

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



## 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.

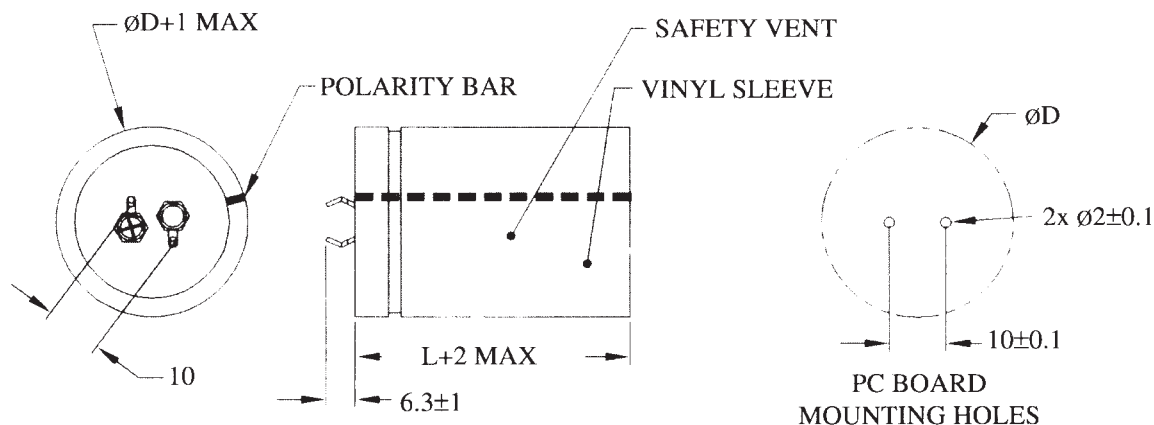
## Highlights

- ◆ 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 µF −10% +20%                                                                                                        |
| <b>Leakage Current:</b>       | 0.01 CV +20 µA 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 1Ω<br>Δ capacitance ±10%, ESR 150% of limit, DCL 150% of limit |
| <b>Shelf Life:</b>            | 500 h @ +55 °C, Δ capacitance ±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                                                       |

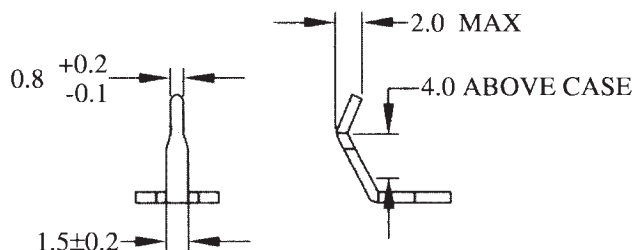
## Outline Drawings



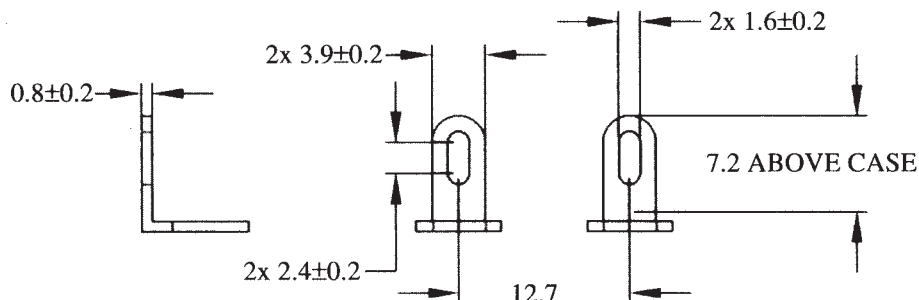
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## Terminal Drawings

### Snap-In Terminals



### Solder-Lug Terminals



## Case Dimensions

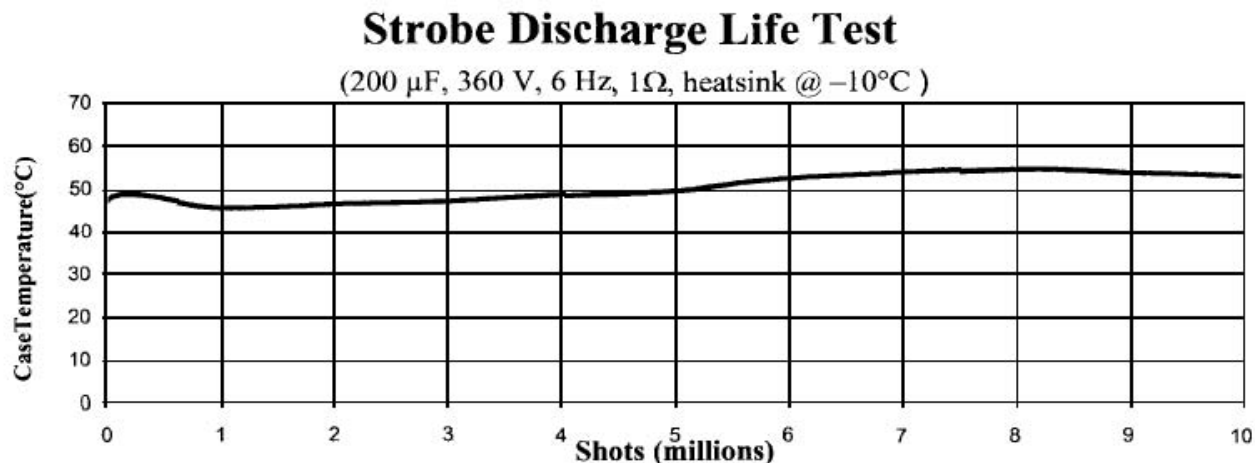
| Case Code | D<br>Diameter Max. |          | L<br>Length Max. |          | S<br>Terminal Spacing |          | Typical Weight |
|-----------|--------------------|----------|------------------|----------|-----------------------|----------|----------------|
|           | (mm)               | (inches) | (mm)             | (inches) | (mm)                  | (inches) | (g)            |
| 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             |

## Part Numbering System

|      |              |           |               |           |            |                 |
|------|--------------|-----------|---------------|-----------|------------|-----------------|
| ST   | 121          | V         | 360           | J05       | 2          | L               |
|      |              |           |               |           |            |                 |
| Type | Capacitance  | Tolerance | Rated Voltage | Case Code | Insulation | Terminals       |
|      | 300 = 30 µF  | -10 + 20% |               |           | 2 = PVC    | blank = snap-in |
|      | 121 = 120 µF |           |               |           |            | L = solder lugs |

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## Typical Performance Curves



## Ratings

| Cap.                    | Catalog       | ESR Maximum    |             |      |        |      |      |
|-------------------------|---------------|----------------|-------------|------|--------|------|------|
|                         |               | +25 °C, 120 Hz | Diameter    |      | Length |      |      |
|                         |               | (μF)           | Part Number | (Ω)  | (mm)   | (in) | (mm) |
| 360 Vdc (390 Vdc Surge) |               |                |             |      |        |      |      |
| 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 |      |
| 450 Vdc (500 Vdc Surge) |               |                |             |      |        |      |      |
| 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 |      |