CATALOG LC313

UNITED CHEMI-CON

U37 Series

Inverter Grade Capacitors

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Welcome to United Chemi-Con…

United Chemi-Con is introducing the new U37F, U37L and U37X screw terminal aluminum electrolytic capacitor series. The design of these three capacitor series offers the high ripple current capability and very long life that is especially critical for high reliability inverter applications. The rated endurance for these capacitors is 5,000, 10,000 or 15,000 hours at +85°C depending on the series. The operating characteristics of these capacitors feature exceptionally long useful life and increased ripple current capability when operated at derated temperature and/or voltage.

A variety of high current English or Metric thread terminals are available in high post or low post styles. Optional mounting hardware is also available. The U37F, U37L and U37X large can capacitors are RoHS compliant which reflects our ongoing goal to meet environmental standards for all our products.

Please contact United Chemi-Con with any questions about these new large can capacitors. Custom designs are also available upon request.

Specifications Guide for U37 Inverter Grade Capacitors

Series	Page No.	Terminal Type	Features	RoHS Compliant	Temperature Range (+85°C)	Voltage Range (V)	Capacitance Range (μF)	Endurance at +85°C (Hrs.+R*)	Useful Life at +85°C (Hrs.+R*)
U37F	3	Screw Mount	Long Life U37 Grade, High Ripple, General Purpose	○	−40°C~+85°C	350~500	1,500~22,000	5,000	Up to 150,000
U37L	10	Screw Mount	Longer Life U37 Grade, High Ripple, General Purpose	○	−40°C~+85°C	350~500	1,500~18,000	10,000	Up to 175,000
U37X	17	Screw Mount	Longest Life U37 Grade, High Ripple, General Purpose	○	−40°C~+85°C	350~500	1,200~18,000	15,000	Up to 175,000

* +R = With rated ripple current applied.

U37F Series

- Large Can
- Screw Terminals
- General Purpose U37 Grade
- High Ripple
- 350 to 500VDC Ratings
- RoHS Compliant
- 5,000 Hours Lifetime at +85°C
- Up to 150,000 Hours Useful Life

The U37F series is a general purpose, screw mount U37 grade series specifically designed to provide the ripple current capability and long life required for high reliability inverter applications.The U37F has an endurance rating of 5,000 hours at +85°C with the rated ripple current applied. The useful life can exceed 150,000 hours at +40°C and 1.5x 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 22,000μF.**
- **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: 5,000 hours at +85°C with rated ripple current applied.**

U37F Specifications - Screw Terminals

<table>
<tr><th>Item</th><th>Characteristics</th></tr>
<tr><td>Category Temperature Range</td><td>−40 to +85°C</td></tr>
<tr><td>Rated Voltage Range</td><td>350 to 500VDC</td></tr>
<tr><td>Capacitance Range</td><td>1,500 to 22,000μF at +25°C, 120Hz</td></tr>
<tr><td>Capacitance Tolerance</td><td>±20% (M) at +25°C, 120Hz</td></tr>
<tr><td>Leakage Current</td><td>I = 0.02CV (μA) or 5mA, whichever is smaller, after 5 minutes at +25°C.
Where I = Max. leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)</td></tr>
<tr><td>Rated Ripple Current Multipliers</td><td>Ambient Temperature (°C)
<table>
<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>
Frequency (Hz)
<table>
<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>
To determine maximum ripple current at a specified temperature and frequency, use the appropriate multiplier shown. However, do not use both the temperature and frequency multipliers together.</td></tr>
<tr><td>Endurance
(Load Life)</td><td>The following specifications shall be satisfied when the capacitors are restored to +25°C after subjecting them to DC voltage for 5,000 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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Useful Life</td><td>With specified standard voltage and ripple current applied, typical life as function of ambient temperature is listed below.
<table>
<tr><td>+85°C</td><td>6,500 hours max.</td></tr>
<tr><td>+65°C</td><td>23,800 hours max.</td></tr>
<tr><td>+45°C</td><td>124,700 hours max.</td></tr>
</table>
Capacitance change: ≤ 30% from initial measurement
ESR change : ≤ 300% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Shelf Life</td><td>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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Vibration Rating</td><td>10-55Hz, 10g sinusoidal in three axes, 2 hours per axis.</td></tr>
<tr><td>Maximum Tightening Torque</td><td>
<table>
<tr><td>Terminal Code</td><td colspan="2">HP</td><td colspan="2">HL</td><td>CD</td><td colspan="2">CP</td><td>CH</td><td colspan="2">CA</td><td>CS</td></tr>
<tr><td>Thread Size</td><td colspan="3">10-32 NF-2B</td><td colspan="3">M5x0.8-6H</td><td colspan="3">¼-28 NF-2B</td><td colspan="2">M6x1-6H</td></tr>
<tr><td>3 Threads Engaged</td><td colspan="6">2.0 N·m (18.0 in·lb)</td><td colspan="6">4.0 N·m (35.0 in·lb)</td></tr>
<tr><td>6 Threads Engaged</td><td colspan="6">2.8 N·m (25.0 in·lb)</td><td colspan="6">6.2 N·m (55.0 in·lb)</td></tr>
</table>
</td></tr>
<tr><td>Typical Inductance (nH)
at 1MHz</td><td>
<table>
<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>Ø50.8</td><td>—</td><td>—</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>Ø63.5</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>Ø76.2</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>Ø89.0</td><td>30</td><td>30</td><td>25</td><td>20</td><td>25</td><td>20</td><td>25</td></tr>
</table>
</td></tr>
<tr><td>Custom Designs</td><td>Custom CV values per case size and termination type may be available upon request. Contact appropriate representative with specific requirements.</td></tr>
</table>

Product specifications are subject to change without notice.
Ask for UCC product bulletins and review specifications before purchase and/or use. Please use our products based on parameters specified in our bulletins.

U37F Useful Life

Useful Life: 6,500 Hours at +85°C

The life expectancy of a capacitor is shown as a function of ambient temperature and ripple current load.

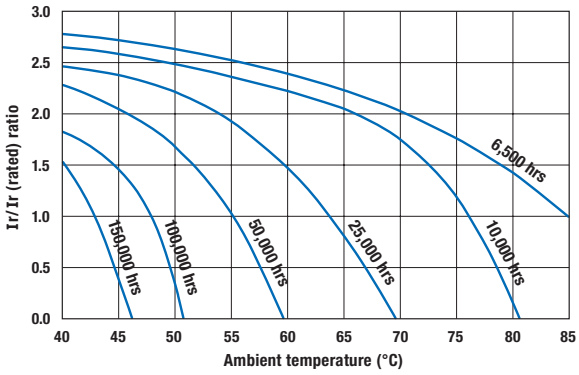
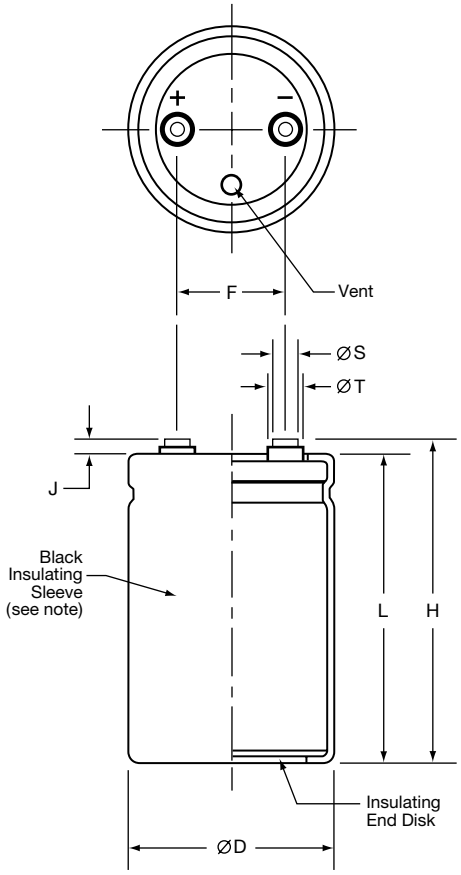


Diagram of Dimensions - Screw Terminals

Large Can/Screw Terminals

Unit: mm (inches)



Case Dimensions and Standard Box Quantities

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

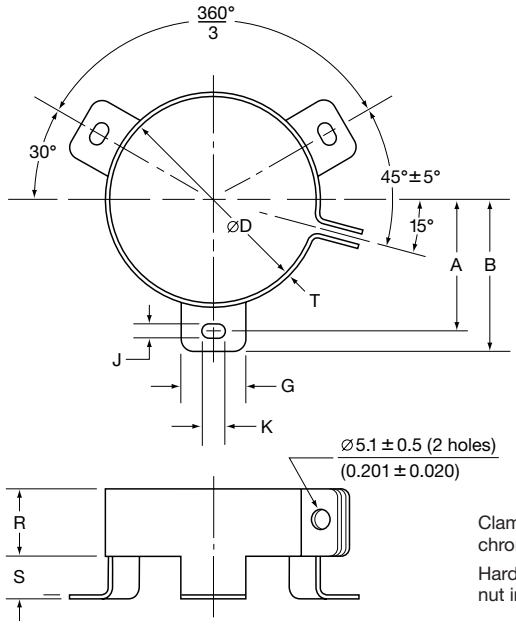
Terminal Code	Available Case Diameter		Thread Size	Minimum Thread Depth	J ±0.5 (0.020)	H ±2.0 (0.080)	ØS ±0.25 (0.010)	ØT ±0.25 (0.010)
	ØD Code	ØD mm (inches)						
HP	C	50.8 (2.000)	10-32 NF-2B	9.5 (0.375)	6.4 (0.250)	L+J	8.0 (0.313)	11.1 (0.438)
HL	C	50.8 (2.000)	M5x0.8-6H	9.5 (0.375)	6.4 (0.250)	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)	1/4-28 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)	1/4-28 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.

Mounting Hardware - Screw Terminals

Type C: Three-Footed Clamp

Unit: mm (inches)



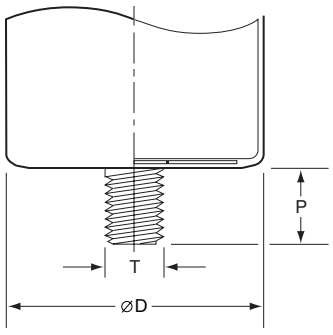
Clamp: Zinc with silver trivalent chromate post treatment.

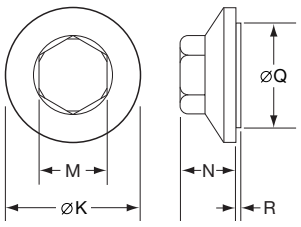
Hardware: Screw, washer and hexagon nut included with each clamp.

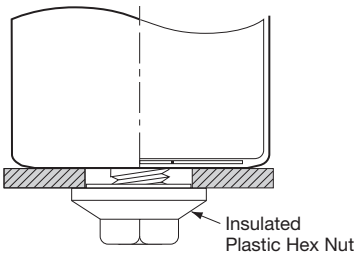
Type C: Clamp Dimensions

Mounting Code	Case ØD	A ±1.0 (0.040)	B ±1.0 (0.040)	G ±1.0 (0.040)	J ±0.5 (0.020)	K ±0.5 (0.020)	R ±1.0 (0.040)	S ±1.0 (0.040)	T ±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

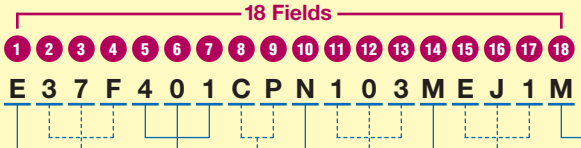
Mounting Code	P ±1.0 (0.040)	T Thread Size
S	16.0 (0.630)	M12

Mounting Nut Dimensions

Part Number	ØK ±2.0 (0.080)	M ±1.0 (0.040)	N ±1.0 (0.040)	ØQ ±1.0 (0.040)	R ±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)

Part Numbering System for U37F Series

When ordering, always specify complete 18-field global part number.



9 Supplement Code. Field 18.
C = PET insulation with end disk (Ø50.8mm only).
M = Pb-free PVC insulation with end disk.
S = Polyolefin insulation with end disk.

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. 1R0 = 1.0μF; 100 = 10μF; 101 = 100μF; 102 = 1,000μF; 103 = 10,000μF).

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 = UTE 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).

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
350 Volts 400 Volts Surge	3,300	E37F351HPN332MCB7M	50 × 117	CB7	28	10.8	12.9	15.1
	3,900	E37F351HPN392MCD0M	50 × 130	CD0	23	12.2	14.6	17.0
	3,300	E37F351CPN332MD92M	63.5 × 92	D92	28	11.2	13.4	15.6
	3,900	E37F351CPN392MDA5M	63.5 × 105	DA5	23	12.7	15.2	17.7
	4,700	E37F351CPN472MDB7M	63.5 × 117	DB7	19	14.5	17.4	20.3
	5,600	E37F351CPN562MDD0M	63.5 × 130	DD0	16	16.4	19.7	22.9
	5,600	E37F351CPN562MDE3M	63.5 × 143	DE3	16	17.0	20.4	23.7
	4,700	E37F351CPN472ME92M	76.2 × 92	E92	20	14.5	17.4	20.2
	5,600	E37F351CPN562MEA5M	76.2 × 105	EA5	17	16.5	19.8	23.1
	6,800	E37F351CPN682MEB7M	76.2 × 117	EB7	14	18.9	22.6	26.4
	8,200	E37F351CPN822MEE3M	76.2 × 143	EE3	12	22.2	26.7	31.1
	12,000	E37F351CPN123MEJ1M	76.2 × 181	EJ1	8	29.4	35.2	41.1
	15,000	E37F351CPN153MEM9M	76.2 × 219	EM9	6	35.4	42.5	49.6
	6,800	E37F351CPN682MF92M	89 × 92	F92	14	19.1	22.9	26.7
	8,200	E37F351CPN822MFA5M	89 × 105	FA5	12	21.8	26.2	30.5
	10,000	E37F351CPN103MFB7M	89 × 117	FB7	10	25.0	30.0	35.0
	12,000	E37F351CPN123MFE3M	89 × 143	FE3	8	29.3	35.2	41.1
	15,000	E37F351CPN153MFF5M	89 × 155	FF5	6	33.8	40.5	47.3
	18,000	E37F351CPN183MFK0M	89 × 190	FK0	5	40.0	47.9	55.9
	22,000	E37F351CPN223MFM9M	89 × 219	FM9	4	46.7	56.0	65.4
400 Volts 450 Volts Surge	2,700	E37F401HPN272MCB7M	50 × 117	CB7	30	10.4	12.5	14.6
	3,300	E37F401HPN332MCD0M	50 × 130	CD0	26	11.6	13.9	16.2
	2,700	E37F401CPN272MD92M	63.5 × 92	D92	30	10.7	12.9	15.0
	3,300	E37F401CPN332MDA5M	63.5 × 105	DA5	25	12.3	14.7	17.2
	3,900	E37F401CPN392MDB7M	63.5 × 117	DB7	21	13.8	16.5	19.3
	4,700	E37F401CPN472MDD0M	63.5 × 130	DD0	19	15.3	18.3	21.4
	4,700	E37F401CPN472MDE3M	63.5 × 143	DE3	17	16.8	20.1	23.5
	3,900	E37F401CPN392ME92M	76.2 × 92	E92	21	14.3	17.2	20.0
	5,600	E37F401CPN562MEA5M	76.2 × 105	EA5	17	16.4	19.6	22.9
	5,600	E37F401CPN562MEB7M	76.2 × 117	EB7	15	18.4	22.0	25.7
	8,200	E37F401CPN822MEE3M	76.2 × 143	EE3	12	22.3	26.8	31.3
	10,000	E37F401CPN103MEJ1M	76.2 × 181	EJ1	9	28.2	33.8	39.5
	12,000	E37F401CPN123MEM9M	76.2 × 219	EM9	7	34.0	40.8	47.6
	5,600	E37F401CPN562MF92M	89 × 92	F92	15	18.6	22.3	26.1
	6,800	E37F401CPN682MFA5M	89 × 105	FA5	12	21.2	25.5	29.7
	8,200	E37F401CPN822MFB7M	89 × 117	FB7	11	23.8	28.6	33.4
	10,000	E37F401CPN103MFE3M	89 × 143	FE3	8	28.9	34.7	40.5
	12,000	E37F401CPN123MFF5M	89 × 155	FF5	7	31.4	37.7	44.0
	15,000	E37F401CPN153MFK0M	89 × 190	FK0	6	38.3	45.9	53.6
	18,000	E37F401CPN183MFM9M	89 × 219	FM9	5	43.9	52.7	61.5
420 Volts 470 Volts Surge	2,700	E37F421HPN272MCB7M	50 × 117	CB7	34	9.8	11.7	13.7
	3,300	E37F421HPN332MCD0M	50 × 130	CD0	28	11.2	13.4	15.7
	2,700	E37F421CPN272MD92M	63.5 × 92	D92	34	10.1	12.1	14.1
	3,300	E37F421CPN332MDA5M	63.5 × 105	DA5	28	11.7	14.0	16.3
	3,900	E37F421CPN392MDB7M	63.5 × 117	DB7	23	13.2	15.8	18.5
	3,900	E37F421CPN392MDD0M	63.5 × 130	DD0	23	13.7	16.4	19.1
	4,700	E37F421CPN472MDE3M	63.5 × 143	DE3	19	15.5	18.6	21.8
	3,900	E37F421CPN392ME92M	76.2 × 92	E92	24	13.2	15.8	18.4
	4,700	E37F421CPN472MEA5M	76.2 × 105	EA5	20	15.1	18.1	21.1
	5,600	E37F421CPN562MEB7M	76.2 × 117	EB7	17	17.1	20.5	24.0
	6,800	E37F421CPN682MEE3M	76.2 × 143	EE3	14	20.2	24.3	28.3
	10,000	E37F421CPN103MEJ1M	76.2 × 181	EJ1	10	26.8	32.2	37.5
	12,000	E37F421CPN123MEM9M	76.2 × 219	EM9	8	31.7	38.0	44.4
	5,600	E37F421CPN562MF92M	89 × 92	F92	17	17.3	20.8	24.2
	6,800	E37F421CPN682MFA5M	89 × 105	FA5	14	19.9	23.8	27.8

†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.**

Product specifications are subject to change without notice.
Ask for UCC product bulletins and review specifications before purchase and/or use. Please use our products based on parameters specified in our bulletins.

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
420 Volts 470 Volts Surge	8,200	E37F421CPN822MFB7M	89 × 117	FB7	12	22.7	27.2	31.7
	10,000	E37F421CPN103MFE3M	89 × 143	FE3	10	26.8	32.1	37.5
	12,000	E37F421CPN123MFF5M	89 × 155	FF5	8	30.3	36.3	42.4
	15,000	E37F421CPN153MFK0M	89 × 190	FK0	6	36.5	43.8	51.1
	18,000	E37F421CPN183MFM9M	89 × 219	FM9	5	42.2	50.7	59.1
450 Volts 500 Volts Surge	2,700	E37F451HPN272MCB7M	50 × 117	CB7	34	9.8	11.7	13.7
	2,700	E37F451HPN272MCD0M	50 × 130	CD0	34	10.1	12.1	14.2
	2,200	E37F451CPN222MD92M	63.5 × 92	D92	42	9.1	10.9	12.8
	2,700	E37F451CPN272MDA5M	63.5 × 105	DA5	34	10.5	12.7	14.8
	3,300	E37F451CPN332MDB7M	63.5 × 117	DB7	28	12.1	14.6	17.0
	3,900	E37F451CPN392MDD0M	63.5 × 130	DD0	23	13.7	16.4	19.1
	4,700	E37F451CPN472MDE3M	63.5 × 143	DE3	19	15.5	18.6	21.8
	3,900	E37F451CPN392ME92M	76.2 × 92	E92	24	13.2	15.8	18.4
	4,700	E37F451CPN472MEA5M	76.2 × 105	EA5	20	15.1	18.1	21.1
	5,600	E37F451CPN562MEB7M	76.2 × 117	EB7	17	17.1	20.5	24.0
	6,800	E37F451CPN682MEE3M	76.2 × 143	EE3	14	20.2	24.3	28.3
	8,200	E37F451CPN822MEJ1M	76.2 × 181	EJ1	12	24.3	29.1	34.0
	12,000	E37F451CPN123MEM9M	76.2 × 219	EM9	8	31.7	38.0	44.4
	5,600	E37F451CPN562MF92M	89 × 92	F92	17	17.3	20.8	24.2
	6,800	E37F451CPN682MFA5M	89 × 105	FA5	14	19.9	23.8	27.8
	6,800	E37F451CPN682MFB7M	89 × 117	FB7	14	20.6	24.8	28.9
	8,200	E37F451CPN822MFE3M	89 × 143	FE3	12	24.3	29.1	34.0
	12,000	E37F451CPN123MFF5M	89 × 155	FF5	8	30.2	36.3	42.3
	15,000	E37F451CPN153MFK0M	89 × 190	FK0	6	36.5	43.8	51.1
	15,000	E37F451CPN153MFM9M	89 × 219	FM9	6	38.6	46.3	54.0
500 Volts 550 Volts Surge	1,500	E37F501HPN152MCB7M	50 × 117	CB7	63	7.2	8.6	10.1
	1,800	E37F501HPN182MCD0M	50 × 130	CD0	55	8.0	9.6	11.2
	1,800	E37F501CPN182MD92M	63.5 × 92	D92	52	8.2	9.8	11.5
	2,200	E37F501CPN222MDA5M	63.5 × 105	DA5	43	9.4	11.2	13.1
	2,700	E37F501CPN272MDB7M	63.5 × 117	DB7	37	10.5	12.6	14.7
	3,300	E37F501CPN332MDD0M	63.5 × 130	DD0	32	11.7	14.0	16.3
	3,300	E37F501CPN332MDE3M	63.5 × 143	DE3	29	12.8	15.4	17.9
	2,700	E37F501CPN272ME92M	76.2 × 92	E92	36	10.9	13.1	15.3
	3,300	E37F501CPN332MEA5M	76.2 × 105	EA5	30	12.5	15.0	17.5
	3,900	E37F501CPN392MEB7M	76.2 × 117	EB7	25	14.0	16.8	19.6
	5,600	E37F501CPN562MEE3M	76.2 × 143	EE3	20	17.1	20.5	23.9
	6,800	E37F501CPN682MEJ1M	76.2 × 181	EJ1	15	21.5	25.8	30.1
	8,200	E37F501CPN822MEM9M	76.2 × 219	EM9	12	26.0	31.2	36.3
	3,900	E37F501CPN392MF92M	89 × 92	F92	25	14.2	17.1	19.9
	4,700	E37F501CPN472MFA5M	89 × 105	FA5	21	16.2	19.5	22.7
	5,600	E37F501CPN562MFB7M	89 × 117	FB7	18	18.2	21.8	25.5
	6,800	E37F501CPN682MFE3M	89 × 143	FE3	14	22.1	26.5	30.9
	8,200	E37F501CPN822MFF5M	89 × 155	FF5	13	24.0	28.8	33.6
	10,000	E37F501CPN103MFK0M	89 × 190	FK0	10	29.2	35.1	40.9
	12,000	E37F501CPN123MFM9M	89 × 219	FM9	8	33.5	40.2	46.9

†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

- 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 Specifications - Screw Terminals

<table>
<tr><th>Item</th><th>Characteristics</th></tr>
<tr><td>Category Temperature Range</td><td>−40 to +85°C</td></tr>
<tr><td>Rated Voltage Range</td><td>350 to 500VDC</td></tr>
<tr><td>Capacitance Range</td><td>1,500 to 18,000μF at +25°C, 120Hz</td></tr>
<tr><td>Capacitance Tolerance</td><td>±20% (M) at +25°C, 120Hz</td></tr>
<tr><td>Leakage Current</td><td>I = 0.02CV (μA) or 5mA, whichever is smaller, after 5 minutes at +25°C.
Where I = Max. leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)</td></tr>
<tr><td>Rated Ripple Current Multipliers</td><td>Ambient Temperature (°C)
<table>
<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>
Frequency (Hz)
<table>
<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>
To determine maximum ripple current at a specified temperature and frequency, use the appropriate multiplier shown. However, do not use both the temperature and frequency multipliers together.</td></tr>
<tr><td>Endurance
(Load Life)</td><td>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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Useful Life</td><td>With specified standard voltage and ripple current applied, typical life as function of ambient temperature is listed below.
<table>
<tr><td>+85°C</td><td>13,000 hours max.</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>
Capacitance change: ≤ 30% from initial measurement
ESR change : ≤ 300% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Shelf Life</td><td>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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Vibration Rating</td><td>10-55Hz, 10g sinusoidal in three axes, 2 hours per axis.</td></tr>
<tr><td>Maximum Tightening Torque</td><td>
<table>
<tr><td>Terminal Code</td><td colspan="2">HP</td><td colspan="2">HL</td><td>CD</td><td colspan="2">CP</td><td>CH</td><td colspan="2">CA</td><td>CS</td></tr>
<tr><td>Thread Size</td><td colspan="3">10-32 NF-2B</td><td colspan="3">M5x0.8-6H</td><td colspan="3">¼-28 NF-2B</td><td colspan="2">M6x1-6H</td></tr>
<tr><td>3 Threads Engaged</td><td colspan="6">2.0 N·m (18.0 in·lb)</td><td colspan="6">4.0 N·m (35.0 in·lb)</td></tr>
<tr><td>6 Threads Engaged</td><td colspan="6">2.8 N·m (25.0 in·lb)</td><td colspan="6">6.2 N·m (55.0 in·lb)</td></tr>
</table>
</td></tr>
<tr><td>Typical Inductance (nH)
at 1MHz</td><td>
<table>
<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>Ø50.8</td><td>—</td><td>—</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>Ø63.5</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>Ø76.2</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>Ø89.0</td><td>30</td><td>30</td><td>25</td><td>20</td><td>25</td><td>20</td><td>25</td></tr>
</table>
</td></tr>
<tr><td>Custom Designs</td><td>Custom CV values per case size and termination type may be available upon request.
Contact appropriate representative with specific requirements.</td></tr>
</table>

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.

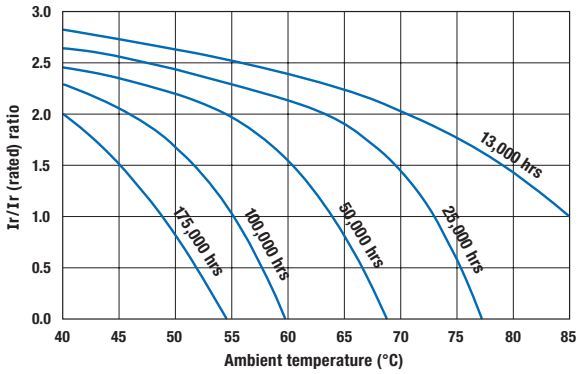
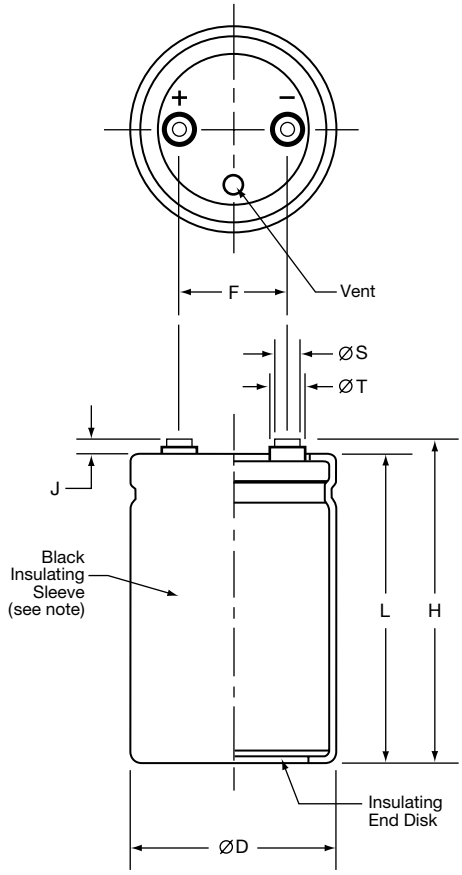


Diagram of Dimensions - Screw Terminals

Large Can/Screw Terminals

Unit: mm (inches)



Case Dimensions and Standard Box Quantities

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

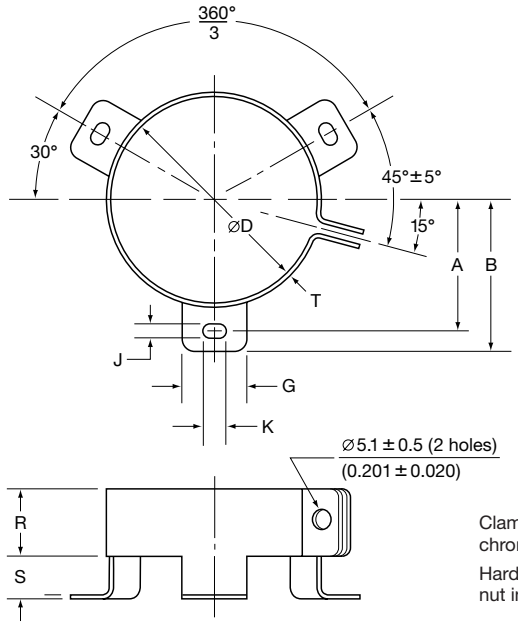
Terminal Code	Available Case Diameter		Thread Size	Minimum Thread Depth	J ±0.5 (0.020)	H ±2.0 (0.080)	ØS ±0.25 (0.010)	ØT ±0.25 (0.010)
	ØD Code	ØD mm (inches)						
HP	C	50.8 (2.000)	10-32 NF-2B	9.5 (0.375)	6.4 (0.250)	L+J	8.0 (0.313)	11.1 (0.438)
HL	C	50.8 (2.000)	M5x0.8-6H	9.5 (0.375)	6.4 (0.250)	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)	1/4-28 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)	1/4-28 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.

Mounting Hardware - Screw Terminals

Type C: Three-Footed Clamp

Unit: mm (inches)



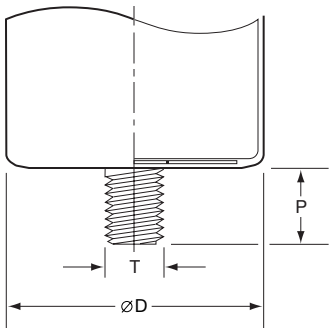
Clamp: Zinc with silver trivalent chromate post treatment.

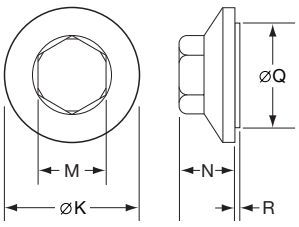
Hardware: Screw, washer and hexagon nut included with each clamp.

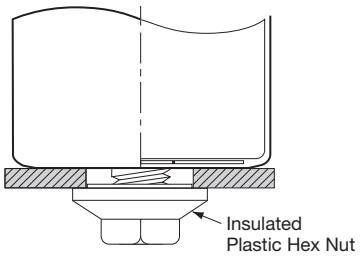
Type C: Clamp Dimensions

Mounting Code	Case ØD	A ±1.0 (0.040)	B ±1.0 (0.040)	G ±1.0 (0.040)	J ±0.5 (0.020)	K ±0.5 (0.020)	R ±1.0 (0.040)	S ±1.0 (0.040)	T ±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

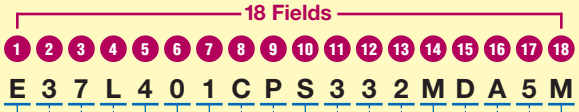
Mounting Code	P ±1.0 (0.040)	T Thread Size
S	16.0 (0.630)	M12

Mounting Nut Dimensions

Part Number	ØK ±2.0 (0.080)	M ±1.0 (0.040)	N ±1.0 (0.040)	ØQ ±1.0 (0.040)	R ±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)

Part Numbering System for U37L Series

When ordering, always specify complete 18-field global part number.



9 Supplement Code. Field 18.
C = PET insulation with end disk (Ø50.8mm only).
M = Pb-free PVC insulation with end disk.
S = Polyolefin insulation with end disk.

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 = UTE 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).

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
350 Volts 400 Volts Surge	3,300	E37L351HPN332MCB7M	50 × 117	CB7	29	10.6	12.7	14.8
	3,300	E37L351HPN332MCD0M	50 × 130	CD0	29	11.0	13.1	15.3
	3,300	E37L351CPN332MD92M	63.5 × 92	D92	30	10.7	12.8	15.0
	3,900	E37L351CPN392MDA5M	63.5 × 105	DA5	26	12.2	14.6	17.0
	3,900	E37L351CPN392MDB7M	63.5 × 117	DB7	26	12.6	15.2	17.7
	4,700	E37L351CPN472MDD0M	63.5 × 130	DD0	21	14.4	17.3	20.2
	5,600	E37L351CPN562MDE3M	63.5 × 143	DE3	18	16.3	19.5	22.8
	4,700	E37L351CPN472ME92M	76.2 × 92	E92	22	13.9	16.7	19.5
	5,600	E37L351CPN562MEA5M	76.2 × 105	EA5	18	15.8	19.0	22.1
	6,800	E37L351CPN682MEB7M	76.2 × 117	EB7	15	18.1	21.7	25.4
	8,200	E37L351CPN822MEE3M	76.2 × 143	EE3	13	21.3	25.6	29.9
	12,000	E37L351CPN123MEJ1M	76.2 × 181	EJ1	9	28.2	33.9	39.5
	15,000	E37L351CPN153MEM9M	76.2 × 219	EM9	7	34.0	40.8	47.6
	6,800	E37L351CPN682MF92M	89 × 92	F92	15	18.3	22.0	25.6
	8,200	E37L351CPN822MFA5M	89 × 105	FA5	13	21.0	25.2	29.3
	8,200	E37L351CPN822MFB7M	89 × 117	FB7	13	21.8	26.1	30.5
	12,000	E37L351CPN123MFE3M	89 × 143	FE3	9	28.2	33.8	39.5
	12,000	E37L351CPN123MFF5M	89 × 155	FF5	9	29.0	34.8	40.6
	15,000	E37L351CPN153MFK0M	89 × 190	FK0	7	35.0	42.0	49.1
	18,000	E37L351CPN183MFM9M	89 × 219	FM9	6	41.1	49.4	57.6
400 Volts 450 Volts Surge	2,700	E37L401HPN272MCB7M	50 × 117	CB7	35	9.5	11.5	13.4
	3,300	E37L401HPN332MCD0M	50 × 130	CD0	29	11.0	13.1	15.3
	2,700	E37L401CPN272MD92M	63.5 × 92	D92	37	9.7	11.6	13.6
	3,300	E37L401CPN332MDA5M	63.5 × 105	DA5	30	11.2	13.4	15.7
	3,900	E37L401CPN392MDB7M	63.5 × 117	DB7	26	12.6	15.2	17.7
	3,900	E37L401CPN392MDD0M	63.5 × 130	DD0	26	13.1	15.7	18.4
	4,700	E37L401CPN472MDE3M	63.5 × 143	DE3	21	14.9	17.9	20.9
	3,900	E37L401CPN392ME92M	76.2 × 92	E92	27	12.7	15.2	17.7
	4,700	E37L401CPN472MEA5M	76.2 × 105	EA5	22	14.5	17.4	20.3
	5,600	E37L401CPN562MEB7M	76.2 × 117	EB7	18	16.4	19.7	23.0
	6,800	E37L401CPN682MEE3M	76.2 × 143	EE3	15	19.4	23.3	27.2
	10,000	E37L401CPN103MEJ1M	76.2 × 181	EJ1	10	25.8	30.9	36.1
	12,000	E37L401CPN123MEM9M	76.2 × 219	EM9	9	30.4	36.5	42.6
	5,600	E37L401CPN562MF92M	89 × 92	F92	18	16.6	20.0	23.3
	6,800	E37L401CPN682MFA5M	89 × 105	FA5	15	19.1	22.9	26.7
	8,200	E37L401CPN822MFB7M	89 × 117	FB7	13	21.8	26.1	30.5
	10,000	E37L401CPN103MFE3M	89 × 143	FE3	10	25.7	30.9	36.0
	12,000	E37L401CPN123MFF5M	89 × 155	FF5	9	29.0	34.8	40.6
	15,000	E37L401CPN153MFK0M	89 × 190	FK0	7	35.0	42.0	49.1
	18,000	E37L401CPN183MFM9M	89 × 219	FM9	6	40.6	48.7	56.8
420 Volts 470 Volts Surge	2,700	E37L421HPN272MCB7M	50 × 117	CB7	35	9.5	11.5	13.4
	2,900	E37L421HPN292MCD0M	50 × 130	CD0	33	10.3	12.3	14.4
	2,200	E37L421CPN222MD92M	63.5 × 92	D92	45	8.7	10.5	12.2
	2,700	E37L421CPN272MDA5M	63.5 × 105	DA5	37	10.1	12.1	14.2
	3,300	E37L421CPN332MDB7M	63.5 × 117	DB7	30	11.6	14.0	16.3
	3,900	E37L421CPN392MDD0M	63.5 × 130	DD0	26	13.1	15.7	18.4
	4,700	E37L421CPN472MDE3M	63.5 × 143	DE3	21	14.9	17.9	20.9
	3,900	E37L421CPN392ME92M	76.2 × 92	E92	27	12.7	15.2	17.7
	4,700	E37L421CPN472MEA5M	76.2 × 105	EA5	22	14.5	17.4	20.3
	5,600	E37L421CPN562MEB7M	76.2 × 117	EB7	18	16.4	19.7	23.0
	6,800	E37L421CPN682MEE3M	76.2 × 143	EE3	15	19.4	23.3	27.2
	8,200	E37L421CPN822MEJ1M	76.2 × 181	EJ1	13	23.3	28.0	32.7
	12,000	E37L421CPN123MEM9M	76.2 × 219	EM9	9	30.4	36.5	42.6
	5,600	E37L421CPN562MF92M	89 × 92	F92	18	16.6	20.0	23.3
	6,800	E37L421CPN682MFA5M	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.**

Product specifications are subject to change without notice.
Ask for UCC product bulletins and review specifications before purchase and/or use. Please use our products based on parameters specified in our bulletins.

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
420 Volts 470 Volts Surge	6,800	E37L421CPN682MFB7M	89 × 117	FB7	15	19.8	23.8	27.8
	10,000	E37L421CPN103MFE3M	89 × 143	FE3	10	25.7	30.9	36.0
	10,000	E37L421CPN103MFF5M	89 × 155	FF5	10	26.5	31.8	37.1
	12,000	E37L421CPN123MFK0M	89 × 190	FK0	9	31.3	37.6	43.9
	15,000	E37L421CPN153MFM9M	89 × 219	FM9	7	37.0	44.5	51.9
450 Volts 500 Volts Surge	2,200	E37L451HPN222MCB7M	50 × 117	CB7	43	8.6	10.3	12.1
	2,200	E37L451HPN222MCD0M	50 × 130	CD0	43	8.9	10.7	12.5
	2,200	E37L451CPN222MD92M	63.5 × 92	D92	45	8.7	10.5	12.2
	2,200	E37L451CPN222MDA5M	63.5 × 105	DA5	45	9.1	11.0	12.8
	2,700	E37L451CPN272MDB7M	63.5 × 117	DB7	37	10.5	12.6	14.7
	3,300	E37L451CPN332MDD0M	63.5 × 130	DD0	30	12.1	14.5	16.9
	3,900	E37L451CPN392MDE3M	63.5 × 143	DE3	26	13.6	16.3	19.0
	3,300	E37L451CPN332ME92M	76.2 × 92	E92	31	11.6	14.0	16.3
	3,900	E37L451CPN392MEA5M	76.2 × 105	EA5	27	13.2	15.8	18.5
	4,700	E37L451CPN472MEB7M	76.2 × 117	EB7	22	15.1	18.1	21.1
	5,600	E37L451CPN562MEE3M	76.2 × 143	EE3	18	17.6	21.2	24.7
	6,800	E37L451CPN682MEJ1M	76.2 × 181	EJ1	15	21.2	25.5	29.7
	10,000	E37L451CPN103MEM9M	76.2 × 219	EM9	10	27.8	33.3	38.9
	4,700	E37L451CPN472MF92M	89 × 92	F92	22	15.2	18.3	21.3
	5,600	E37L451CPN562MFA5M	89 × 105	FA5	18	17.3	20.8	24.2
	5,600	E37L451CPN562MFB7M	89 × 117	FB7	18	18.0	21.6	25.2
	8,200	E37L451CPN822MFE3M	89 × 143	FE3	13	23.3	28.0	32.6
	8,200	E37L451CPN822MFF5M	89 × 155	FF5	13	24.0	28.8	33.6
	12,000	E37L451CPN123MFK0M	89 × 190	FK0	9	31.3	37.6	43.9
	12,000	E37L451CPN123MFM9M	89 × 219	FM9	9	33.1	39.8	46.4
500 Volts 550 Volts Surge	1,500	E37L501HPN152MCB7M	50 × 117	CB7	64	7.1	8.5	10.0
	1,500	E37L501HPN152MCD0M	50 × 130	CD0	64	7.4	8.9	10.3
	1,800	E37L501CPN182MD92M	63.5 × 92	D92	55	7.9	9.5	11.1
	2,200	E37L501CPN222MDA5M	63.5 × 105	DA5	45	9.1	11.0	12.8
	2,200	E37L501CPN222MDB7M	63.5 × 117	DB7	45	9.5	11.4	13.3
	2,700	E37L501CPN272MDD0M	63.5 × 130	DD0	37	10.9	13.1	15.3
	2,700	E37L501CPN272MDE3M	63.5 × 143	DE3	37	11.3	13.6	15.8
	2,700	E37L501CPN272ME92M	76.2 × 92	E92	38	10.5	12.6	14.7
	3,300	E37L501CPN332MEA5M	76.2 × 105	EA5	31	12.1	14.6	17.0
	3,300	E37L501CPN332MEB7M	76.2 × 117	EB7	31	12.6	15.2	17.7
	4,700	E37L501CPN472MEE3M	76.2 × 143	EE3	22	16.2	19.4	22.6
	5,600	E37L501CPN562MEJ1M	76.2 × 181	EJ1	18	19.3	23.1	27.0
	8,200	E37L501CPN822MEM9M	76.2 × 219	EM9	13	25.2	30.2	35.2
	3,900	E37L501CPN392MF92M	89 × 92	F92	27	13.9	16.6	19.4
	3,900	E37L501CPN392MFA5M	89 × 105	FA5	27	14.5	17.3	20.2
	4,700	E37L501CPN472MFB7M	89 × 117	FB7	22	16.5	19.8	23.1
	6,800	E37L501CPN682MFE3M	89 × 143	FE3	15	21.2	25.5	29.7
	6,800	E37L501CPN682MFF5M	89 × 155	FF5	15	21.9	26.2	30.6
	8,200	E37L501CPN822MFK0M	89 × 190	FK0	12	26.7	32.0	37.4
	10,000	E37L501CPN103MFM9M	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.**

U37X Series

UNITED CHEMI-CON

- Large Can
- Screw Terminals
- General Purpose U37 Grade
- High Ripple
- 350 to 500VDC Ratings
- RoHS Compliant
- 15,000 Hours Lifetime at +85°C
- Up to 175,000 Hours Useful Life

The U37X series is the longest 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 U37X has an endurance rating of 15,000 hours at +85°C with the rated ripple current applied. The useful life can exceed 175,000 hours at +40°C and 2.1x 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: 1,200 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: 15,000 hours at +85°C with rated ripple current applied.**

U37X Specifications - Screw Terminals

<table>
<tr><th>Item</th><th>Characteristics</th></tr>
<tr><td>Category Temperature Range</td><td>−40 to +85°C</td></tr>
<tr><td>Rated Voltage Range</td><td>350 to 500VDC</td></tr>
<tr><td>Capacitance Range</td><td>1,200 to 18,000μF at +25°C, 120Hz</td></tr>
<tr><td>Capacitance Tolerance</td><td>±20% (M) at +25°C, 120Hz</td></tr>
<tr><td>Leakage Current</td><td>I = 0.02CV (μA) or 5mA, whichever is smaller, after 5 minutes at +25°C.
Where I = Max. leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)</td></tr>
<tr><td>Rated Ripple Current Multipliers</td><td>Ambient Temperature (°C)
<table>
<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>
Frequency (Hz)
<table>
<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>
To determine maximum ripple current at a specified temperature and frequency, use the appropriate multiplier shown. However, do not use both the temperature and frequency multipliers together.</td></tr>
<tr><td>Endurance
(Load Life)</td><td>The following specifications shall be satisfied when the capacitors are restored to +25°C after subjecting them to DC voltage for 15,000 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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Useful Life</td><td>With specified standard voltage and ripple current applied, typical life as function of ambient temperature is listed below.
<table>
<tr><td>+85°C</td><td>20,000 hours max.</td></tr>
<tr><td>+65°C</td><td>71,600 hours max.</td></tr>
<tr><td>+45°C</td><td>175,000 hours max.</td></tr>
</table>
Capacitance change: ≤ 30% from initial measurement
ESR change : ≤ 300% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Shelf Life</td><td>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.
Capacitance change: ≤ 20% from initial measurement
ESR change : ≤ 200% of initial specified limit
Leakage current : ≤ initial specified limit</td></tr>
<tr><td>Vibration Rating</td><td>10-55Hz, 10g sinusoidal in three axes, 2 hours per axis.</td></tr>
<tr><td>Maximum Tightening Torque</td><td>
<table>
<tr><td>Terminal Code</td><td colspan="2">HP</td><td colspan="2">HL</td><td>CD</td><td colspan="2">CP</td><td>CH</td><td colspan="2">CA</td><td>CS</td></tr>
<tr><td>Thread Size</td><td colspan="3">10-32 NF-2B</td><td colspan="3">M5x0.8-6H</td><td colspan="2">¼-28 NF-2B</td><td colspan="2">M6x1-6H</td></tr>
<tr><td>3 Threads Engaged</td><td colspan="6">2.0 N·m (18.0 in·lb)</td><td colspan="6">4.0 N·m (35.0 in·lb)</td></tr>
<tr><td>6 Threads Engaged</td><td colspan="6">2.8 N·m (25.0 in·lb)</td><td colspan="6">6.2 N·m (55.0 in·lb)</td></tr>
</table>
</td></tr>
<tr><td>Typical Inductance (nH)
at 1MHz</td><td>
<table>
<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>Ø50.8</td><td>—</td><td>—</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>Ø63.5</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>Ø76.2</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>Ø89.0</td><td>30</td><td>30</td><td>25</td><td>20</td><td>25</td><td>20</td><td>25</td></tr>
</table>
</td></tr>
<tr><td>Custom Designs</td><td>Custom CV values per case size and termination type may be available upon request.
Contact appropriate representative with specific requirements.</td></tr>
</table>

U37X Useful Life

Useful Life: 20,000 Hours at +85°C

The life expectancy of a capacitor is shown as a function of ambient temperature and ripple current load.

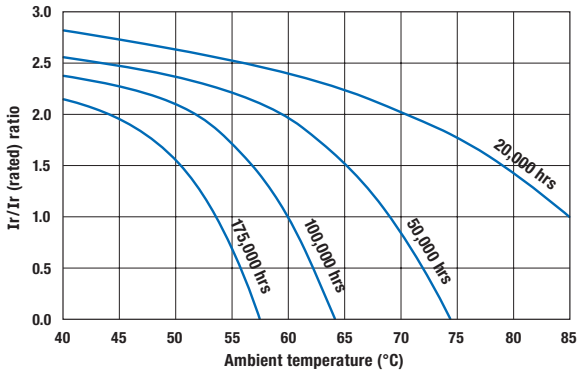
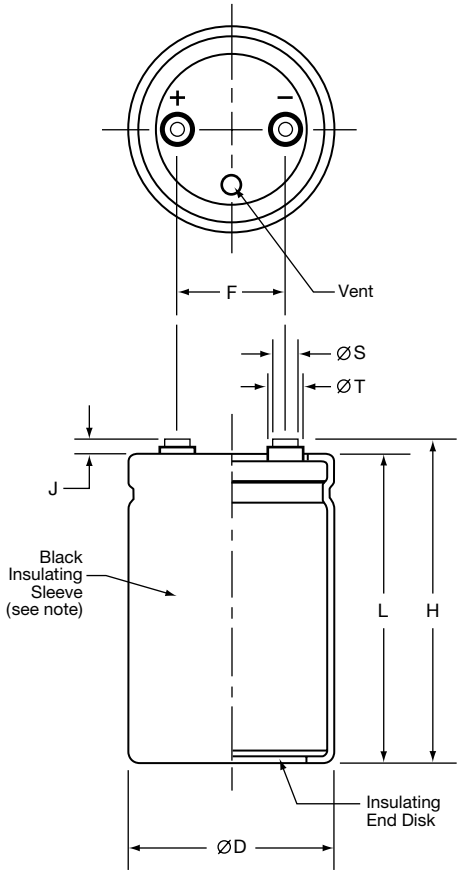


Diagram of Dimensions - Screw Terminals

Large Can/Screw Terminals

Unit: mm (inches)



Case Dimensions and Standard Box Quantities

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

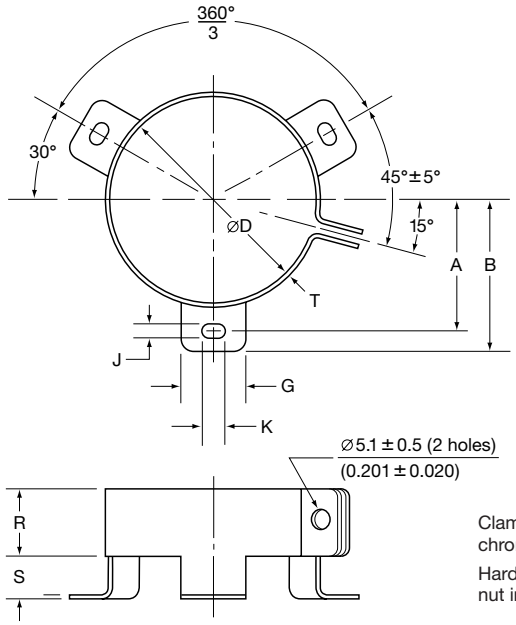
Terminal Code	Available Case Diameter		Thread Size	Minimum Thread Depth	J ±0.5 (0.020)	H ±2.0 (0.080)	ØS ±0.25 (0.010)	ØT ±0.25 (0.010)
	ØD Code	ØD mm (inches)						
HP	C	50.8 (2.000)	10-32 NF-2B	9.5 (0.375)	6.4 (0.250)	L+J	8.0 (0.313)	11.1 (0.438)
HL	C	50.8 (2.000)	M5x0.8-6H	9.5 (0.375)	6.4 (0.250)	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)	1/4-28 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)	1/4-28 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.

Mounting Hardware - Screw Terminals

Type C: Three-Footed Clamp

Unit: mm (inches)



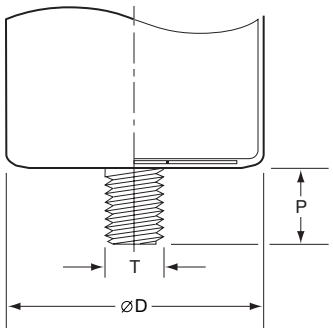
Clamp: Zinc with silver trivalent chromate post treatment.

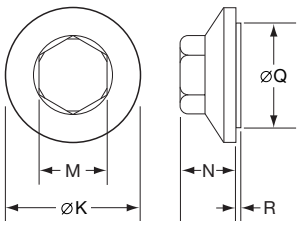
Hardware: Screw, washer and hexagon nut included with each clamp.

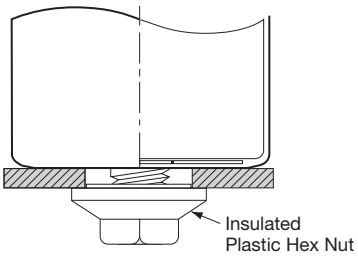
Type C: Clamp Dimensions

Mounting Code	Case ØD	A ±1.0 (0.040)	B ±1.0 (0.040)	G ±1.0 (0.040)	J ±0.5 (0.020)	K ±0.5 (0.020)	R ±1.0 (0.040)	S ±1.0 (0.040)	T ±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

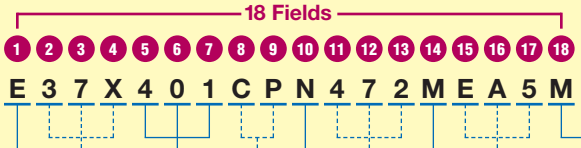
Mounting Code	P ±1.0 (0.040)	T Thread Size
S	16.0 (0.630)	M12

Mounting Nut Dimensions

Part Number	ØK ±2.0 (0.080)	M ±1.0 (0.040)	N ±1.0 (0.040)	ØQ ±1.0 (0.040)	R ±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)

Part Numbering System for U37X Series

When ordering, always specify complete 18-field global part number.



9 Supplement Code. Field 18.
C = PET insulation with end disk (Ø50.8mm only).
M = Pb-free PVC insulation with end disk.
S = Polyolefin insulation with end disk.

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. 4R7 = 4.7μF; 470 = 47μF; 471 = 470μF; 472 = 4,700μF; 473 = 47,000μF).

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 = UTE 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).

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
350 Volts **400 Volts Surge**	2,700	E37X351HPN272MCB7M	50 × 117	CB7	35	9.6	11.5	13.4
	3,300	E37X351HPN332MCD0M	50 × 130	CD0	31	10.6	12.8	14.9
	2,700	E37X351CPN272MD92M	63.5 × 92	D92	37	9.7	11.6	13.5
	3,300	E37X351CPN332MDA5M	63.5 × 105	DA5	31	11.1	13.3	15.5
	3,900	E37X351CPN392MDB7M	63.5 × 117	DB7	26	12.4	14.9	17.4
	4,700	E37X351CPN472MDD0M	63.5 × 130	DD0	23	13.8	16.5	19.3
	4,700	E37X351CPN472MDE3M	63.5 × 143	DE3	21	15.1	18.1	21.2
	3,900	E37X351CPN392ME92M	76.2 × 92	E92	26	12.7	15.2	17.8
	4,700	E37X351CPN472MEA5M	76.2 × 105	EA5	22	14.5	17.4	20.3
	5,600	E37X351CPN562MEB7M	76.2 × 117	EB7	19	16.3	19.5	22.8
	8,200	E37X351CPN822MEE3M	76.2 × 143	EE3	15	19.8	23.7	27.7
	10,000	E37X351CPN103MEJ1M	76.2 × 181	EJ1	11	25.0	30.0	35.0
	12,000	E37X351CPN123MEM9M	76.2 × 219	EM9	9	30.1	36.1	42.2
	5,600	E37X351CPN562MF92M	89 × 92	F92	19	16.2	19.4	22.7
	6,800	E37X351CPN682MFA5M	89 × 105	FA5	16	18.5	22.2	25.9
	8,200	E37X351CPN822MFB7M	89 × 117	FB7	14	20.7	24.9	29.0
	12,000	E37X351CPN123MFE3M	89 × 143	FE3	11	25.2	30.2	35.2
	12,000	E37X351CPN123MFF5M	89 × 155	FF5	10	27.3	32.8	38.2
	15,000	E37X351CPN153MFK0M	89 × 190	FK0	8	33.3	40.0	46.6
	18,000	E37X351CPN183MFM9M	89 × 219	FM9	6	38.2	45.8	53.5
400 Volts **450 Volts Surge**	2,700	E37X401HPN272MCB7M	50 × 117	CB7	41	8.9	10.7	12.5
	2,700	E37X401HPN272MCD0M	50 × 130	CD0	35	9.9	11.9	13.9
	2,700	E37X401CPN272MD92M	63.5 × 92	D92	43	9.0	10.8	12.6
	2,700	E37X401CPN272MDA5M	63.5 × 105	DA5	36	10.3	12.3	14.4
	3,300	E37X401CPN332MDB7M	63.5 × 117	DB7	31	11.6	13.9	16.2
	3,900	E37X401CPN392MDD0M	63.5 × 130	DD0	27	12.8	15.4	18.0
	3,900	E37X401CPN392MDE3M	63.5 × 143	DE3	24	14.1	16.9	19.7
	3,900	E37X401CPN392ME92M	76.2 × 92	E92	30	11.8	14.2	16.5
	4,700	E37X401CPN472MEA5M	76.2 × 105	EA5	25	13.5	16.2	18.9
	5,600	E37X401CPN562MEB7M	76.2 × 117	EB7	22	15.2	18.2	21.2
	6,800	E37X401CPN682MEE3M	76.2 × 143	EE3	17	18.4	22.1	25.8
	8,200	E37X401CPN822MEJ1M	76.2 × 181	EJ1	13	23.3	27.9	32.6
	12,000	E37X401CPN123MEM9M	76.2 × 219	EM9	10	28.0	33.6	39.3
	5,600	E37X401CPN562MF92M	89 × 92	F92	22	15.1	18.1	21.1
	6,800	E37X401CPN682MFA5M	89 × 105	FA5	19	17.2	20.6	24.1
	6,800	E37X401CPN682MFB7M	89 × 117	FB7	16	19.3	23.2	27.0
	10,000	E37X401CPN103MFE3M	89 × 143	FE3	12	23.4	28.1	32.8
	10,000	E37X401CPN103MFF5M	89 × 155	FF5	11	25.4	30.5	35.6
	12,000	E37X401CPN123MFK0M	89 × 190	FK0	9	31.0	37.2	43.4
	15,000	E37X401CPN153MFM9M	89 × 219	FM9	7	35.6	42.7	49.8
420 Volts **470 Volts Surge**	2,200	E37X421HPN222MCB7M	50 × 117	CB7	44	8.5	10.2	11.9
	2,700	E37X421HPN272MCD0M	50 × 130	CD0	39	9.4	11.3	13.2
	2,200	E37X421CPN222MD92M	63.5 × 92	D92	47	8.6	10.3	12.0
	2,700	E37X421CPN272MDA5M	63.5 × 105	DA5	39	9.8	11.8	13.8
	3,300	E37X421CPN332MDB7M	63.5 × 117	DB7	33	11.0	13.3	15.5
	3,900	E37X421CPN392MDD0M	63.5 × 130	DD0	29	12.2	14.7	17.1
	3,900	E37X421CPN392MDE3M	63.5 × 143	DE3	26	13.4	16.1	18.8
	3,300	E37X421CPN332ME92M	76.2 × 92	E92	33	11.3	13.5	15.8
	3,900	E37X421CPN392MEA5M	76.2 × 105	EA5	28	12.9	15.5	18.0
	4,700	E37X421CPN472MEB7M	76.2 × 117	EB7	24	14.5	17.4	20.3
	5,600	E37X421CPN562MEE3M	76.2 × 143	EE3	19	17.6	21.1	24.6
	8,200	E37X421CPN822MEJ1M	76.2 × 181	EJ1	14	22.2	26.6	31.1
	10,000	E37X421CPN103MEM9M	76.2 × 219	EM9	11	26.8	32.1	37.5
	4,700	E37X421CPN472MF92M	89 × 92	F92	25	14.4	17.3	20.2
	5,600	E37X421CPN562MFA5M	89 × 105	FA5	21	16.4	19.7	23.0

†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.**

Product specifications are subject to change without notice.
Ask for UCC product bulletins and review specifications before purchase and/or use. Please use our products based on parameters specified in our bulletins.

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
420 Volts 470 Volts Surge	6,800	E37X421CPN682MFB7M	89 × 117	FB7	18	18.4	22.1	25.8
	8,200	E37X421CPN822MFE3M	89 × 143	FE3	14	22.4	26.8	31.3
	10,000	E37X421CPN103MFF5M	89 × 155	FF5	12	24.3	29.1	34.0
	12,000	E37X421CPN123MFK0M	89 × 190	FK0	10	29.6	35.5	41.4
	15,000	E37X421CPN153MFM9M	89 × 219	FM9	8	34.0	40.7	47.5
450 Volts 500 Volts Surge	1,800	E37X451HPN182MCB7M	50 × 117	CB7	51	8.0	9.6	11.2
	2,200	E37X451HPN222MCD0M	50 × 130	CD0	44	8.9	10.6	12.4
	2,200	E37X451CPN222MD92M	63.5 × 92	D92	53	8.1	9.7	11.3
	2,200	E37X451CPN222MDA5M	63.5 × 105	DA5	44	9.2	11.1	12.9
	2,700	E37X451CPN272MDB7M	63.5 × 117	DB7	38	10.4	12.4	14.5
	3,300	E37X451CPN332MDD0M	63.5 × 130	DD0	33	11.5	13.8	16.1
	3,900	E37X451CPN392MDE3M	63.5 × 143	DE3	30	12.6	15.1	17.6
	3,300	E37X451CPN332ME92M	76.2 × 92	E92	38	10.6	12.7	14.8
	3,900	E37X451CPN392MEA5M	76.2 × 105	EA5	32	12.1	14.5	16.9
	3,900	E37X451CPN392MEB7M	76.2 × 117	EB7	27	13.6	16.3	19.0
	5,600	E37X451CPN562MEE3M	76.2 × 143	EE3	21	16.5	19.8	23.1
	6,800	E37X451CPN682MEJ1M	76.2 × 181	EJ1	16	20.8	25.0	29.2
	8,200	E37X451CPN822MEM9M	76.2 × 219	EM9	13	25.1	30.1	35.2
	3,900	E37X451CPN392MF92M	89 × 92	F92	28	13.5	16.2	18.9
	4,700	E37X451CPN472MFA5M	89 × 105	FA5	23	15.4	18.5	21.6
	5,600	E37X451CPN562MFB7M	89 × 117	FB7	20	17.3	20.7	24.2
	8,200	E37X451CPN822MFE3M	89 × 143	FE3	16	21.0	25.2	29.4
	8,200	E37X451CPN822MFF5M	89 × 155	FF5	14	22.8	27.3	31.9
	10,000	E37X451CPN103MFK0M	89 × 190	FK0	11	27.8	33.3	38.9
	12,000	E37X451CPN123MFM9M	89 × 219	FM9	9	32.2	38.6	45.0
500 Volts 550 Volts Surge	1,200	E37X501HPN122MCB7M	50 × 117	CB7	78	6.4	7.7	9.0
	1,500	E37X501HPN152MCD0M	50 × 130	CD0	68	7.2	8.6	10.0
	1,500	E37X501CPN152MD92M	63.5 × 92	D92	67	7.2	8.6	10.1
	1,800	E37X501CPN182MDA5M	63.5 × 105	DA5	56	8.2	9.9	11.5
	2,200	E37X501CPN222MDB7M	63.5 × 117	DB7	48	9.3	11.1	13.0
	2,700	E37X501CPN272MDD0M	63.5 × 130	DD0	42	10.3	12.3	14.4
	2,700	E37X501CPN272MDE3M	63.5 × 143	DE3	37	11.3	13.5	15.8
	2,200	E37X501CPN222ME92M	76.2 × 92	E92	48	9.5	11.3	13.2
	2,700	E37X501CPN272MEA5M	76.2 × 105	EA5	40	10.8	13.0	15.1
	3,300	E37X501CPN332MEB7M	76.2 × 117	EB7	34	12.1	14.6	17.0
	3,900	E37X501CPN392MEE3M	76.2 × 143	EE3	26	14.8	17.7	20.7
	5,600	E37X501CPN562MEJ1M	76.2 × 181	EJ1	20	18.6	22.3	26.1
	6,800	E37X501CPN682MEM9M	76.2 × 219	EM9	16	22.5	26.9	31.4
	3,300	E37X501CPN332MF92M	89 × 92	F92	35	12.1	14.5	16.9
	3,900	E37X501CPN392MFA5M	89 × 105	FA5	29	13.8	16.5	19.3
	4,700	E37X501CPN472MFB7M	89 × 117	FB7	25	15.5	18.5	21.6
	5,600	E37X501CPN562MFE3M	89 × 143	FE3	19	18.8	22.5	26.3
	6,800	E37X501CPN682MFF5M	89 × 155	FF5	18	20.4	24.4	28.5
	8,200	E37X501CPN822MFK0M	89 × 190	FK0	14	24.8	29.8	34.8
	10,000	E37X501CPN103MFM9M	89 × 219	FM9	12	28.5	34.2	39.9

†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.**

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