

# Kingtronics®

# GKT-SD

## Aluminum Electrolytic Capacitor – Snap-in

### FEATURES

- ◆ Load life of 3000 hours at 105°C, equal to 96000 hours (11 years) at 55°C
- ◆ Smaller size
- ◆ High ripple current
- ◆ PCB Mounting

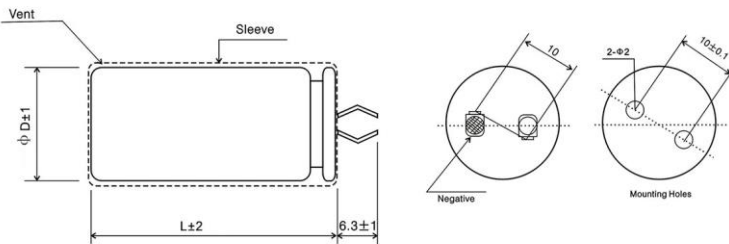


### SPECIFICATIONS

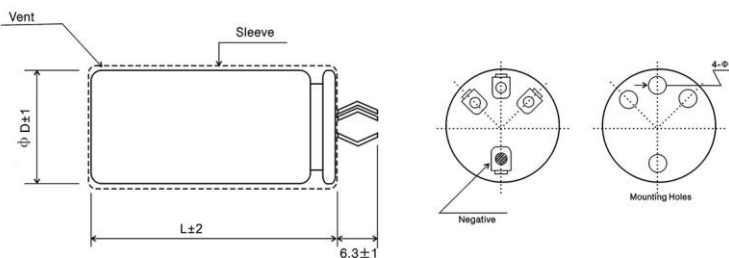
|                                     |   |  |                         |      |      |        |         |         |         |
|-------------------------------------|---|--|-------------------------|------|------|--------|---------|---------|---------|
| OPERATING TEMPERATURE RANGE (°C)    | 10V~100V: -40°C+105°C   |  | 160V~400V: -25°C~+105°C |      |      |        |         |         |         |
| CAPACITANCE TOLERANCE (25°C, 120Hz) | ±20%  |  |                         |      |      |        |         |         |         |
| LEAKAGE CURRENT (µA)                | 0.01CV or 1.5mA whichever is smaller. (25°C, after 5 minutes)<br>C: Nominal Capacitance (µF) V: Rated Voltage (V)   |  |                         |      |      |        |         |         |         |
| DISSIPATION FACTOR (25°C, 120Hz)    | Rated Voltage (V)   | 10   | 16                      | 25   | 35   | 50     | 63~100  | 160~200 | 250~400 |
|                                     | Tan δ   | 0.45                                       | 0.35                    | 0.30 | 0.25 | 0.20   | 0.15    | 0.12    | 0.15    |
| TEMPERATURE STABILITY (120Hz)       | Rated Voltage (V)   |  | 10, 16                  | 25   | 35   | 50, 63 | 80, 100 | 160~200 | 250~400 |
|                                     | Impedance Ratio   | Z-25°C/Z+20°C                              | 4                       | 3    | 3    | 2      | 2       | 3       | 4       |
|                                     |   | Z-40°C/Z+20°C                              | 15                      | 10   | 8    | 6      | 5       | 6       | --      |
| LOAD LIFE (+105°C)                  | Time  | 3000hours                                  |                         |      |      |        |         |         |         |
|                                     | Leakage Current   | Not more than the specified value.         |                         |      |      |        |         |         |         |
|                                     | Capacitance Change  | Within±20% of the initial value            |                         |      |      |        |         |         |         |
|                                     | Dissipation Factor  | Not more than 200% of the specified value. |                         |      |      |        |         |         |         |
| SHELF LIFE (+105°C)                 | After storage for 500hours at 105°C with no voltage applied, the capacitor shall meet the specified limits for "Load Life". After test: U <sub>R</sub> to be applied for 60 minutes, 24 to 48 hours before measurement. |  |                         |      |      |        |         |         |         |

### DIMENSIONS (mm)

2PIN:



4PIN: (φ35mm only)



### MULTIPLIER FOR RIPPLE CURRENT

| Frequency Coefficient |      |     |      |      |      |
|-----------------------|------|-----|------|------|------|
| Frequency(Hz)         | 50   | 120 | 1K   | 10K  | 20K  |
| Rated Voltage(V)      |      |     |      |      |      |
| ≤50                   | 0.95 | 1   | 1.10 | 1.15 | 1.15 |
| 63~100                | 0.95 | 1   | 1.16 | 1.30 | 1.33 |
| ≥160                  | 0.90 | 1   | 1.20 | 1.50 | 1.55 |

| Temperature Coefficient |     |     |     |     |      |
|-------------------------|-----|-----|-----|-----|------|
| Temperature(°C)         | +40 | +55 | +70 | +85 | +105 |
| Factor                  | 2.7 | 2.5 | 2.1 | 1.7 | 1.0  |

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## Aluminum Electrolytic Capacitor – Snap-in

### STANDARD RATINGS

| WV(V)<br>/<br>DxL<br>(mm) | 10    |        | 16    |        | 25    |        | 35    |        | 50    |        | 63   |        | 80   |        | 100  |        |
|---------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|
|                           | Cap   | Ripple | Cap   | Ripple | Cap   | Ripple | Cap   | Ripple | Cap   | Ripple | Cap  | Ripple | Cap  | Ripple | Cap  | Ripple |
|                           | uF    | Arms   | uF    | Arms   | uF    | Arms   | uF    | Arms   | uF    | Arms   | uF   | Arms   | uF   | Arms   | uF   | Arms   |
| 22x25                     | 6800  | 1.5    | 4700  | 1.4    | 3300  | 1.3    | 2200  | 1.1    | 1200  | 0.96   | 820  | 0.92   | 560  | 0.76   | 390  | 0.64   |
| 22x30                     | 10000 | 1.9    | 6800  | 1.8    | 4700  | 1.6    | 2700  | 1.3    | 1800  | 1.2    | 1200 | 1.2    | 820  | 0.96   | 560  | 0.80   |
| 22x35                     | 12000 | 2.1    | 8200  | 2.0    | 5600  | 1.8    | 3900  | 1.6    | 2200  | 1.4    | 1500 | 1.3    | 1000 | 1.1    | 680  | 0.92   |
| 22x40                     | 15000 | 2.5    | 10000 | 2.3    | 6800  | 2.0    | 4700  | 1.9    | 2700  | 1.6    | 1800 | 1.5    | 1200 | 1.2    | 820  | 1.0    |
| 22x50                     | 18000 | 2.8    | 15000 | 2.9    | 10000 | 2.6    | 6800  | 2.4    | --    | --     | 2200 | 1.7    | 1800 | 1.6    | 1200 | 1.3    |
| 25x25                     | 8200  | 1.7    | 6800  | 1.8    | 4700  | 1.6    | 3300  | 1.3    | 1800  | 1.2    | 1200 | 1.1    | 820  | 0.96   | 560  | 0.80   |
| 25x30                     | 12000 | 2.1    | 10000 | 2.2    | 5600  | 1.8    | 3900  | 1.6    | 2700  | 1.5    | 1500 | 1.3    | 1000 | 1.1    | 680  | 0.92   |
| 25x35                     | 15000 | 2.5    | 12000 | 2.5    | 8200  | 2.2    | 5600  | 2.0    | 3300  | 1.8    | 1800 | 1.5    | 1500 | 1.4    | 1000 | 1.1    |
| 25x40                     | 18000 | 2.8    | 15000 | 2.9    | 10000 | 2.6    | 6800  | 2.3    | --    | --     | --   | --     | 1800 | 1.6    | --   | --     |
| 25x50                     | --    | --     | 18000 | 3.3    | 12000 | 2.9    | 8200  | 2.7    | 5600  | 2.5    | 3300 | 2.2    | 2200 | 1.8    | 1500 | 1.5    |
| 30x25                     | 12000 | 2.2    | 10000 | 2.3    | 6800  | 2.0    | 4700  | 1.9    | 2700  | 1.6    | 1500 | 1.4    | 1200 | 1.3    | 820  | 1.0    |
| 30x30                     | 18000 | 2.8    | 12000 | 2.6    | 8200  | 2.3    | 5600  | 2.1    | 3300  | 1.8    | 2200 | 1.7    | 1500 | 1.5    | 1000 | 1.2    |
| 30x35                     | 22000 | 3.2    | 18000 | 3.3    | 12000 | 2.9    | 8200  | 2.9    | 4700  | 2.3    | 2700 | 2.0    | 1800 | 1.6    | 1200 | 1.4    |
| 30x40                     | --    | --     | 22000 | 3.7    | 15000 | 3.3    | 10000 | 3.0    | 5600  | 2.5    | 3300 | 2.3    | 2200 | 1.9    | 1500 | 1.6    |
| 30x50                     | --    | --     | --    | --     | 18000 | 3.8    | 12000 | 3.4    | 6800  | 2.9    | 4700 | 2.8    | 3300 | 2.3    | 2200 | 2.0    |
| 35x25                     | 15000 | 2.6    | 12000 | 2.7    | 8200  | 2.4    | 5600  | 2.2    | 3300  | 1.8    | 2200 | 1.8    | 1500 | 1.5    | 1000 | 1.3    |
| 35x30                     | 22000 | 3.3    | 18000 | 3.4    | 12000 | 3.0    | 8200  | 2.8    | 4700  | 2.4    | 2700 | 2.1    | 2200 | 1.9    | 1200 | 1.4    |
| 35x35                     | --    | --     | 22000 | 3.9    | 15000 | 3.5    | 10000 | 3.1    | 5600  | 2.7    | --   | --     | 2700 | 2.2    | 1800 | 1.8    |
| 35x40                     | --    | --     | --    | --     | 18000 | 3.9    | 12000 | 3.5    | 6800  | 3.0    | 4700 | 2.9    | 3300 | 2.4    | 2200 | 2.0    |
| 35x50                     | --    | --     | --    | --     | --    | --     | 18000 | 4.5    | 10000 | 3.8    | 6800 | 3.6    | 4700 | 3.2    | 2700 | 2.3    |

| WV(V)<br>/<br>DxL<br>(mm) | 160  |        | 180  |        | 200  |        | 250 |        | 315 |        | 350 |        | 400 |        |
|---------------------------|------|--------|------|--------|------|--------|-----|--------|-----|--------|-----|--------|-----|--------|
|                           | Cap  | Ripple | Cap  | Ripple | Cap  | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple |
|                           | uF   | Arms   | uF   | Arms   | uF   | Arms   | uF  | Arms   | uF  | Arms   | uF  | Arms   | uF  | Arms   |
| 22x25                     | 180  | 0.65   | 180  | 0.65   | 150  | 0.60   | 100 | 0.45   | 56  | 0.34   | 56  | 0.37   | 39  | 0.32   |
| 22x30                     | 270  | 0.83   | 220  | 0.75   | 220  | 0.76   | 150 | 0.58   | 82  | 0.43   | 82  | 0.47   | 56  | 0.39   |
| 22x35                     | 330  | 0.94   | 270  | 0.86   | 270  | 0.87   | 180 | 0.65   | 120 | 0.53   | 100 | 0.53   | 68  | 0.45   |
| 22x40                     | 390  | 1.1    | 390  | 1.1    | 330  | 0.99   | 220 | 0.75   | 150 | 0.61   | 120 | 0.60   | 82  | 0.51   |
| 22x50                     | 560  | 1.3    | 470  | 1.5    | 470  | 1.2    | 330 | 0.96   | 180 | 0.71   | 180 | 0.78   | 120 | 0.64   |
| 25x25                     | 270  | 0.82   | 220  | 0.75   | 220  | 0.76   | 150 | 0.58   | 82  | 0.42   | 68  | 0.43   | 56  | 0.40   |
| 25x30                     | 390  | 1.0    | 330  | 0.96   | 270  | 0.87   | 220 | 0.73   | 120 | 0.53   | 100 | 0.54   | 68  | 0.46   |
| 25x35                     | 470  | 1.2    | 390  | 1.1    | 390  | 1.1    | 270 | 0.83   | 150 | 0.62   | 120 | 0.61   | 100 | 0.57   |
| 25x40                     | 560  | 1.3    | 470  | 1.2    | 470  | 1.3    | 330 | 0.95   | --  | --     | 180 | 0.77   | 120 | 0.63   |
| 25x50                     | 820  | 1.7    | 680  | 1.5    | 560  | 1.4    | 470 | 1.2    | 270 | 0.89   | 220 | 0.89   | 150 | 0.75   |
| 30x25                     | 390  | 1.1    | 330  | 1.0    | 270  | 0.92   | 220 | 0.77   | 120 | 0.56   | 100 | 0.57   | 82  | 0.53   |
| 30x30                     | 560  | 1.3    | 470  | 1.2    | 390  | 1.1    | 270 | 0.88   | 180 | 0.71   | 150 | 0.72   | 100 | 0.61   |
| 30x35                     | 680  | 1.5    | 560  | 1.4    | 560  | 1.4    | 390 | 1.1    | 220 | 0.80   | 180 | 0.82   | 150 | 0.77   |
| 30x40                     | 820  | 1.7    | 680  | 1.6    | 680  | 1.6    | 470 | 1.2    | 270 | 0.92   | 220 | 0.93   | 180 | 0.87   |
| 30x50                     | 1000 | 2.0    | 1000 | 2.0    | 820  | 1.8    | 560 | 1.4    | 390 | 1.2    | 330 | 1.2    | 220 | 1.0    |
| 35x25                     | 470  | 1.3    | 390  | 1.2    | 390  | 1.2    | 270 | 0.93   | 180 | 0.74   | 150 | 0.77   | 100 | 0.65   |
| 35x30                     | 680  | 1.6    | 560  | 1.5    | 560  | 1.5    | 390 | 1.2    | 220 | 0.84   | 220 | 0.97   | 150 | 0.83   |
| 35x35                     | 820  | 1.8    | 820  | 1.8    | 680  | 1.7    | 470 | 1.3    | 330 | 1.1    | 270 | 1.1    | 180 | 0.93   |
| 35x40                     | 1000 | 2.0    | 1000 | 2.1    | 820  | 1.9    | 560 | 1.5    | 390 | 1.2    | 330 | 1.3    | 220 | 1.1    |
| 35x50                     | 1500 | 2.6    | 1200 | 2.4    | 1200 | 2.4    | 820 | 1.9    | 470 | 1.4    | 470 | 1.6    | 330 | 1.3    |

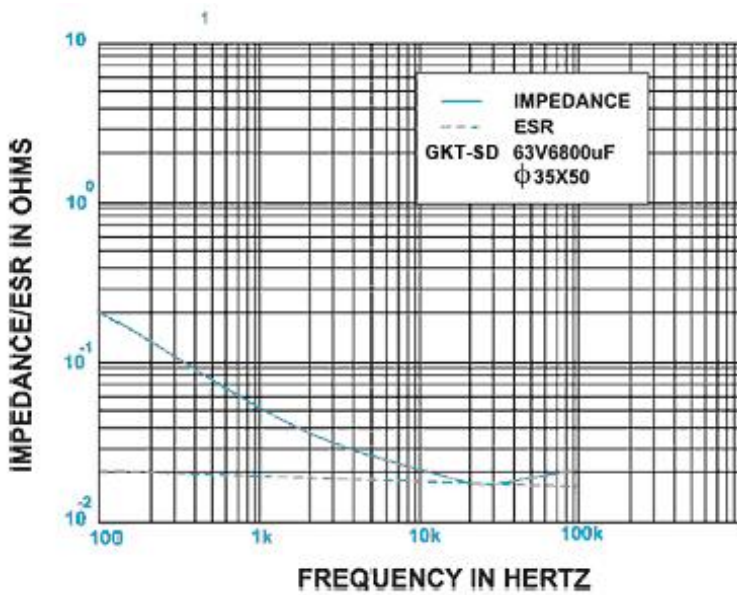
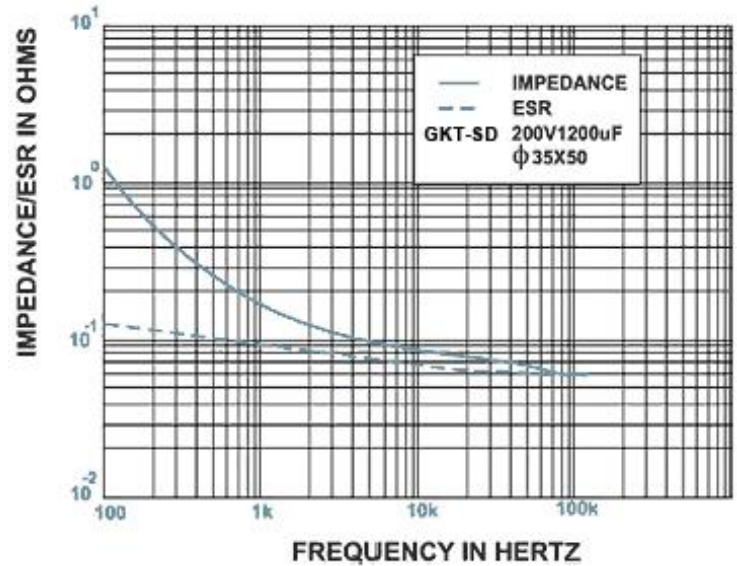
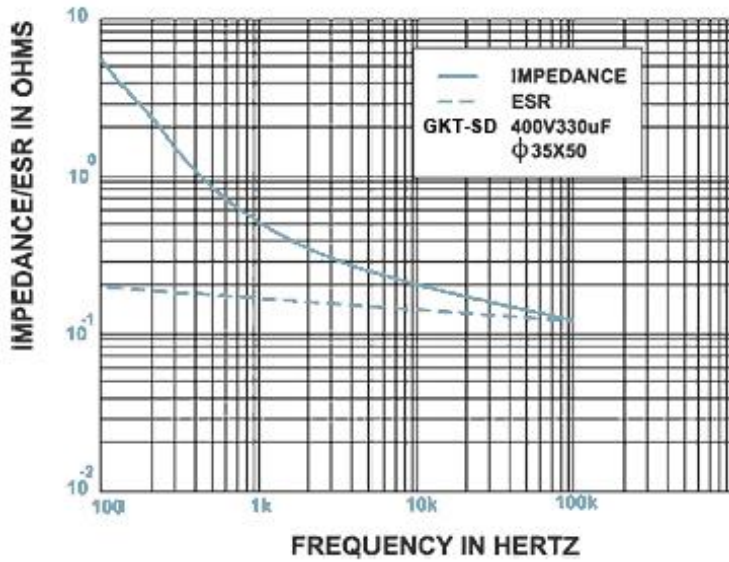
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## GKT-SD

Aluminum Electrolytic Capacitor – Snap-in

### TYPICAL CURVES



**Kingtronics® International Company**



# Kingtronics®

# GKT-SD

## Aluminum Electrolytic Capacitor – Snap-in

### HOW TO ORDER

| GKT    | SD         | 0J            | 0R1         | M                     | 00500110  | 020        | 000         | B       | R  |
|--------|------------|---------------|-------------|-----------------------|-----------|------------|-------------|---------|----|
| Series | Sub Series | Rated Voltage | Capacitance | Capacitance Tolerance | Dimension | Pitch/Pins | Lead Length | Packing | Pb |
|        |            | 1.            | 2.          | 3.                    | 4.        | 5.         | 6.          | 7.      | 8. |

### NOTE:

#### 1. Rated Voltage

| Code    | 0J   | 1A  | 1C  | 1D  | 1E  | 1V  | 1G  | 1H  | 1J  | 1K  |
|---------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Voltage | 6.3V | 10V | 16V | 20V | 25V | 35V | 40V | 50V | 63V | 80V |

| Code    | 2A   | 2B   | 2C   | 2K   | 2D   | 2E   | 2F   | 2U   | 2V   | 2G   | 2X   | 2W   | 2H   | 2Y   |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Voltage | 100V | 120V | 160V | 180V | 200V | 250V | 315V | 330V | 350V | 400V | 420V | 450V | 500V | 550V |

#### 2. Capacitance

| Code             | 0R1 | R22  | R33  | R47  | 010 | 2R2 | 3R3 | 4R7 | 100 | 220 | 330 | 470 | 101 |
|------------------|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Capacitance (µF) | 0.1 | 0.22 | 0.33 | 0.47 | 1   | 2.2 | 3.3 | 4.7 | 10  | 22  | 33  | 47  | 100 |

| Code             | 221 | 271 | 331 | 391 | 471 | 561 | 681 | 102  | 222  | 332  | 472  | 103   | 223   |
|------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-------|-------|
| Capacitance (µF) | 220 | 270 | 330 | 390 | 470 | 560 | 680 | 1000 | 2200 | 3300 | 4700 | 10000 | 22000 |

#### 3. Capacitance Tolerance

| Code      | K    | L    | M    | P       | Q       | R      | T       | U       | V       | H      | F     |
|-----------|------|------|------|---------|---------|--------|---------|---------|---------|--------|-------|
| Tolerance | ±10% | ±15% | ±20% | +100-0% | +30-10% | +20-0% | +50-10% | +75-10% | +20-10% | +20-5% | +30-0 |

#### 4. Dimension

| Code           | 00500110 | 00630120 | 01250200 | 01600300 | 03500450 |
|----------------|----------|----------|----------|----------|----------|
| Dimension (mm) | 5x11     | 6.3x12   | 12.5x20  | 16x30    | 35x45    |

#### 5. Pitch/Pins

| Code             | 020 | 025 | 035 | 050 | 075 | 100  | 127  | 4pins |
|------------------|-----|-----|-----|-----|-----|------|------|-------|
| Pitch (mm)/ Pins | 2.0 | 2.5 | 3.5 | 5.0 | 7.5 | 10.0 | 12.7 | 4PS   |

#### 6. Lead Length

| Code        | 000      | 040 | 045 | 050 |
|-------------|----------|-----|-----|-----|
| Lead Length | Standard | 4.0 | 4.5 | 5.0 |

#### 7. Packing

| Code    | A    | B    |
|---------|------|------|
| Packing | Ammo | Bulk |

#### 8. Pb

| Code | L      | R    |
|------|--------|------|
| Pb   | Leaded | RoHS |

Note: Specifications are subject to change without notice.

**Kingtronics® International Company**

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