

# U37L Series



- Large Can
- Screw Terminals
- General Purpose U37 Grade
- High Ripple
- 350 to 500VDC Ratings
- RoHS Compliant
- 10,000 Hours Lifetime at +85°C
- Up to 175,000 Hours Useful Life



The U37L series is a longer life version of the U37 grade series and is specifically designed to provide the ripple current capability and long life required for high reliability inverter applications. The U37L has an endurance rating of 10,000 hours at +85°C with the rated ripple current applied. The useful life can exceed 175,000 hours at +40°C and 2x the ripple current. These capacitors are available in a variety of high current English or Metric thread terminals. Mounting options include a three-footed clamp or bottom threaded stud. Custom designs are also available.

## Summary of Specifications

- Screw terminals: high and low post, English and Metric thread.
- Capacitance range: 1,500 to 18,000µF.
- Voltage range: 350 to 500VDC.
- Category temperature range: -40°C to +85°C.
- Leakage current: 0.02CV(µA) or 5mA, whichever is smaller, after 5 minutes at +25°C.
- Standard capacitance tolerance: ±20%
- Nominal case size (D×L): D = 50mm (2.000") to 89mm (3.500"); L = 92mm (3.625") to 219mm (8.625").
- Rated lifetime: 10,000 hours at +85°C with rated ripple current applied.



# U37L Series

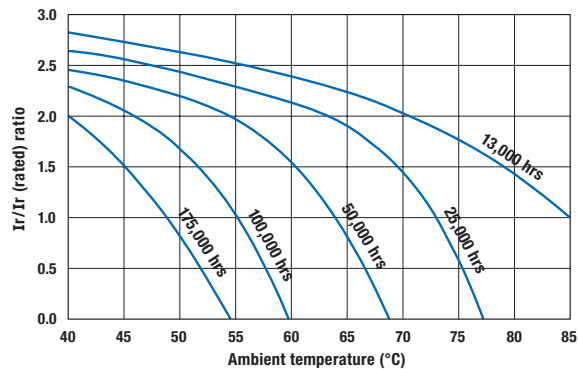
## U37L Specifications - Screw Terminals

| Item                             | Characteristics   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
|----------------------------------|---|---|-------------------|---|-------|-------------------|-------|--------------------|------|-------------|-------------|-----------|------|--------------|----------|---------|-------|-------------------|----------------------|------|------|----------------------|----|----|-------|-------------------|----------------------|---|---|----------------------|---|---|-------|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|
| Category Temperature Range       | - 40 to +85°C   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Rated Voltage Range              | 350 to 500VDC   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Capacitance Range                | 1,500 to 18,000µF at +25°C, 120Hz   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Capacitance Tolerance            | ±20% (M) at +25°C, 120Hz  |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Leakage Current                  | I = 0.02CV (µA) or 5mA, whichever is smaller, after 5 minutes at +25°C.<br>Where I = Max. leakage current (µA), C = Nominal capacitance (µF) and V = Rated voltage (V)  |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Rated Ripple Current Multipliers | <p>Ambient Temperature (°C)</p> <table border="1"> <tr> <td>+45°C</td> <td>+65°C</td> <td>+85°C</td> </tr> <tr> <td>2.82</td> <td>1.73</td> <td>1.00</td> </tr> </table> <p>Frequency (Hz)</p> <table border="1"> <tr> <td>DC Rated Voltage</td> <td>50Hz</td> <td>120Hz</td> <td>300Hz</td> <td>1kHz</td> <td>3kHz</td> <td>10kHz</td> </tr> <tr> <td>350-500V</td> <td>0.80</td> <td>1.00</td> <td>1.20</td> <td>1.30</td> <td>1.40</td> <td>1.41</td> </tr> </table> <p>To determine maximum ripple current at a specified temperature and frequency, use the appropriate multiplier shown.</p>  | +45°C   | +65°C             | +85°C   | 2.82  | 1.73              | 1.00  | DC Rated Voltage   | 50Hz | 120Hz       | 300Hz       | 1kHz      | 3kHz | 10kHz        | 350-500V | 0.80    | 1.00  | 1.20              | 1.30                 | 1.40 | 1.41 |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| +45°C                            | +65°C   | +85°C   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| 2.82                             | 1.73  | 1.00  |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| DC Rated Voltage                 | 50Hz  | 120Hz   | 300Hz             | 1kHz  | 3kHz  | 10kHz             |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| 350-500V                         | 0.80  | 1.00  | 1.20              | 1.30  | 1.40  | 1.41              |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Endurance (Load Life)            | <p>The following specifications shall be satisfied when the capacitors are restored to +25°C after subjecting them to DC voltage for 10,000 hours at +85°C with the rated ripple current applied. The sum of the DC voltage and peak AC voltage must not exceed the full rated voltage of the capacitors.</p> <p>Capacitance change: ≤ 20% from initial measurement<br/>ESR change : ≤ 200% of initial specified limit<br/>Leakage current : ≤ initial specified limit</p>  |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Useful Life                      | <p>With specified standard voltage and ripple current applied, typical life as function of ambient temperature is listed below.</p> <table border="1"> <tr> <td>+85°C</td> <td>13,000 hours max.</td> <td rowspan="3">           Capacitance change: ≤ 30% from initial measurement<br/>ESR change : ≤ 300% of initial specified limit<br/>Leakage current : ≤ initial specified limit         </td> </tr> <tr> <td>+65°C</td> <td>47,700 hours max.</td> </tr> <tr> <td>+45°C</td> <td>175,000 hours max.</td> </tr> </table>  | +85°C   | 13,000 hours max. | Capacitance change: ≤ 30% from initial measurement<br>ESR change : ≤ 300% of initial specified limit<br>Leakage current : ≤ initial specified limit | +65°C | 47,700 hours max. | +45°C | 175,000 hours max. |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| +85°C                            | 13,000 hours max.   | Capacitance change: ≤ 30% from initial measurement<br>ESR change : ≤ 300% of initial specified limit<br>Leakage current : ≤ initial specified limit |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| +65°C                            | 47,700 hours max.   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| +45°C                            | 175,000 hours max.  |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Shelf Life                       | <p>The following specifications shall be satisfied when the capacitors are restored to +25°C after exposing them for 500 hours at +85°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change: ≤ 20% from initial measurement<br/>ESR change : ≤ 200% of initial specified limit<br/>Leakage current : ≤ initial specified limit</p>   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Vibration Rating                 | 10-55Hz, 10g sinusoidal in three axes, 2 hours per axis.  |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Maximum Tightening Torque        | <table border="1"> <tr> <td>Terminal Code</td> <td>HP</td> <td>HL</td> <td>CD</td> <td>CP</td> <td>CH</td> <td>CA</td> <td>CS</td> </tr> <tr> <td>Thread Size</td> <td>10-32 NF-2B</td> <td>M5x0.8-6H</td> <td></td> <td>1/4-28 NF-2B</td> <td></td> <td>M6x1-6H</td> <td></td> </tr> <tr> <td>3 Threads Engaged</td> <td colspan="3">2.0 N·m (18.0 in·lb)</td> <td colspan="4">4.0 N·m (35.0 in·lb)</td> </tr> <tr> <td>6 Threads Engaged</td> <td colspan="3">2.8 N·m (25.0 in·lb)</td> <td colspan="4">6.2 N·m (55.0 in·lb)</td> </tr> </table>  | Terminal Code   | HP                | HL  | CD    | CP                | CH    | CA                 | CS   | Thread Size | 10-32 NF-2B | M5x0.8-6H |      | 1/4-28 NF-2B |          | M6x1-6H |       | 3 Threads Engaged | 2.0 N·m (18.0 in·lb) |      |      | 4.0 N·m (35.0 in·lb) |    |    |       | 6 Threads Engaged | 2.8 N·m (25.0 in·lb) |   |   | 6.2 N·m (55.0 in·lb) |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Terminal Code                    | HP  | HL  | CD                | CP  | CH    | CA                | CS    |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Thread Size                      | 10-32 NF-2B   | M5x0.8-6H   |                   | 1/4-28 NF-2B  |       | M6x1-6H           |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| 3 Threads Engaged                | 2.0 N·m (18.0 in·lb)  |   |                   | 4.0 N·m (35.0 in·lb)  |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| 6 Threads Engaged                | 2.8 N·m (25.0 in·lb)  |   |                   | 6.2 N·m (55.0 in·lb)  |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Typical Inductance (nH) at 1MHz  | <table border="1"> <tr> <td rowspan="2">Case Diameter (mm)</td> <td colspan="7">Terminal Code</td> </tr> <tr> <td>HP</td> <td>HL</td> <td>CD</td> <td>CP</td> <td>CH</td> <td>CA</td> <td>CS</td> </tr> <tr> <td>∅50.8</td> <td>—</td> <td>—</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>∅63.5</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>∅76.2</td> <td>30</td> <td>30</td> <td>25</td> <td>20</td> <td>25</td> <td>20</td> <td>25</td> </tr> <tr> <td>∅89.0</td> <td>30</td> <td>30</td> <td>25</td> <td>20</td> <td>25</td> <td>20</td> <td>25</td> </tr> </table> | Case Diameter (mm)  | Terminal Code     |   |       |                   |       |                    |      | HP          | HL          | CD        | CP   | CH           | CA       | CS      | ∅50.8 | —                 | —                    | NA   | NA   | NA                   | NA | NA | ∅63.5 | —                 | —                    | — | — | —                    | — | — | ∅76.2 | 30 | 30 | 25 | 20 | 25 | 20 | 25 | ∅89.0 | 30 | 30 | 25 | 20 | 25 | 20 | 25 |
| Case Diameter (mm)               | Terminal Code   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
|                                  | HP  | HL  | CD                | CP  | CH    | CA                | CS    |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| ∅50.8                            | —   | —   | NA                | NA  | NA    | NA                | NA    |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| ∅63.5                            | —   | —   | —                 | —   | —     | —                 | —     |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| ∅76.2                            | 30  | 30  | 25                | 20  | 25    | 20                | 25    |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| ∅89.0                            | 30  | 30  | 25                | 20  | 25    | 20                | 25    |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |
| Custom Designs                   | Custom CV values per case size and termination type may be available upon request. Contact appropriate representative with specific requirements.   |   |                   |   |       |                   |       |                    |      |             |             |           |      |              |          |         |       |                   |                      |      |      |                      |    |    |       |                   |                      |   |   |                      |   |   |       |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |

# U37L Series

## U37L Useful Life

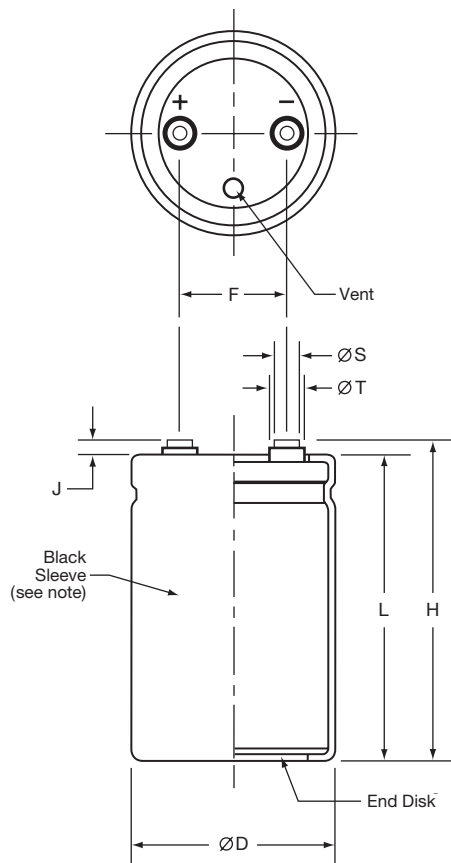
**Useful Life: 13,000 Hours at +85°C**  
 The life expectancy of a capacitor is shown as a function of ambient temperature and ripple current load.



## Diagram of Dimensions - Screw Terminals

### Large Can/Screw Terminals

Unit: mm (inches)



### Case Dimensions and Standard Box Quantities

| Case Size Code                                | ØD<br>+2.0 (0.080) | L<br>±1.0 (0.040)  | F<br>±0.25 (0.010) | Standard Box Quantity |
|---|--------------------|--|--------------------|-----------------------|
| CB7<br>CD0                                    | 50.8 (2.000)       | 117 (4.625)<br>130 (5.125)   | 22.2 (0.875)       | 49                    |
| D92<br>DA5<br>DB7<br>DD0<br>DE3               | 63.5 (2.500)       | 92 (3.625)<br>105 (4.125)<br>117 (4.625)<br>130 (5.125)<br>143 (5.625)                               | 28.6 (1.125)       | 20                    |
| E92<br>EA5<br>EB7<br>EE3<br>EJ1<br>EM9        | 76.2 (3.000)       | 92 (3.625)<br>105 (4.125)<br>117 (4.625)<br>143 (5.625)<br>181 (7.125)<br>219 (8.625)                | 31.8 (1.250)       | 16<br>9               |
| F92<br>FA5<br>FB7<br>FE3<br>FF5<br>FK0<br>FM9 | 89.0 (3.500)       | 92 (3.625)<br>105 (4.125)<br>117 (4.625)<br>143 (5.625)<br>155 (6.125)<br>190 (7.500)<br>219 (8.625) | 31.8 (1.250)       | 5                     |

Note:  
 In some cases, the color of the sleeve may change slightly due to the operating conditions, however, the discoloration will not impair capacitor function.

### Terminal Specifications

| Terminal Code | Available Case Diameter |                             | Thread Size | Minimum Thread Depth | J<br>±0.5 (0.020) | H<br>±2.0 (0.080) | ØS<br>±0.25 (0.010) | ØT<br>±0.25 (0.010) |
|---------------|-------------------------|-----------------------------|-------------|----------------------|-------------------|-------------------|---------------------|---------------------|
|               | ØD Code                 | ØD mm (inches)              |             |                      |                   |                   |                     |                     |
| HP            | C                       | 50.8 (2.000)                | 10-32 NF-2B | 9.5 (0.375)          | 6.4 (0.250)       | L+J               | 8.0 (0.313)         | 11.1 (0.438)        |
| HL            | C                       | 50.8 (2.000)                | M5x0.8-6H   | 9.5 (0.375)          | 6.4 (0.250)       | L+J               | 8.0 (0.313)         | 11.1 (0.438)        |
| CD            | D-E                     | 63.5 - 76.2 (2.500 - 3.000) | M5x0.8-6H   | 8.5 (0.335)          | 5.0 (0.200)       | L+J               | 13.0 (0.512)        | 18.8 (0.740)        |
| CP            | D-F                     | 63.5 - 89.0 (2.500 - 3.500) | ¼-28 NF-2B  | 8.7 (0.344)          | 2.4 (0.093)       | L+J               | 17.5 (0.689)        | —                   |
| CH            | D-F                     | 63.5 - 89.0 (2.500 - 3.500) | ¼-28 NF-2B  | 11.9 (0.468)         | 6.4 (0.250)       | L+J               | 17.5 (0.689)        | —                   |
| CA            | D-F                     | 63.5 - 89.0 (2.500 - 3.500) | M6x1-6H     | 8.7 (0.344)          | 2.4 (0.093)       | L+J               | 17.5 (0.689)        | —                   |
| CS            | D-F                     | 63.5 - 89.0 (2.500 - 3.500) | M6x1-6H     | 11.9 (0.468)         | 6.4 (0.250)       | L+J               | 17.5 (0.689)        | —                   |

Mounting Hardware is optional. Refer to hardware specifications on the following page.

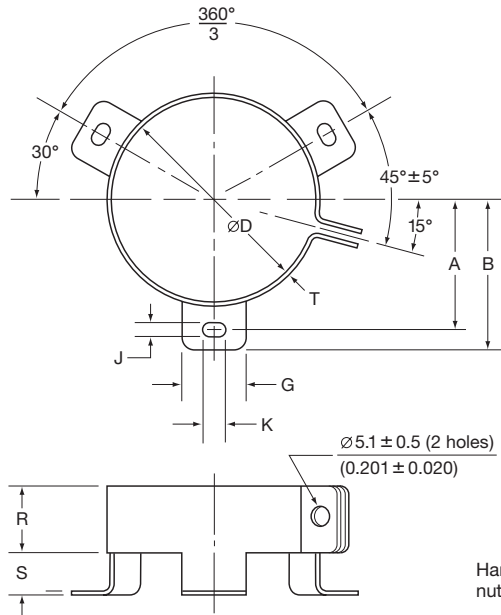


# U37L Series

## Mounting Hardware - Screw Terminals

### Type C: Three-Footed Clamp

Unit: mm (inches)

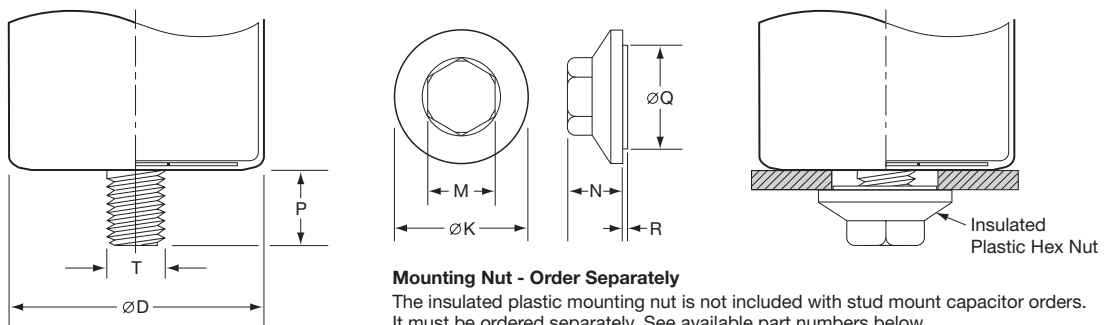


Hardware: Screw, washer and hexagon nut included with each clamp.

### Type C: Clamp Dimensions

| Mounting Code | Case $\varnothing D$ | A $\pm 1.0$ (0.040) | B $\pm 1.0$ (0.040) | G $\pm 1.0$ (0.040) | J $\pm 0.5$ (0.020) | K $\pm 0.5$ (0.020) | R $\pm 1.0$ (0.040) | S $\pm 1.0$ (0.040) | T $\pm 0.5$ (0.020) |
|---------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| C             | 50.8 (2.000)         | 31.8 (1.250)        | 36.5 (1.437)        | 13.3 (0.524)        | 4.5 (0.177)         | 7.1 (0.280)         | 19.1 (0.751)        | 9.5 (0.374)         | 0.8 (0.032)         |
| C             | 63.5 (2.500)         | 38.1 (1.500)        | 42.9 (1.689)        | 13.3 (0.524)        | 4.5 (0.177)         | 7.1 (0.280)         | 19.1 (0.751)        | 9.5 (0.374)         | 0.8 (0.032)         |
| C             | 76.2 (3.000)         | 44.5 (1.750)        | 49.2 (1.937)        | 13.3 (0.524)        | 4.5 (0.177)         | 7.1 (0.280)         | 19.1 (0.751)        | 9.5 (0.374)         | 1.0 (0.040)         |
| C             | 89.0 (3.500)         | 50.8 (2.000)        | 56.5 (2.224)        | 16.0 (0.630)        | 4.5 (0.177)         | 8.0 (0.313)         | 21.0 (0.827)        | 9.0 (0.354)         | 1.0 (0.040)         |

### Type S: Stud Mounting



#### Mounting Nut - Order Separately

The insulated plastic mounting nut is not included with stud mount capacitor orders. It must be ordered separately. See available part numbers below.

### Type S: Stud Dimensions

| Mounting Code | P $\pm 1.0$ (0.040) | T Thread Size |
|---------------|---------------------|---------------|
| S             | 16.0 (0.630)        | M12           |

### Mounting Nut Dimensions

| Part Number | ØK $\pm 2.0$ (0.080) | M $\pm 1.0$ (0.040) | N $\pm 1.0$ (0.040) | ØQ $\pm 1.0$ (0.040) | R $\pm 1.0$ (0.040) |
|-------------|----------------------|---------------------|---------------------|----------------------|---------------------|
| 50-8D       | 30.0 (1.181)         | 19.0 (0.748)        | 18.0 (0.709)        | 22.0 (0.866)         | 1.40 (0.055)        |
| 50-8E       | 38.0 (1.496)         | 19.0 (0.748)        | 18.0 (0.709)        | 30.0 (1.181)         | 1.40 (0.055)        |

# U37L Series

**Part Numbering System for U37L Series** When ordering, always specify complete 18-field global part number.

**18 Fields**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

**E 3 7 L 4 0 1 C P S 3 3 2 M D A 5 U**

- 9 Supplement Code.** Field 18.  
U = PVC sleeve with end disk.  
Other sleeve material available as option upon request.
- 8 Case Size.** Fields 15, 16 and 17.  
The single letter diameter code is inserted in field 15.  
C = Ø50.8mm (Ø2.000")  
D = Ø63.5mm (Ø2.500")  
E = Ø76.2mm (Ø3.000")  
F = Ø89.0mm (Ø3.500")  
  
The double character length code is inserted in fields 16 and 17.  
For lengths ≤99mm, insert the actual length rounded to nearest millimeter. For lengths of 100mm or more, insert the appropriate alpha numeric code as indicated below.  
92 = 92mm (3.625")  
A5 = 105mm (4.125")  
B7 = 117mm (4.625")  
D0 = 130mm (5.125")  
E3 = 143mm (5.625")  
F5 = 155mm (6.125")  
J1 = 181mm (7.125")  
K0 = 190mm (7.500")  
M9 = 219mm (8.625")
- 7 Capacitance Tolerance.** Field 14.  
M = ±20%
- 6 Capacitance.** Fields 11, 12 and 13.  
Expressed in Microfarads. The first two digits are significant figures inserted in fields 11 and 12, and the third digit inserted in field 13 indicates the number of zeros for capacitance of 10µF or more. R indicates the decimal point for capacitance less than 10µF (e.g. 3R3 = 3.3µF; 330 = 33µF; 331 = 330µF; 332 = 3,300µF; 333 = 33,000µF).
- 5 Mounting Hardware.** Field 10.  
N = None.  
C = Three-footed clamp.  
S = Stud mount. *The mounting nut is not included with stud mount orders. It must be ordered separately.*
- 4 Terminal Type.** Fields 8 and 9.  
HP = High post 10-32 NF-2B screw thread.  
HL = High post M5x0.8 screw thread.  
CD = M5x0.8 screw thread.  
CP = Low post 1/4-28 NF-2B screw thread.  
CH = High post 1/4-28 NF-2B screw thread.  
CA = Low post M6x1 screw thread.  
CS = High post M6x1 screw thread.
- 3 DC Rated Voltage.** Fields 5, 6 and 7.  
Expressed in Volts. The first two digits are significant figures inserted in fields 5 and 6, and the third digit inserted in field 7 indicates the number of zeros for rated voltage of 10VDC or more. R indicates the decimal point for rated voltage less than 10VDC (e.g. 4R0 = 4.0VDC; 400 = 40VDC; 401 = 400VDC).
- 2 Series Name.** Fields 2, 3 and 4.  
Enter the 3-letter/digit series name in fields 2, 3 and 4. If the series name is only 2 letters/digits, place a dash in field 4. For a series name with more than 3 letters/digits, refer to the individual series for the appropriate 3-field series name.
- 1 Capacitor Type.** Field 1.  
Aluminum Electrolytic Capacitor (Polar).



# U37L Series

## Standard Voltage Ratings - Screw Terminals

| Rated Voltage (WVDC)                 | Capacitance (μF)   | Global Part Number† | Nominal Case Size* D × L (mm) | Case Size Code | Maximum ESR (mΩ) at +25°C, 120Hz | Rated Ripple Current (A rms) at +85°C |       |       |
|--------------------------------------|--------------------|---------------------|-------------------------------|----------------|----------------------------------|---------------------------------------|-------|-------|
|                                      |                    |                     |                               |                |                                  | 120Hz                                 | 300Hz | >3kHz |
| <b>350 Volts<br/>400 Volts Surge</b> | 3,300              | E37L351HPN332MCB7U  | 50 × 117                      | CB7            | 29                               | 10.6                                  | 12.7  | 14.8  |
|                                      | 3,300              | E37L351HPN332MCD0U  | 50 × 130                      | CD0            | 29                               | 11.0                                  | 13.1  | 15.3  |
|                                      | 3,300              | E37L351CPN332MD92U  | 63.5 × 92                     | D92            | 30                               | 10.7                                  | 12.8  | 15.0  |
|                                      | 3,900              | E37L351CPN392MDA5U  | 63.5 × 105                    | DA5            | 26                               | 12.2                                  | 14.6  | 17.0  |
|                                      | 3,900              | E37L351CPN392MDB7U  | 63.5 × 117                    | DB7            | 26                               | 12.6                                  | 15.2  | 17.7  |
|                                      | 4,700              | E37L351CPN472MDD0U  | 63.5 × 130                    | DD0            | 21                               | 14.4                                  | 17.3  | 20.2  |
|                                      | 5,600              | E37L351CPN562MDE3U  | 63.5 × 143                    | DE3            | 18                               | 16.3                                  | 19.5  | 22.8  |
|                                      | 4,700              | E37L351CPN472ME92U  | 76.2 × 92                     | E92            | 22                               | 13.9                                  | 16.7  | 19.5  |
|                                      | 5,600              | E37L351CPN562MEA5U  | 76.2 × 105                    | EA5            | 18                               | 15.8                                  | 19.0  | 22.1  |
|                                      | 6,800              | E37L351CPN682MEB7U  | 76.2 × 117                    | EB7            | 15                               | 18.1                                  | 21.7  | 25.4  |
|                                      | 8,200              | E37L351CPN822MEE3U  | 76.2 × 143                    | EE3            | 13                               | 21.3                                  | 25.6  | 29.9  |
|                                      | 12,000             | E37L351CPN123MEJ1U  | 76.2 × 181                    | EJ1            | 9                                | 28.2                                  | 33.9  | 39.5  |
|                                      | 15,000             | E37L351CPN153MEM9U  | 76.2 × 219                    | EM9            | 7                                | 34.0                                  | 40.8  | 47.6  |
|                                      | 6,800              | E37L351CPN682MF92U  | 89 × 92                       | F92            | 15                               | 18.3                                  | 22.0  | 25.6  |
|                                      | 8,200              | E37L351CPN822MFA5U  | 89 × 105                      | FA5            | 13                               | 21.0                                  | 25.2  | 29.3  |
|                                      | 8,200              | E37L351CPN822MFB7U  | 89 × 117                      | FB7            | 13                               | 21.8                                  | 26.1  | 30.5  |
|                                      | 12,000             | E37L351CPN123MFE3U  | 89 × 143                      | FE3            | 9                                | 28.2                                  | 33.8  | 39.5  |
|                                      | 12,000             | E37L351CPN123MFF5U  | 89 × 155                      | FF5            | 9                                | 29.0                                  | 34.8  | 40.6  |
| 15,000                               | E37L351CPN153MFK0U | 89 × 190            | FK0                           | 7              | 35.0                             | 42.0                                  | 49.1  |       |
| 18,000                               | E37L351CPN183MFM9U | 89 × 219            | FM9                           | 6              | 41.1                             | 49.4                                  | 57.6  |       |
| <b>400 Volts<br/>450 Volts Surge</b> | 2,700              | E37L401HPN272MCB7U  | 50 × 117                      | CB7            | 35                               | 9.5                                   | 11.5  | 13.4  |
|                                      | 3,300              | E37L401HPN332MCD0U  | 50 × 130                      | CD0            | 29                               | 11.0                                  | 13.1  | 15.3  |
|                                      | 2,700              | E37L401CPN272MD92U  | 63.5 × 92                     | D92            | 37                               | 9.7                                   | 11.6  | 13.6  |
|                                      | 3,300              | E37L401CPN332MDA5U  | 63.5 × 105                    | DA5            | 30                               | 11.2                                  | 13.4  | 15.7  |
|                                      | 3,900              | E37L401CPN392MDB7U  | 63.5 × 117                    | DB7            | 26                               | 12.6                                  | 15.2  | 17.7  |
|                                      | 3,900              | E37L401CPN392MDD0U  | 63.5 × 130                    | DD0            | 26                               | 13.1                                  | 15.7  | 18.4  |
|                                      | 4,700              | E37L401CPN472MDE3U  | 63.5 × 143                    | DE3            | 21                               | 14.9                                  | 17.9  | 20.9  |
|                                      | 3,900              | E37L401CPN392ME92U  | 76.2 × 92                     | E92            | 27                               | 12.7                                  | 15.2  | 17.7  |
|                                      | 4,700              | E37L401CPN472MEA5U  | 76.2 × 105                    | EA5            | 22                               | 14.5                                  | 17.4  | 20.3  |
|                                      | 5,600              | E37L401CPN562MEB7U  | 76.2 × 117                    | EB7            | 18                               | 16.4                                  | 19.7  | 23.0  |
|                                      | 6,800              | E37L401CPN682MEE3U  | 76.2 × 143                    | EE3            | 15                               | 19.4                                  | 23.3  | 27.2  |
|                                      | 10,000             | E37L401CPN103MEJ1U  | 76.2 × 181                    | EJ1            | 10                               | 25.8                                  | 30.9  | 36.1  |
|                                      | 12,000             | E37L401CPN123MEM9U  | 76.2 × 219                    | EM9            | 9                                | 30.4                                  | 36.5  | 42.6  |
|                                      | 5,600              | E37L401CPN562MF92U  | 89 × 92                       | F92            | 18                               | 16.6                                  | 20.0  | 23.3  |
|                                      | 6,800              | E37L401CPN682MFA5U  | 89 × 105                      | FA5            | 15                               | 19.1                                  | 22.9  | 26.7  |
|                                      | 8,200              | E37L401CPN822MFB7U  | 89 × 117                      | FB7            | 13                               | 21.8                                  | 26.1  | 30.5  |
|                                      | 10,000             | E37L401CPN103MFE3U  | 89 × 143                      | FE3            | 10                               | 25.7                                  | 30.9  | 36.0  |
|                                      | 12,000             | E37L401CPN123MFF5U  | 89 × 155                      | FF5            | 9                                | 29.0                                  | 34.8  | 40.6  |
| 15,000                               | E37L401CPN153MFK0U | 89 × 190            | FK0                           | 7              | 35.0                             | 42.0                                  | 49.1  |       |
| 18,000                               | E37L401CPN183MFM9U | 89 × 219            | FM9                           | 6              | 40.6                             | 48.7                                  | 56.8  |       |
| <b>420 Volts<br/>470 Volts Surge</b> | 2,700              | E37L421HPN272MCB7U  | 50 × 117                      | CB7            | 35                               | 9.5                                   | 11.5  | 13.4  |
|                                      | 2,900              | E37L421HPN292MCD0U  | 50 × 130                      | CD0            | 33                               | 10.3                                  | 12.3  | 14.4  |
|                                      | 2,200              | E37L421CPN222MD92U  | 63.5 × 92                     | D92            | 45                               | 8.7                                   | 10.5  | 12.2  |
|                                      | 2,700              | E37L421CPN272MDA5U  | 63.5 × 105                    | DA5            | 37                               | 10.1                                  | 12.1  | 14.2  |
|                                      | 3,300              | E37L421CPN332MDB7U  | 63.5 × 117                    | DB7            | 30                               | 11.6                                  | 14.0  | 16.3  |
|                                      | 3,900              | E37L421CPN392MDD0U  | 63.5 × 130                    | DD0            | 26                               | 13.1                                  | 15.7  | 18.4  |
|                                      | 4,700              | E37L421CPN472MDE3U  | 63.5 × 143                    | DE3            | 21                               | 14.9                                  | 17.9  | 20.9  |
|                                      | 3,900              | E37L421CPN392ME92U  | 76.2 × 92                     | E92            | 27                               | 12.7                                  | 15.2  | 17.7  |
|                                      | 4,700              | E37L421CPN472MEA5U  | 76.2 × 105                    | EA5            | 22                               | 14.5                                  | 17.4  | 20.3  |
|                                      | 5,600              | E37L421CPN562MEB7U  | 76.2 × 117                    | EB7            | 18                               | 16.4                                  | 19.7  | 23.0  |
|                                      | 6,800              | E37L421CPN682MEE3U  | 76.2 × 143                    | EE3            | 15                               | 19.4                                  | 23.3  | 27.2  |
|                                      | 8,200              | E37L421CPN822MEJ1U  | 76.2 × 181                    | EJ1            | 13                               | 23.3                                  | 28.0  | 32.7  |
|                                      | 12,000             | E37L421CPN123MEM9U  | 76.2 × 219                    | EM9            | 9                                | 30.4                                  | 36.5  | 42.6  |
|                                      | 5,600              | E37L421CPN562MF92U  | 89 × 92                       | F92            | 18                               | 16.6                                  | 20.0  | 23.3  |
|                                      | 6,800              | E37L421CPN682MFA5U  | 89 × 105                      | FA5            | 15                               | 19.1                                  | 22.9  | 26.7  |

† For terminal, mounting and construction options, refer to the part numbering system for descriptions and codes.

\* Refer to diagram of dimensions for detailed case size specifications.

**U37L** Series**Standard Voltage Ratings - Screw Terminals**

| Rated Voltage (WVDC)                | Capacitance (µF) | Global Part Number† | Nominal Case Size* D × L (mm) | Case Size Code | Maximum ESR (mΩ) at +25°C, 120Hz | Rated Ripple Current (A rms) at +85°C |       |       |
|-------------------------------------|------------------|---------------------|-------------------------------|----------------|----------------------------------|---------------------------------------|-------|-------|
|                                     |                  |                     |                               |                |                                  | 120Hz                                 | 300Hz | >3kHz |
| <b>420 Volts</b><br>470 Volts Surge | 6,800            | E37L421CPN682MFB7U  | 89 × 117                      | FB7            | 15                               | 19.8                                  | 23.8  | 27.8  |
|                                     | 10,000           | E37L421CPN103MFE3U  | 89 × 143                      | FE3            | 10                               | 25.7                                  | 30.9  | 36.0  |
|                                     | 10,000           | E37L421CPN103MFF5U  | 89 × 155                      | FF5            | 10                               | 26.5                                  | 31.8  | 37.1  |
|                                     | 12,000           | E37L421CPN123MFK0U  | 89 × 190                      | FK0            | 9                                | 31.3                                  | 37.6  | 43.9  |
|                                     | 15,000           | E37L421CPN153MFM9U  | 89 × 219                      | FM9            | 7                                | 37.0                                  | 44.5  | 51.9  |
| <b>450 Volts</b><br>500 Volts Surge | 2,200            | E37L451HPN222MCB7U  | 50 × 117                      | CB7            | 43                               | 8.6                                   | 10.3  | 12.1  |
|                                     | 2,200            | E37L451HPN222MCD0U  | 50 × 130                      | CD0            | 43                               | 8.9                                   | 10.7  | 12.5  |
|                                     | 2,200            | E37L451CPN222MD92U  | 63.5 × 92                     | D92            | 45                               | 8.7                                   | 10.5  | 12.2  |
|                                     | 2,200            | E37L451CPN222MDA5U  | 63.5 × 105                    | DA5            | 45                               | 9.1                                   | 11.0  | 12.8  |
|                                     | 2,700            | E37L451CPN272MDB7U  | 63.5 × 117                    | DB7            | 37                               | 10.5                                  | 12.6  | 14.7  |
|                                     | 3,300            | E37L451CPN332MDD0U  | 63.5 × 130                    | DD0            | 30                               | 12.1                                  | 14.5  | 16.9  |
|                                     | 3,900            | E37L451CPN392MDE3U  | 63.5 × 143                    | DE3            | 26                               | 13.6                                  | 16.3  | 19.0  |
|                                     | 3,300            | E37L451CPN332ME92U  | 76.2 × 92                     | E92            | 31                               | 11.6                                  | 14.0  | 16.3  |
|                                     | 3,900            | E37L451CPN392MEA5U  | 76.2 × 105                    | EA5            | 27                               | 13.2                                  | 15.8  | 18.5  |
|                                     | 4,700            | E37L451CPN472MEB7U  | 76.2 × 117                    | EB7            | 22                               | 15.1                                  | 18.1  | 21.1  |
|                                     | 5,600            | E37L451CPN562MEE3U  | 76.2 × 143                    | EE3            | 18                               | 17.6                                  | 21.2  | 24.7  |
|                                     | 6,800            | E37L451CPN682MEJ1U  | 76.2 × 181                    | EJ1            | 15                               | 21.2                                  | 25.5  | 29.7  |
|                                     | 10,000           | E37L451CPN103MEM9U  | 76.2 × 219                    | EM9            | 10                               | 27.8                                  | 33.3  | 38.9  |
|                                     | 4,700            | E37L451CPN472MF92U  | 89 × 92                       | F92            | 22                               | 15.2                                  | 18.3  | 21.3  |
|                                     | 5,600            | E37L451CPN562MFA5U  | 89 × 105                      | FA5            | 18                               | 17.3                                  | 20.8  | 24.2  |
|                                     | 5,600            | E37L451CPN562MFB7U  | 89 × 117                      | FB7            | 18                               | 18.0                                  | 21.6  | 25.2  |
|                                     | 8,200            | E37L451CPN822MFE3U  | 89 × 143                      | FE3            | 13                               | 23.3                                  | 28.0  | 32.6  |
|                                     | 8,200            | E37L451CPN822MFF5U  | 89 × 155                      | FF5            | 13                               | 24.0                                  | 28.8  | 33.6  |
|                                     | 12,000           | E37L451CPN123MFK0U  | 89 × 190                      | FK0            | 9                                | 31.3                                  | 37.6  | 43.9  |
|                                     | 12,000           | E37L451CPN123MFM9U  | 89 × 219                      | FM9            | 9                                | 33.1                                  | 39.8  | 46.4  |
| <b>500 Volts</b><br>550 Volts Surge | 1,500            | E37L501HPN152MCB7U  | 50 × 117                      | CB7            | 64                               | 7.1                                   | 8.5   | 10.0  |
|                                     | 1,500            | E37L501HPN152MCD0U  | 50 × 130                      | CD0            | 64                               | 7.4                                   | 8.9   | 10.3  |
|                                     | 1,800            | E37L501CPN182MD92U  | 63.5 × 92                     | D92            | 55                               | 7.9                                   | 9.5   | 11.1  |
|                                     | 2,200            | E37L501CPN222MDA5U  | 63.5 × 105                    | DA5            | 45                               | 9.1                                   | 11.0  | 12.8  |
|                                     | 2,200            | E37L501CPN222MDB7U  | 63.5 × 117                    | DB7            | 45                               | 9.5                                   | 11.4  | 13.3  |
|                                     | 2,700            | E37L501CPN272MDD0U  | 63.5 × 130                    | DD0            | 37                               | 10.9                                  | 13.1  | 15.3  |
|                                     | 2,700            | E37L501CPN272MDE3U  | 63.5 × 143                    | DE3            | 37                               | 11.3                                  | 13.6  | 15.8  |
|                                     | 2,700            | E37L501CPN272ME92U  | 76.2 × 92                     | E92            | 38                               | 10.5                                  | 12.6  | 14.7  |
|                                     | 3,300            | E37L501CPN332MEA5U  | 76.2 × 105                    | EA5            | 31                               | 12.1                                  | 14.6  | 17.0  |
|                                     | 3,300            | E37L501CPN332MEB7U  | 76.2 × 117                    | EB7            | 31                               | 12.6                                  | 15.2  | 17.7  |
|                                     | 4,700            | E37L501CPN472MEE3U  | 76.2 × 143                    | EE3            | 22                               | 16.2                                  | 19.4  | 22.6  |
|                                     | 5,600            | E37L501CPN562MEJ1U  | 76.2 × 181                    | EJ1            | 18                               | 19.3                                  | 23.1  | 27.0  |
|                                     | 8,200            | E37L501CPN822MEM9U  | 76.2 × 219                    | EM9            | 13                               | 25.2                                  | 30.2  | 35.2  |
|                                     | 3,900            | E37L501CPN392MF92U  | 89 × 92                       | F92            | 27                               | 13.9                                  | 16.6  | 19.4  |
|                                     | 3,900            | E37L501CPN392MFA5U  | 89 × 105                      | FA5            | 27                               | 14.5                                  | 17.3  | 20.2  |
|                                     | 4,700            | E37L501CPN472MFB7U  | 89 × 117                      | FB7            | 22                               | 16.5                                  | 19.8  | 23.1  |
|                                     | 6,800            | E37L501CPN682MFE3U  | 89 × 143                      | FE3            | 15                               | 21.2                                  | 25.5  | 29.7  |
|                                     | 6,800            | E37L501CPN682MFF5U  | 89 × 155                      | FF5            | 15                               | 21.9                                  | 26.2  | 30.6  |
|                                     | 8,200            | E37L501CPN822MFK0U  | 89 × 190                      | FK0            | 12                               | 26.7                                  | 32.0  | 37.4  |
|                                     | 10,000           | E37L501CPN103MFM9U  | 89 × 219                      | FM9            | 9                                | 33.1                                  | 39.8  | 46.4  |

† For terminal, mounting and construction options, refer to the part numbering system for descriptions and codes.

\* Refer to diagram of dimensions for detailed case size specifications.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
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[Part Numbering System](#)

[Part Numbering System \(Appendix\)](#)

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