

# Type 7P, 55 °C Photoflash, High-Energy, Long Life, Aluminum

## Type 7P Photoflash Capacitors



### High Energy, Long-Life Snapmount or Solder-Lug Terminals

Rugged Type 7P capacitors can withstand more than 100,000 full discharges in typical photoflash applications—that's more than ten times the life of ordinary photoflash capacitors. And thanks to special, high-energy anode foil, the Type 7P has industry-leading energy densities of more than 1 joule per cc.

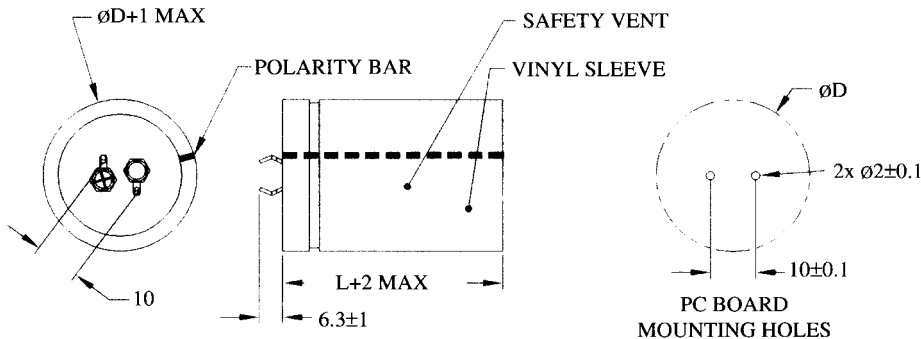
### Highlights

- ♦ 100,000 flash capability
- ♦ 1 joule per cc energy density

## Specifications

|                                                     |                                                                                                              |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature Range:</b>                 | –20 °C to +55 °C                                                                                             |
| <b>Rated Voltage:</b>                               | 330 or 360 Vdc                                                                                               |
| <b>Capacitance:</b>                                 | 300 to 3000 $\mu$ F –10% +20%                                                                                |
| <b>Leakage Current:</b>                             | 1 times C in $\mu$ A maximum at 5 min.                                                                       |
| <b>Dissipation Factor (Tan<math>\delta</math>):</b> | 15% max. @ 25 °C & 120 Hz                                                                                    |
| <b>Discharge Life:</b>                              | 100,000 minimum at 30 s interval<br>$\Delta$ Capacitance $\pm$ 10%<br>ESR 150% of limit<br>DCL 150% of limit |
| <b>Shelf Life:</b>                                  | 500 h @ +70 °C<br>$\Delta$ Capacitance $\pm$ 10%<br>ESR 150% of limit<br>DCL 150% of limit                   |
| <b>Vibration:</b>                                   | 10 to 55 Hz; 0.06" and 10 g max, 6 h vertical, 2 h. ea. 2 other planes                                       |

## Outline Drawings

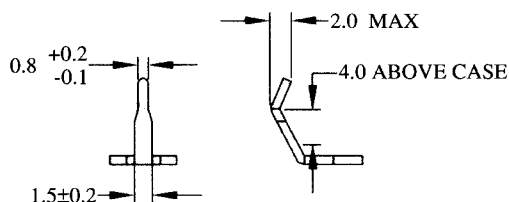


Photoflash  
Strobe-Flash  
Capacitors

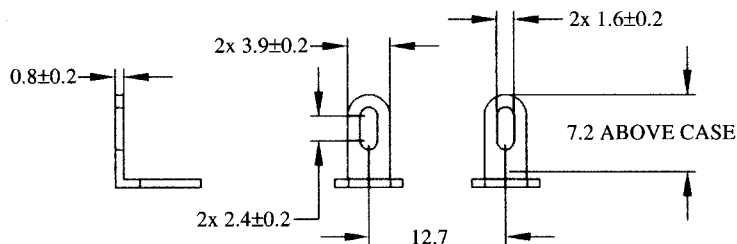
# Type 7P, 55 °C Photoflash, High-Energy, Long Life, Aluminum

## Terminal Drawings

### Snap-In Terminals



### Solder-Lug Terminals



## Part Numbering System

|           |                                                        |                        |               |            |                       |                                                   |
|-----------|--------------------------------------------------------|------------------------|---------------|------------|-----------------------|---------------------------------------------------|
| <b>7P</b> | <b>122</b>                                             | <b>V</b>               | <b>330</b>    | <b>N05</b> | <b>2</b>              | <b>L</b>                                          |
| Type      | Capacitance<br>301 = 300 $\mu$ F<br>122 = 1200 $\mu$ F | Tolerance<br>-10 + 20% | Rated Voltage | Case Code  | Insulation<br>2 = PVC | Terminals<br>(blank) = snap-in<br>L = solder lugs |

## Ratings

| Cap. $\mu$ F                   | Catalog Number | ESR Max. $\Omega$ @ +25°C 120 Hz | Diameter mm | Length in |
|--------------------------------|----------------|----------------------------------|-------------|-----------|
| <b>330 Vdc (360 Vdc Surge)</b> |                |                                  |             |           |
| 300                            | 7P301V330J032  | 0.663                            | 25          | 0.98      |
| 300                            | 7P301V330K012  | 0.663                            | 30          | 1.18      |
| 350                            | 7P351V330J042  | 0.568                            | 25          | 0.98      |
| 350                            | 7P351V330K022  | 0.568                            | 30          | 1.18      |
| 400                            | 7P401V330J042  | 0.497                            | 25          | 0.98      |
| 400                            | 7P401V330K022  | 0.497                            | 30          | 1.18      |
| 500                            | 7P501V330J052  | 0.398                            | 25          | 0.98      |
| 500                            | 7P501V330K032  | 0.398                            | 30          | 1.18      |
| 600                            | 7P601V330K042  | 0.332                            | 30          | 1.18      |
| 700                            | 7P701V330A042  | 0.284                            | 35          | 1.38      |
| 800                            | 7P801V330A042  | 0.249                            | 35          | 1.38      |
| 900                            | 7P901V330A052  | 0.221                            | 35          | 1.38      |
| 900                            | 7P901V330A452  | 0.221                            | 35          | 1.38      |
| 1000                           | 7P102V330A052  | 0.199                            | 35          | 1.38      |
| 1000                           | 7P102V330N042  | 0.199                            | 40          | 1.57      |
| 1200                           | 7P122V330A052  | 0.166                            | 35          | 1.38      |
| 1500                           | 7P152V330A062  | 0.133                            | 35          | 1.38      |
| 2000                           | 7P202V330A082  | 0.099                            | 35          | 1.38      |
| 2700                           | 7P272V330N082  | 0.074                            | 40          | 1.57      |

| Cap. $\mu$ F                   | Catalog Number | ESR Max. $\Omega$ @ +25°C 120 Hz | Diameter mm | Length in |
|--------------------------------|----------------|----------------------------------|-------------|-----------|
| <b>360 Vdc (390 Vdc Surge)</b> |                |                                  |             |           |
| 300                            | 7P301V360J042  | 0.663                            | 25          | 0.98      |
| 350                            | 7P351V360K022  | 0.568                            | 30          | 1.18      |
| 350                            | 7P351V360A012  | 0.568                            | 35          | 1.38      |
| 400                            | 7P401V360J052  | 0.497                            | 25          | 0.98      |
| 400                            | 7P401V360K032  | 0.497                            | 30          | 1.18      |
| 450                            | 7P451V360K032  | 0.442                            | 30          | 1.18      |
| 450                            | 7P451V360A022  | 0.442                            | 35          | 1.38      |
| 500                            | 7P501V360K042  | 0.398                            | 30          | 1.18      |
| 600                            | 7P601V360A032  | 0.332                            | 35          | 1.38      |
| 700                            | 7P701V360A042  | 0.284                            | 35          | 1.38      |
| 800                            | 7P801V360A452  | 0.249                            | 35          | 1.38      |
| 900                            | 7P901V360N042  | 0.221                            | 40          | 1.57      |
| 1000                           | 7P102V360A052  | 0.199                            | 35          | 1.38      |
| 1200                           | 7P122V360A062  | 0.166                            | 35          | 1.38      |
| 1500                           | 7P152V360A072  | 0.133                            | 35          | 1.38      |
| 2000                           | 7P202V360N082  | 0.099                            | 40          | 1.57      |
| 2500                           | 7P252V360N082  | 0.080                            | 40          | 1.57      |

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2.177

# Type PF, 55 °C Photoflash, High-Energy, Long Life, 500 V, Aluminum

## High Energy, Long-Life



### High Energy, Long-Life Screw-Terminals Case Style

Type PF can withstand more than 100,000 full discharges in typical photoflash applications, and Type PF also delivers the higher energy density possible with a rated voltage of 500 V and higher capacitance values in screw-terminal style cans. Type PF is right for the highest flash-energy applications.

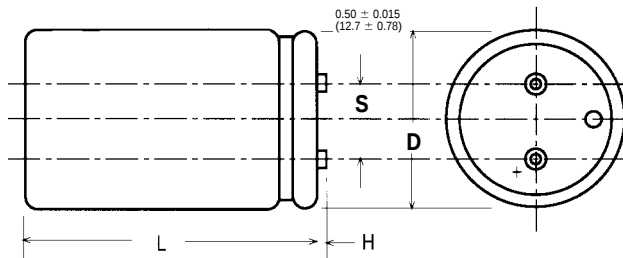
### Highlights

- ♦ 100,000 flash capability
- ♦ 1 joule per cc energy density

## Specifications

|                                                     |                                                                                                               |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature Range:</b>                 | −20 °C to 55 °C                                                                                               |
| <b>Rated Voltage:</b>                               | 500 Vdc                                                                                                       |
| <b>Capacitance:</b>                                 | 600 to 2100 $\mu$ F −10% +20%                                                                                 |
| <b>Leakage Current:</b>                             | 1 times C in $\mu$ A maximum                                                                                  |
| <b>Dissipation Factor (Tan<math>\delta</math>):</b> | 15% max. @ 25 °C & 120 Hz                                                                                     |
| <b>Discharge Life:</b>                              | 100,000 minimum at 30 s interval<br>$\Delta$ Capacitance $\pm$ 10%,<br>ESR 150% of limit<br>DCL 150% of limit |
| <b>Shelf Life:</b>                                  | 500 h @ 55 °C<br>$\Delta$ Capacitance $\pm$ 10%<br>ESR 150% of limit<br>DCL 150% of limit                     |
| <b>Vibration:</b>                                   | 10 to 55 Hz; 0.06" and 10 g max, 6 h vertical, 2 h. ea. 2 other planes                                        |

## Outline Drawings



| Terminal Styles | Code | H    |      | Thread |
|-----------------|------|------|------|--------|
|                 |      | (in) | (mm) |        |
| Low Post        | A    | .094 | 2.39 | 10-32  |
| High Post       | B    | .281 | 7.14 | 10-32  |

# Type PF, 55 °C Photoflash, High-Energy, Long Life, 500 V, Aluminum

## Case Dimensions

### Insulated Case Dimensions

| Case Code | Diam. (D) |       | Length (L) |       | Terminals (S) |       | Typical Weight |       |
|-----------|-----------|-------|------------|-------|---------------|-------|----------------|-------|
|           | ±.031     | ±.062 | ±.062      | ±1.57 | ±0.015        | ±0.38 | oz             | g     |
|           | Inches    | mm    | Inches     | mm    | Inches        | mm    |                |       |
| AK        | 1.399     | 35.5  | 1.687      | 42.8  | 0.500         | 12.7  | 1.9            | 53.9  |
| AA        | 1.399     | 35.5  | 2.187      | 55.5  | 0.500         | 12.7  | 2.0            | 56.7  |
| AH        | 1.399     | 35.5  | 2.687      | 68.2  | 0.500         | 12.7  | 2.7            | 76.5  |
| AB        | 1.399     | 35.5  | 3.187      | 80.9  | 0.500         | 12.7  | 3.3            | 93.6  |
| AJ        | 1.399     | 35.5  | 3.687      | 93.6  | 0.500         | 12.7  | 3.8            | 107.7 |
| AC        | 1.399     | 35.5  | 4.187      | 106.3 | 0.500         | 12.7  | 4.4            | 124.7 |
| AD        | 1.399     | 35.5  | 4.687      | 119.0 | 0.500         | 12.7  | 5.1            | 144.6 |
| AE        | 1.399     | 35.5  | 5.187      | 131.7 | 0.500         | 12.7  | 5.7            | 161.6 |
| AF        | 1.399     | 35.5  | 5.687      | 144.4 | 0.500         | 12.7  | 6.4            | 181.4 |
| EA        | 1.774     | 45.1  | 2.187      | 55.5  | 0.750         | 19.1  | 2.7            | 76.5  |
| EH        | 1.774     | 45.1  | 2.687      | 68.2  | 0.750         | 19.1  | 3.8            | 107.7 |
| EB        | 1.774     | 45.1  | 3.187      | 80.9  | 0.750         | 19.1  | 5.1            | 144.6 |
| EJ        | 1.774     | 45.1  | 3.687      | 93.6  | 0.750         | 19.1  | 6.8            | 192.8 |
| EC        | 1.774     | 45.1  | 4.187      | 106.3 | 0.750         | 19.1  | 8.1            | 229.6 |
| ED        | 1.774     | 45.1  | 4.687      | 119.0 | 0.750         | 19.1  | 9.9            | 280.7 |
| EE        | 1.774     | 45.1  | 5.187      | 131.7 | 0.750         | 19.1  | 9.5            | 269.3 |
| EF        | 1.774     | 45.1  | 5.687      | 144.4 | 0.750         | 19.1  | 10.5           | 297.7 |
| BA        | 2.024     | 51.4  | 2.187      | 55.5  | 0.875         | 22.2  | 2.7            | 76.5  |
| BH        | 2.024     | 51.4  | 2.687      | 68.2  | 0.875         | 22.2  | 5.4            | 153.1 |
| BB        | 2.024     | 51.4  | 3.187      | 80.9  | 0.875         | 22.2  | 6.1            | 172.9 |
| BJ        | 2.024     | 51.4  | 3.687      | 93.6  | 0.875         | 22.2  | 6.8            | 192.8 |
| BC        | 2.024     | 51.4  | 4.187      | 106.3 | 0.875         | 22.2  | 8.2            | 232.5 |
| BD        | 2.024     | 51.4  | 4.687      | 119.0 | 0.875         | 22.2  | 9.6            | 272.1 |
| BE        | 2.024     | 51.4  | 5.187      | 131.7 | 0.875         | 22.2  | 10.3           | 292.0 |
| BF        | 2.024     | 51.4  | 5.687      | 144.4 | 0.875         | 22.2  | 13.0           | 368.5 |

## Part Numbering System

**PF**  
Type

**212**  
Capacitance  
601 = 600  $\mu$ F  
212 = 2100  $\mu$ F

**V**  
Tolerance  
-10 + 20%

**500**  
Rated Voltage  
Vdc

**BF**  
Case Code

**2**  
Insulation  
0 = none  
2 = PVC

**B**  
Terminals  
A = Low post, 10-32  
B = High post, 10-32

## Ratings

| Cap. $\mu$ F            | Catalog Number | ESR Max. $\Omega$<br>+25°C<br>120 Hz | Diameter<br>(mm) (in) | Length<br>(mm) (in) |
|-------------------------|----------------|--------------------------------------|-----------------------|---------------------|
| 500 Vdc (550 Vdc Surge) |                |                                      |                       |                     |
| 600                     | PF601V500AJ2B  | 0.332                                | 35 1.38               | 92 3.63             |
| 800                     | PF801V500AD2B  | 0.249                                | 35 1.38               | 117 4.63            |
| 900                     | PF901V500EJ2B  | 0.221                                | 44 1.75               | 92 3.63             |
| 1000                    | PF102V500AF2B  | 0.199                                | 35 1.38               | 143 5.63            |
| 1200                    | PF122V500BJ2B  | 0.166                                | 51 2.00               | 92 3.63             |
| 1300                    | PF132V500ED2B  | 0.153                                | 44 1.75               | 117 4.63            |
| 1600                    | PF162V500BD2B  | 0.124                                | 51 2.00               | 117 4.63            |
| 1700                    | PF172V500EF2B  | 0.117                                | 44 1.75               | 143 5.63            |
| 2100                    | PF212V500BF2B  | 0.095                                | 51 2.00               | 143 5.63            |

Photoflash  
Strobe-Flash  
Capacitors

# Type ST, 55 °C Strobe-Flash, Long-Life, 360 & 450 V, Aluminum

## Type ST Strobe-Flash Capacitors



### High Energy, Long-Life

Rugged Type ST capacitors can withstand more than 30 million full discharges in typical strobe-lamp applications—that's more than ten years' operation in emergency vehicles. This exceptional life capability is also available in screw-terminal and other case styles and other capacitance values.

The ST's magic is its ability to handle the spectrum of currents caused by full discharge at 1 Hz and faster rates. Because discharge energy is at frequencies from less than a hertz to thousands of hertz, power loss and heating are not predicted by the ESR at 120 Hz, and the open-structure anode foil of Type ST excels at low loss over the full spectrum.

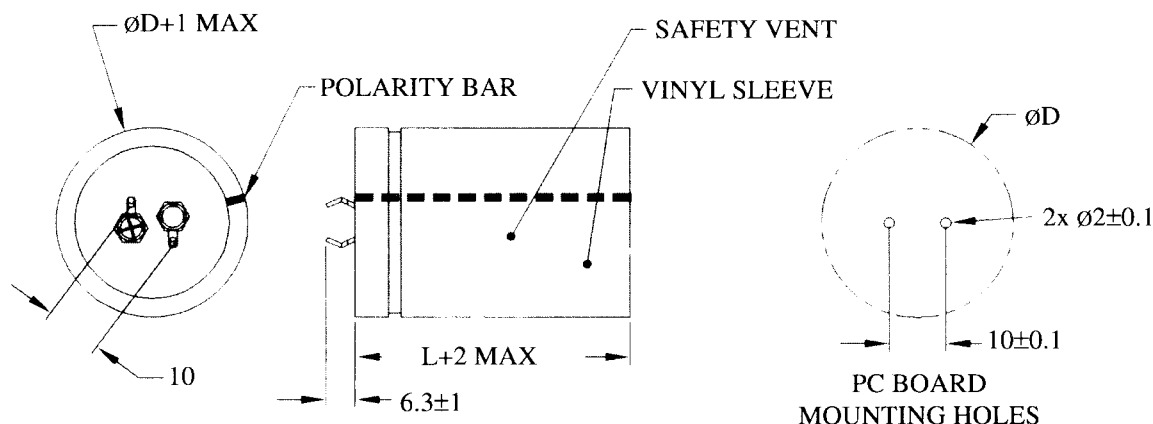
### Highlights

- ♦ Tested to More than 10 Million Flashes
- ♦ More than 30 Million Flashes Typical Life
- ♦ Snapmount or Solder-Lug Terminals

## Specifications

|                               |                                                                                                                                                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature:</b> | – 40 °C to +55 °C                                                                                                                                   |
| <b>Rated Voltage:</b>         | 360 or 450 Vdc                                                                                                                                      |
| <b>Capacitance:</b>           | 30 to 300 $\mu$ F – 10% +20%                                                                                                                        |
| <b>Leakage Current:</b>       | 0.01 CV +20 $\mu$ A at 25 °C                                                                                                                        |
| <b>Cold Impedance:</b>        | – 20 °C multiplier of 25 °C $Z \leq 2$                                                                                                              |
| <b>Dissipation Factor:</b>    | 7% maximum @ 25 °C & 120 Hz                                                                                                                         |
| <b>Discharge Life:</b>        | 10 million discharges at 1 s interval, xenon flash tube 0.7 to 1 $\Omega$<br>$\Delta$ capacitance $\pm 10\%$ , ESR 150% of limit, DCL 150% of limit |
| <b>Shelf Life:</b>            | 500 h @ +55 °C, $\Delta$ capacitance $\pm 10\%$<br>ESR 150% of limit, DCL 150% of limit                                                             |
| <b>Vibration:</b>             | 10 to 55 Hz; 0.06" and 10 g max, 6 h vertical, 2 h each, 2 other planes                                                                             |

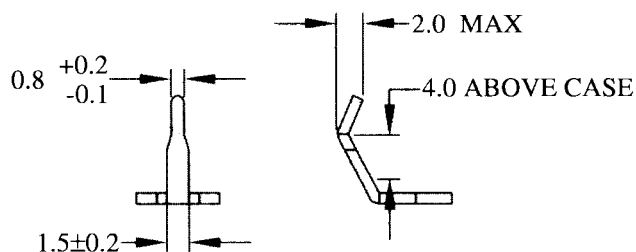
## Outline Drawings



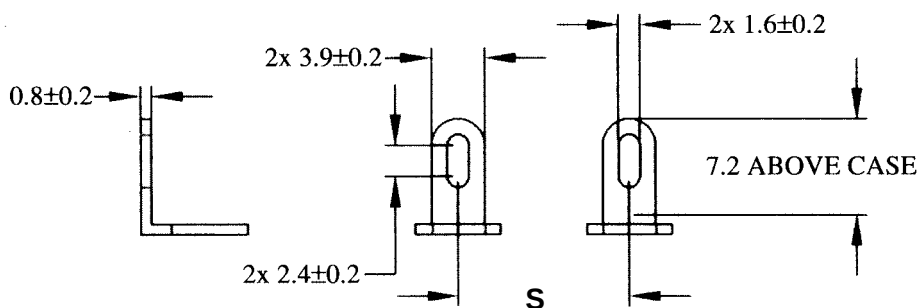
# Type ST, 55 °C Strobe-Flash, Long-Life, 360 & 450 V, Aluminum

## Terminal Drawings

### Snap-In Terminals



### Solder-Lug Terminals



## Case Dimensions

| Case Code | Diam. (D)<br>Max. |        | Length (L)<br>Max. |        | Terminal Spacing (S) |        | Typical Weight |
|-----------|-------------------|--------|--------------------|--------|----------------------|--------|----------------|
|           | mm                | Inches | mm                 | Inches | mm                   | Inches |                |
| H04       | 22                | 0.87   | 40                 | 1.57   | 8.5                  | 0.33   | 24             |
| J01       | 25                | 0.98   | 25                 | 0.98   | 10.0                 | 0.39   | 20             |
| J02       | 25                | 0.98   | 30                 | 1.18   | 10.0                 | 0.39   | 24             |
| J03       | 25                | 0.98   | 35                 | 1.38   | 10.0                 | 0.39   | 27             |
| J04       | 25                | 0.98   | 40                 | 1.57   | 10.0                 | 0.39   | 31             |
| J05       | 25                | 0.98   | 50                 | 1.97   | 10.0                 | 0.39   | 38             |
| K03       | 30                | 1.18   | 35                 | 1.38   | 12.7                 | 0.50   | 40             |
| K04       | 30                | 1.18   | 40                 | 1.57   | 12.7                 | 0.50   | 44             |
| K05       | 30                | 1.18   | 50                 | 1.97   | 12.7                 | 0.50   | 53             |
| A05       | 35                | 1.38   | 50                 | 1.97   | 12.7                 | 0.50   | 67             |
| A06       | 35                | 1.38   | 63                 | 2.48   | 12.7                 | 0.50   | 88             |

Photoflash  
Strobe-Flash  
Capacitors

# Type ST, 55 °C Strobe-Flash, Long-Life, 360 & 450 V, Aluminum

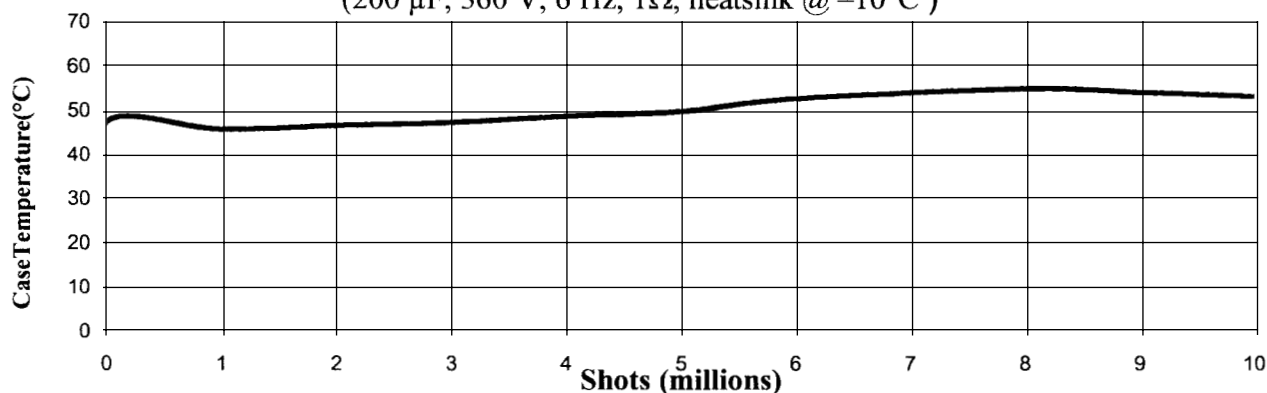
## Part Numbering System

|           |                                       |           |               |            |            |                                    |
|-----------|---------------------------------------|-----------|---------------|------------|------------|------------------------------------|
| <b>ST</b> | <b>121</b>                            | <b>V</b>  | <b>360</b>    | <b>J05</b> | <b>2</b>   | <b>L</b>                           |
| Type      | Capacitance                           | Tolerance | Rated Voltage | Case Code  | Insulation | Terminals                          |
|           | 300 = 30 $\mu$ F<br>121 = 120 $\mu$ F | -10 + 20% |               |            | 2 = PVC    | blank = snap-in<br>L = solder lugs |

## Typical Performance Curves

### Strobe Discharge Life Test

(200  $\mu$ F, 360 V, 6 Hz, 1 $\Omega$ , heatsink @ -10°C)



## Ratings

| Cap. $\mu$ F                   | Catalog Number | ESR Max. $\Omega$<br>+25°C<br>120 Hz | Diameter |      | Length |      |
|--------------------------------|----------------|--------------------------------------|----------|------|--------|------|
| mm                             | in             | mm                                   | in       | mm   | in     |      |
| <b>360 Vdc (390 Vdc Surge)</b> |                |                                      |          |      |        |      |
| 48                             | ST480V360J012  | 1.92                                 | 25       | 0.98 | 25     | 0.98 |
| 60                             | ST600V360J022  | 1.54                                 | 25       | 0.98 | 30     | 1.18 |
| 80                             | ST800V360J032  | 1.15                                 | 25       | 0.98 | 35     | 1.38 |
| 100                            | ST101V360J042  | 0.92                                 | 25       | 0.98 | 40     | 1.57 |
| 120                            | ST121V360K032  | 0.77                                 | 30       | 1.18 | 35     | 1.38 |
| 150                            | ST151V360J052  | 0.61                                 | 25       | 0.98 | 50     | 1.97 |
| 200                            | ST201V360K052  | 0.46                                 | 30       | 1.18 | 50     | 1.97 |
| 250                            | ST251V360A052  | 0.37                                 | 35       | 1.38 | 50     | 1.97 |
| 300                            | ST301V360A062  | 0.31                                 | 35       | 1.38 | 63     | 2.48 |
| <b>450 Vdc (500 Vdc Surge)</b> |                |                                      |          |      |        |      |
| 30                             | ST300V450J012  | 3.07                                 | 25       | 0.98 | 25     | 0.98 |
| 40                             | ST400V450H042  | 2.30                                 | 22       | 0.87 | 40     | 1.57 |
| 50                             | ST500V450J032  | 1.84                                 | 25       | 0.98 | 35     | 1.38 |
| 60                             | ST600V450J042  | 1.54                                 | 25       | 0.98 | 40     | 1.57 |
| 80                             | ST800V450J052  | 1.15                                 | 25       | 0.98 | 50     | 1.97 |
| 100                            | ST101V450K042  | 1.08                                 | 30       | 1.18 | 40     | 1.57 |
| 120                            | ST121V450K052  | 0.77                                 | 30       | 1.18 | 50     | 1.97 |
| 150                            | ST151V450A052  | 0.61                                 | 35       | 1.38 | 50     | 1.97 |

Photoflash  
Strobe-Flash  
Capacitors