6.6                             | 15x34         |
| 850  | 0.33             | 334PPA850K     | 900              | 8.5   | 4.8                             | 18x34         |
| 850  | 0.47             | 474PPA850K     | 900              | 10.5  | 4                               | 21.5x34       |
| 850  | 0.47             | 474PPA850KD18  | 600              | 9.5   | 5                               | 18x46         |
| 850  | 0.68             | 684PPA850KD26  | 900              | 10.5  | 3.2                             | 25.5x34       |
| 850  | 0.68             | 684PPA850K     | 600              | 10.5  | 4.1                             | 21x46         |
| 850  | 1                | 105PPA850K     | 600              | 14  | 3.3                             | 25x46         |
| 850  | 1.5              | 155PPA850K     | 600              | 14  | 2.8                             | 29.5x46       |
| 850  | 2                | 205PPA850KD34  | 600              | 14  | 2.4                             | 33.5x46       |
| 850  | 2                | 205PPA850K     | 425              | 14  | 3                               | 29x55         |
| 850  | 2                | 205PPA850KS    | 275              | 14  | 3.4                             | 28x59         |
| 850  | 2.2              | 225PPA850KD35  | 600              | 14  | 2.3                             | 35x46         |
| 850  | 2.2              | 225PPA850K     | 425              | 14  | 2.8                             | 30.5x55       |
| 850  | 2.2              | 225PPA850KS    | 375              | 14  | 3.2                             | 29.5x59       |
| 850  | 2.5              | 255PPA850KN    | 600              | 14  | 2.6                             | 36.5x46       |
| 850  | 2.5              | 255PPA850K     | 425              | 14  | 2.2                             | 32x55         |
| 850  | 2.5              | 255PPA850KS    | 375              | 14  | 2.5                             | 31x59         |
| 850  | 3                | 305PPA850KR    | 425              | 14  | 2.5                             | 36x55         |
| 850  | 3                | 305PPA850KS    | 375              | 14  | 2.8                             | 34x59         |
| 850  | 3.3              | 335PPA850K     | 425              | 14  | 2.4                             | 37x55         |

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 850  | 3.3              | 335PPA850KS    | 375              | 14  | 2.7                             | 35x59         |
| 850  | 4                | 405PPA850KR    | 425              | 14  | 2.3                             | 40.5x55       |
| 850  | 4                | 405PPA850KS    | 375              | 14  | 2.6                             | 38.5x59       |
| 850  | 4.7              | 475PPA850KS    | 375              | 14  | 2.4                             | 41.5x59       |
| 1000 | 0.068            | 683PPA102KG    | 1400             | 3.5   | 13.6                            | 12.5x29       |
| 1000 | 0.1              | 104PPA102KG    | 1400             | 4.5   | 10.2                            | 14.5x29       |
| 1000 | 0.1              | 104PPA102KJ    | 1050             | 4.5   | 11                              | 12.5x34       |
| 1000 | 0.15             | 154PPA102KG    | 1400             | 6   | 7.3                             | 17x29         |
| 1000 | 0.15             | 154PPA102K     | 1050             | 6   | 8.2                             | 14.5x34       |
| 1000 | 0.22             | 224PPA102K     | 1050             | 7.5   | 5.9                             | 17.5x34       |
| 1000 | 0.33             | 334PPA102K     | 1050             | 9.5   | 4.5                             | 20.5x34       |
| 1000 | 0.33             | 334PPA102KD17  | 680              | 9   | 5.9                             | 17x46         |
| 1000 | 0.47             | 474PPA102K     | 1050             | 10.5  | 3.8                             | 24x34         |
| 1000 | 0.47             | 474PPA102KD20  | 680              | 10.5  | 4.7                             | 20x46         |
| 1000 | 0.68             | 684PPA102K     | 680              | 10.5  | 4                               | 23.5x46       |
| 1000 | 1                | 105PPA102K     | 680              | 14  | 3.2                             | 28x46         |
| 1000 | 1.5              | 155PPA102KD34  | 680              | 14  | 2.6                             | 33.5x46       |
| 1000 | 1.5              | 155PPA102K     | 475              | 14  | 3.2                             | 29.5x55       |
| 1000 | 1.5              | 155PPA102KS    | 425              | 14  | 3.6                             | 28x59         |
| 1000 | 2                | 205PPA102KR    | 475              | 14  | 2.9                             | 33.5x55       |
| 1000 | 2                | 205PPA102KS    | 425              | 14  | 3.2                             | 31.5x59       |
| 1000 | 2.2              | 225PPA102K     | 475              | 14  | 2.7                             | 35x55         |
| 1000 | 2.2              | 225PPA102KS    | 425              | 14  | 3                               | 33x59         |
| 1000 | 3                | 305PPA102KR    | 475              | 14  | 2.4                             | 40.5x55       |
| 1000 | 3                | 305PPA102KS    | 425              | 14  | 2.6                             | 38x59         |
| 1000 | 3.3              | 335PPA102KS    | 425              | 14  | 2.5                             | 40x59         |
| 1200 | 0.047            | 473PPA122K     | 1600             | 3   | 17                              | 12x29         |
| 1200 | 0.047            | 473PPA122KD11  | 1200             | 3   | 19                              | 10.5x34       |
| 1200 | 0.068            | 683PPA122K     | 1600             | 4   | 12.8                            | 13.5x29       |
| 1200 | 0.068            | 683PPA122KD12  | 1200             | 3.5   | 14.3                            | 12x34         |
| 1200 | 0.1              | 104PPA122KG    | 1600             | 5   | 9.7                             | 16x29         |
| 1200 | 0.1              | 104PPA122K     | 1200             | 5   | 10.7                            | 14x34         |
| 1200 | 0.15             | 154PPA122K     | 1200             | 6.5   | 7.7                             | 17x34         |
| 1200 | 0.15             | 154PPA122KD14  | 780              | 6   | 10                              | 14x46         |
| 1200 | 0.22             | 224PPA122K     | 1200             | 9   | 5.4                             | 19.5x34       |
| 1200 | 0.22             | 224PPA122KD16  | 780              | 9   | 7.6                             | 16x46         |
| 1200 | 0.33             | 334PPA122KD23  | 1200             | 10.5  | 4.5                             | 23x34         |
| 1200 | 0.33             | 334PPA122K     | 780              | 9.5   | 5.4                             | 19x46         |
| 1200 | 0.47             | 474PPA122K     | 780              | 10.5  | 4.8                             | 22x46         |
| 1200 | 0.68             | 684PPA122K     | 780              | 13.5  | 3.9                             | 26.5x46       |
| 1200 | 1                | 105PPA122K     | 780              | 14  | 3.4                             | 32x46         |
| 1200 | 1                | 105PPA122KR    | 550              | 14  | 4                               | 27x55         |
| 1200 | 1                | 105PPA122KS    | 350              | 14  | 4.5                             | 25.5x59       |
| 1200 | 1.2              | 125PPA122KD35  | 780              | 14  | 3                               | 34.5x46       |
| 1200 | 1.2              | 125PPA122K     | 550              | 14  | 3.4                             | 29.5x55       |
| 1200 | 1.2              | 125PPA122KS    | 500              | 14  | 3.8                             | 28x59         |
| 1200 | 1.5              | 155PPA122KD37  | 780              | 14  | 2.7                             | 37x46         |
| 1200 | 1.5              | 155PPA122K     | 550              | 14  | 3                               | 33x55         |
| 1200 | 1.5              | 155PPA122KS    | 500              | 14  | 3.4                             | 31x59         |
| 1200 | 2                | 205PPA122KR    | 550              | 14  | 2.6                             | 37.5x55       |
| 1200 | 2                | 205PPA122K     | 400              | 12  | 2.6                             | 39x55         |
| 1200 | 2                | 205PPA122KS    | 500              | 14  | 2.9                             | 35.5x59       |
| 1200 | 2.2              | 225PPA122K     | 550              | 14  | 2.5                             | 39x55         |
| 1200 | 2.2              | 225PPA122KS    | 500              | 14  | 2.8                             | 37x59         |
| 1200 | 2.5              | 255PPA122KR    | 550              | 14  | 2.3                             | 41x55         |
| 1200 | 2.5              | 255PPA122KS    | 500              | 14  | 2.6                             | 39x59         |
| 1200 | 3                | 305PPA122KS    | 500              | 14  | 2.4                             | 42x59         |
| 1500 | 0.033            | 333PPA152KG    | 2000             | 3   | 22                              | 12.5x29       |

# PPA

High Voltage, High dv/dt Axial Lead

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 1500 | 0.047            | 473PPA152KG    | 2000             | 3.5   | 16.5                            | 14x29         |
| 1500 | 0.068            | 683PPA152KG    | 2000             | 4.5   | 12.4                            | 16x29         |
| 1500 | 0.068            | 683PPA152K     | 1500             | 4   | 13.8                            | 13.5x34       |
| 1500 | 0.1              | 104PPA152K     | 1500             | 5.5   | 9.6                             | 16x34         |
| 1500 | 0.15             | 154PPA152K     | 1500             | 7   | 7.2                             | 19.5x34       |
| 1500 | 0.22             | 224PPA152K     | 1500             | 9.5   | 5.3                             | 23x34         |
| 1500 | 0.22             | 224PPA152KD19  | 980              | 9   | 7                               | 19x46         |
| 1500 | 0.33             | 334PPA152K     | 980              | 10.5  | 5.3                             | 23x46         |
| 1500 | 0.47             | 474PPA152K     | 980              | 13.5  | 4.3                             | 27x46         |
| 1500 | 0.68             | 684PPA152K     | 980              | 14  | 3.7                             | 31.5x46       |
| 1500 | 1                | 105PPA152KD37  | 980              | 14  | 3.2                             | 37x46         |
| 1500 | 1                | 105PPA152K     | 675              | 14  | 3.7                             | 31.5x55       |
| 1500 | 1                | 105PPA152KS    | 625              | 14  | 4.2                             | 30.5x59       |
| 1500 | 1.2              | 125PPA152K     | 675              | 14  | 3.4                             | 35.5x55       |
| 1500 | 1.2              | 125PPA152KS    | 625              | 14  | 3.7                             | 33.5x59       |
| 1500 | 1.5              | 155PPA152K     | 675              | 14  | 2.9                             | 40x55         |
| 1500 | 1.5              | 155PPA152KS    | 625              | 14  | 3.2                             | 37x59         |
| 1500 | 2                | 205PPA152KS    | 625              | 14  | 2.8                             | 42x59         |
| 2000 | 0.015            | 153PPA202KG    | 2750             | 2   | 37.5                            | 11x29         |
| 2000 | 0.022            | 223PPA202KG    | 2750             | 2.5   | 27.5                            | 12.5x29       |
| 2000 | 0.022            | 223PPA202K     | 2000             | 2.5   | 33.5                            | 11x34         |
| 2000 | 0.033            | 333PPA202KG    | 2750             | 3.5   | 20.7                            | 14.5x29       |
| 2000 | 0.033            | 333PPA202K     | 2000             | 3.5   | 23.8                            | 13x34         |
| 2000 | 0.047            | 473PPA202KG    | 2750             | 4.5   | 15                              | 16.5x29       |
| 2000 | 0.047            | 473PPA202K     | 2000             | 4.5   | 16.8                            | 13x34         |
| 2000 | 0.068            | 683PPA202K     | 2000             | 5.5   | 11.8                            | 17x34         |
| 2000 | 0.1              | 104PPA202K     | 2000             | 7.5   | 8.4                             | 20x34         |
| 2000 | 0.15             | 154PPA202KD24  | 2000             | 9   | 6.6                             | 24x34         |
| 2000 | 0.15             | 154PPA202K     | 1250             | 9   | 8.3                             | 19.5x46       |
| 2000 | 0.22             | 224PPA202K     | 1250             | 10  | 6                               | 23x46         |
| 2000 | 0.33             | 334PPA202K     | 1250             | 12.5  | 4.7                             | 27.5x46       |
| 2000 | 0.47             | 474PPA202K     | 1250             | 14  | 3.9                             | 32.5x46       |
| 2000 | 0.47             | 474PPA202KR    | 875              | 13  | 5.4                             | 27x55         |
| 2000 | 0.47             | 474PPA202KS    | 800              | 12.5  | 6                               | 26x59         |
| 2000 | 0.56             | 564PPA202KD35  | 1250             | 14  | 3.6                             | 35x46         |
| 2000 | 0.56             | 564PPA202K     | 875              | 14  | 4.5                             | 29.5x55       |
| 2000 | 0.56             | 564PPA202KS    | 800              | 14  | 5                               | 28.5x59       |
| 2000 | 0.68             | 684PPA202K     | 875              | 14  | 4                               | 32x55         |
| 2000 | 0.68             | 684PPA202KS    | 800              | 14  | 4.5                             | 31x59         |
| 2000 | 1                | 105PPA202K     | 875              | 14  | 3.3                             | 39x55         |
| 2000 | 1                | 105PPA202KS    | 800              | 14  | 3.7                             | 37x59         |
| 2000 | 1.2              | 125PPA202KS    | 800              | 14  | 3.4                             | 40.5x59       |
| 2500 | 0.01             | 103PPA252KG    | 3900             | 1.5   | 52                              | 11.5x29       |

| WVDC | Capacitance (μF) | IC PART NUMBER | dv/dt (v/μ sec.) | Maximum RMS Ripple Current (A) 100 kHz, +70°C | Typical ESR (mΩ) 100 kHz, +25°C | Dims DxL (mm) |
|------|------------------|----------------|------------------|---|---------------------------------|---------------|
| 2500 | 0.015            | 153PPA252KG    | 2650             | 2.5   | 37                              | 13.5x29       |
| 2500 | 0.022            | 223PPA252KG    | 3900             | 3   | 27                              | 15.5x29       |
| 2500 | 0.022            | 223PPA252KJ    | 2600             | 2.5   | 31                              | 13x34         |
| 2500 | 0.033            | 333PPA252KG    | 3900             | 4   | 20                              | 18x29         |
| 2500 | 0.033            | 333PPA252K     | 2600             | 4   | 23                              | 15x34         |
| 2500 | 0.047            | 473PPA252K     | 2600             | 5   | 16.5                            | 17x34         |
| 2500 | 0.068            | 683PPA252K     | 2600             | 6.5   | 11.5                            | 20.5x34       |
| 2500 | 0.1              | 104PPA252K     | 2600             | 8.5   | 8                               | 24.5x34       |
| 2500 | 0.1              | 104PPA252KD20  | 1650             | 8   | 11.5                            | 19.5x46       |
| 2500 | 0.15             | 154PPA252K     | 1650             | 9   | 8                               | 23.5x46       |
| 2500 | 0.22             | 224PPA252K     | 1650             | 11.5  | 5.9                             | 27.5x46       |
| 2500 | 0.33             | 334PPA252K     | 1650             | 14  | 4.5                             | 33.5x46       |
| 2500 | 0.33             | 334PPA252KD29  | 1050             | 13.5  | 5.4                             | 28.5x55       |
| 2500 | 0.33             | 334PPA252KS    | 925              | 13  | 6                               | 27.5x59       |
| 2500 | 0.47             | 474PPA252K     | 1050             | 14  | 4.4                             | 33.5x55       |
| 2500 | 0.47             | 474PPA252KS    | 925              | 14  | 4.9                             | 32x59         |
| 2500 | 0.56             | 564PPA252K     | 1050             | 14  | 4                               | 36.5x55       |
| 2500 | 0.56             | 564PPA252KS    | 925              | 14  | 4.5                             | 34.5x59       |
| 2500 | 0.68             | 684PPA252K     | 1050             | 14  | 3.7                             | 40x55         |
| 2500 | 0.68             | 684PPA252KS    | 925              | 14  | 4.1                             | 38x59         |
| 2500 | 0.82             | 824PPA252KS    | 925              | 14  | 3.8                             | 41.5x59       |
| 3000 | 0.0047           | 472PPA302KG    | 5250             | 1   | 88                              | 11x29         |
| 3000 | 0.0068           | 682PPA302KG    | 5250             | 1.5   | 65                              | 12.5x29       |
| 3000 | 0.0068           | 682PPA302K     | 3500             | 1.5   | 77                              | 10.5x34       |
| 3000 | 0.01             | 103PPA302KG    | 5250             | 2   | 46                              | 14.5x29       |
| 3000 | 0.01             | 103PPA302K     | 3500             | 2   | 54.5                            | 12x34         |
| 3000 | 0.015            | 153PPA302KG    | 5250             | 3   | 33.5                            | 16.5x29       |
| 3000 | 0.015            | 153PPA302K     | 3500             | 3   | 38.5                            | 14x34         |
| 3000 | 0.022            | 223PPA302K     | 3500             | 4   | 27                              | 16x34         |
| 3000 | 0.033            | 333PPA302K     | 3500             | 5   | 19                              | 19x34         |
| 3000 | 0.047            | 473PPA302KD23  | 3500             | 6.5   | 14                              | 22.5x34       |
| 3000 | 0.047            | 473PPA302K     | 2000             | 6   | 17.8                            | 18x46         |
| 3000 | 0.068            | 683PPA302K     | 2000             | 8   | 12.8                            | 21x46         |
| 3000 | 0.1              | 104PPA302K     | 2000             | 11  | 9.4                             | 25x46         |
| 3000 | 0.15             | 154PPA302K     | 2000             | 12  | 6.8                             | 30x46         |
| 3000 | 0.22             | 224PPA302K     | 2000             | 14  | 5.2                             | 36x46         |
| 3000 | 0.22             | 224PPA302KD31  | 1450             | 14  | 5.9                             | 30.5x55       |
| 3000 | 0.22             | 224PPA302KS    | 1275             | 14  | 6.5                             | 29x59         |
| 3000 | 0.33             | 334PPA302K     | 1450             | 14  | 4.9                             | 37x55         |
| 3000 | 0.33             | 334PPA302KS    | 1275             | 14  | 5.4                             | 35x59         |
| 3000 | 0.39             | 394PPA302K     | 1450             | 14  | 4.4                             | 40x55         |
| 3000 | 0.39             | 394PPA302KS    | 1275             | 14  | 4.9                             | 37.5x59       |
| 3000 | 0.47             | 474PPA302KS    | 1275             | 14  | 4.5                             | 41x59         |