

### Unlytic® UX31 / UX32 / UX34 / UX35 Series

The UX31 / UX32 / UX34 / UX35 UNLYTIC® HIGH TEMPERATURE UX3 SERIES represents the best choice for high power DC applications featuring operation to 125°C with no voltage derating and acts as a drop in replacement to existing standard polypropylene capacitors.



#### FEATURES

- Inductance as low as 25nH (less than 12nH available)
- Low ESR
- Current carrying capability to 152 amps
- Withstands hostile environments
- Integrated mounting flanges
- RoHS compliant
- Operation to 125°C
- Acts as drop-in replacement for state-of-the-art polypropylene DC technology

#### STANDARD CONFIGURATION

- UX31/UX35 Male Terminal
- UX32/UX34 Female Terminal
- UX31/UX32 Standard ESL
- UX34/UX35 Special Low ESL

# Specification Summary

## Capacitance Range

10 $\mu$ F to 300 $\mu$ F

## Capacitance Tolerance

Standard capacitance tolerance is  $\pm 10\%$ .

Tolerances of  $\pm 5\%$  and  $\pm 20\%$  are also available.

## Operating Temperature Range

-55°C to +125°C

## Enclosure/Construction

Unlytic high temperature polypropylene in a thermoplastic housing. Terminals are tin plated brass.

## Voltage Rating

500 VDC to 1800 VDC

## Quality Control

Capacitors are tested 100% for:

- Capacitance
- Tolerance
- Dissipation Factor
- Dielectric withstanding voltage
- Insulation Resistance
- Equivalent Series Resistance (ESR)

Process and inspection data are maintained on file and available upon special request.

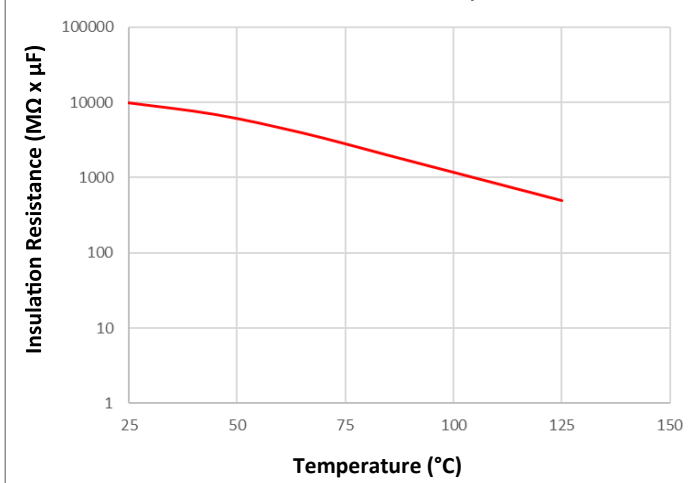
## Environmental

Parameter	Method	Condition
Vibration	204	D
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F

Reference MIL-STD-202

# Characteristics

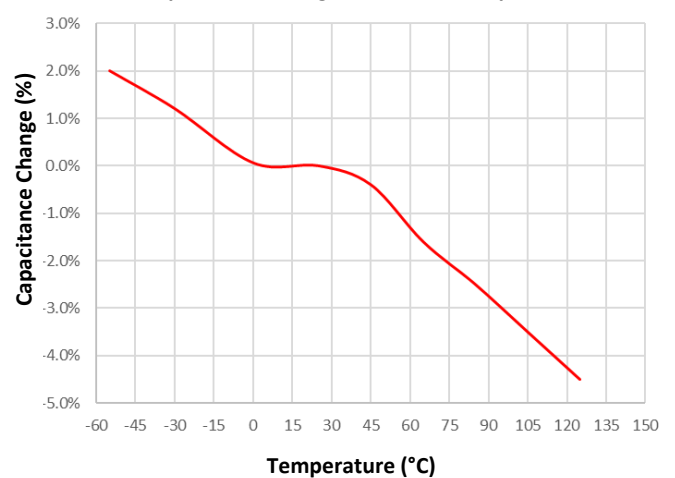
Insulation Resistance vs. Temperature



## Dielectric Strength

Capacitors withstand a DC potential of 1.3 x rated voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a minimum resistance of 100 OHM per volt minimum.

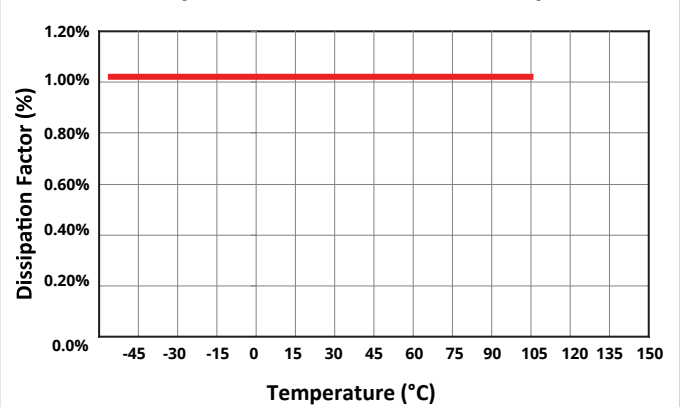
Capacitance Change at 1kHz vs. Temperature



## Dissipation Factor

Polypropylene has an intrinsic dissipation factor of less than  $2.1 \times 10^{-4}$  over the operating temperature range of -55°C to +125°C and frequencies to 1MHz.

Dissipation Factor at 1kHz vs. Temperature



# Detail Data

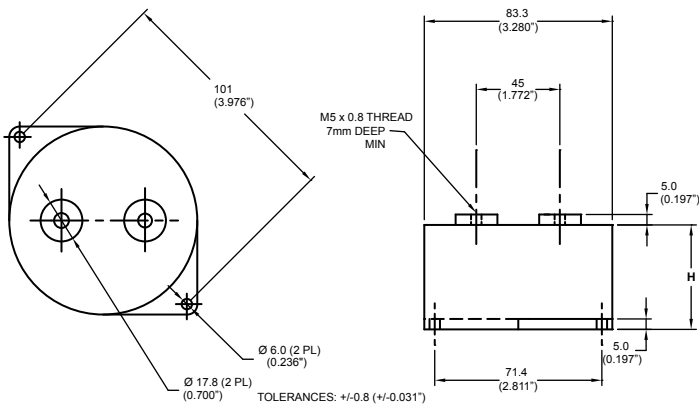
## UX31, 32, 34 AND UX35 ELECTRICAL SPECIFICATIONS

PART NUMBER	VOLTAGE VDC	VALUE μF	CASE "H" mm	ESL FOR UX31 AND UX32		ESL FOR UX34 AND UX35		I pk Amps	dv/dt V/us	E.S.R. mΩ	CURRENT RATING (AMPS RMS)					
				"L" nH	Fres kHz	"L" nH	Fres kHz				10 kHz to 100 kHz CONTINUOUS					
				AMBIENT TEMPERATURE												
25°C		45°C		65°C		85°C		105°C		125°C						
UX3_Q157K	500	150	40	25	82.2	12	118.6	5769	38	0.860	152.1	136.2	118.2	97.0	69.4	15.6
UX3_Q207K	500	200	51	32	62.9	15	91.9	5809	29	1.053	142.5	127.6	110.8	90.8	65.0	14.6
UX3_Q277K	500	275	64	50	42.9	25	60.7	5668	21	1.424	126.9	113.7	98.7	80.9	57.9	13.0
UX3_Q307K	500	300	79	55	39.2	27	55.9	4669	16	2.198	99.1	88.7	77.0	63.1	45.2	10.1
UX3_K107K	600	100	40	25	100.7	12	145.3	4396	44	1.131	125.8	112.7	97.8	80.2	57.4	12.9
UX3_K157K	600	150	51	32	72.6	15	106.1	4979	33	1.230	130.8	117.2	101.7	83.4	59.7	13.4
UX3_K207K	600	200	64	50	50.3	25	71.2	4711	24	1.713	113.6	101.8	88.3	72.4	51.9	11.6
UX3_K257K	600	250	79	55	42.9	27	61.3	4446	18	2.309	99.4	89.0	77.3	63.4	45.4	10.2
UX3_N706K	800	70	40	25	120.3	12	173.7	3846	55	1.299	121.5	108.8	94.4	77.4	55.4	12.4
UX3_N107K	800	100	51	32	89.0	15	129.9	4149	41	1.481	121.1	108.4	94.1	77.2	55.3	12.4
UX3_N137K	800	130	64	50	62.4	25	88.3	3828	29	2.112	102.9	92.2	80.0	65.6	47.0	10.5
UX3_N167K	800	160	79	55	53.7	27	76.6	3557	22	2.888	88.9	79.6	69.1	56.7	40.6	9.1
UX3_BL356K	1000	35	40	25	170.1	12	245.6	2692	77	1.875	100.3	89.9	78.0	64.0	45.8	10.3
UX3_BL506K	1000	50	51	32	125.8	15	183.8	2905	58	2.129	100.3	89.8	77.9	63.9	45.8	10.3
UX3_BL706K	1000	70	64	50	85.1	25	120.3	2886	41	2.813	90.9	81.4	70.7	57.9	41.5	9.3
UX3_BL806K	1000	80	79	55	75.9	27	108.3	2490	31	4.134	73.8	66.1	57.4	47.1	33.7	7.5
UX3_L256K	1200	25	40	25	201.3	12	290.6	2198	88	2.309	88.1	78.9	68.5	56.1	40.2	9.0
UX3_L356K	1200	30	51	32	150.4	15	219.7	1992	66	3.114	75.8	67.9	59.0	48.3	34.6	7.8
UX3_L506K	1200	50	64	50	100.7	25	142.4	2356	47	3.450	80.1	71.7	62.3	51.1	36.6	8.2
UX3_L606K	1200	60	79	55	87.6	27	125.0	2134	36	4.829	67.8	60.8	52.7	43.2	31.0	6.9
UX3_M186K	1500	18	40	25	237.3	12	342.4	1978	110	2.592	87.0	77.9	67.6	55.4	39.7	8.9
UX3_M256K	1500	25	51	32	177.9	15	259.9	2075	83	3.009	85.0	76.1	66.1	54.2	38.8	8.7
UX3_M356K	1500	35	64	50	120.3	25	170.1	2061	59	3.957	77.2	69.1	60.0	49.2	35.2	7.9
UX3_M406K	1500	40	79	55	107.3	27	153.1	1779	44	5.807	62.7	56.2	48.8	40.0	28.6	6.4
UX3_BX106K	1800	10	40	25	318.3	12	459.4	1319	132	3.927	65.0	58.2	50.5	41.4	29.7	6.6
UX3_BX156K	1800	15	51	32	229.7	15	335.5	1494	100	4.206	68.2	61.0	53.0	43.4	31.1	7.0
UX3_BX206K	1800	20	64	50	159.2	25	225.1	1413	71	5.790	59.7	53.4	46.4	38.0	27.2	6.1
UX3_BX276K	1800	27	79	55	130.6	27	186.4	1441	53	7.182	55.9	50.1	43.4	35.6	25.5	5.7

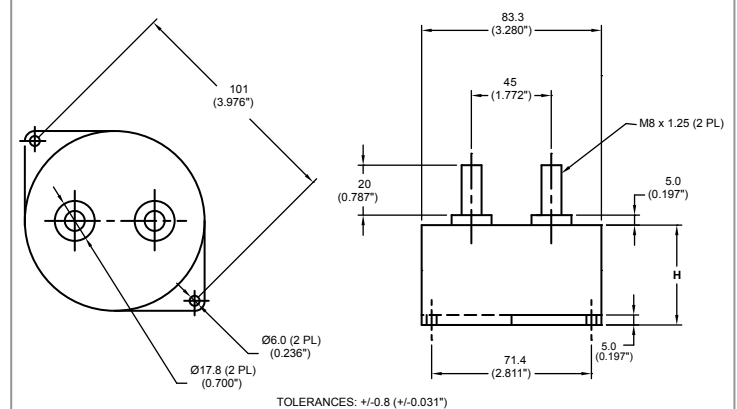
\*\*Other capacitance and voltage values available upon request

# Style

## UX32 AND UX34 SERIES



## UX31 AND UX35 SERIES



## Additional Information

The UX3 Series is the first drop in replacement for traditional designs to meet the demand of high temperature applications at 125°C. Maintaining the same mechanical envelope as the UL3 Series, the UX3 Series out performs at higher operating temperature range and current carrying capability.

Whether you need performance at 125°C or higher current capability at 105°C, the UX3 Series is the solution.

## How to Order

TYPE UNLYTIC® Metallized High Temperature Polypropylene	→	<b>UX</b>
STYLE UX31, UX32, UX34, UX35	→	<b>31</b>
VOLTAGE DC Voltage Rating: Q = 500 VDC, K = 600, etc.	→	<b>Q</b>
CAPACITANCE IN PICO FARADS The first two digits are significant, the third represents the number of zeros (e.g 157=150,000,000pF)	→	<b>157</b>
Tolerance Standard tolerance is ±10%. Tolerances of ±20% and ±5% are also available.	→	<b>K</b>

### Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type UX3, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 1252 is the 52nd week of 2012, 1202 is the second week of 2012.

### Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001 and AS9100 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

## Sales Offices

### United States Headquarters

Electronic Concepts, Inc.  
526 Industrial Way West  
Eatontown, NJ 07724  
Tel: 732-542-7880  
Fax: 732-542-0524

email: [sales@ecicaps.com](mailto:sales@ecicaps.com)  
website: [www.ecicaps.com](http://www.ecicaps.com)

### Distribution Center

Elcon Sales  
542 Industrial Way West  
Eatontown, NJ 07724  
Tel: 732-380-0405  
Fax: 732-380-0409

email: [sales@elconsales.com](mailto:sales@elconsales.com)

### European Headquarters

Electronic Concepts Europe LTD  
IDA Estate  
Oughterard  
Co. Galway  
Ireland  
tel: +353-91-552432  
fax: +353-91-552387

email: [sales@ecicaps.ie](mailto:sales@ecicaps.ie)  
website: [www.electronicconcepts.ie](http://www.electronicconcepts.ie)