

### Unlytic<sup>®</sup> Miniature Series

## The best choice for decoupling.



#### FEATURES

- High Peak Current
- High dv/dt
- Lowest ESR
- Low ESL
- Maximum energy density
- Temperature ranges of -55°C to +85°C
- Less than 2 inches in height
- RoHS Compliant

#### STANDARD CONFIGURATION

- Through-hole board mount
- Integrated standoffs for mechanical stability

# Specification Summary

## Capacitance Range

3.0 $\mu$ F to 40.0 $\mu$ F

## Capacitance Tolerance

Standard capacitance tolerance is  $\pm 10\%$ .  
5%, 2% upon special request

## Operating Temperature Range

-55°C to +85°C

## Enclosure/Construction

Metalized unlytic polypropylene potted in a thermoplastic housing.  
Terminals are solder coated copper.  
RoHS compliant

## Voltage Rating

600 VDC to 2400 VDC

## Quality Control

Capacitors are tested 100% for:

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

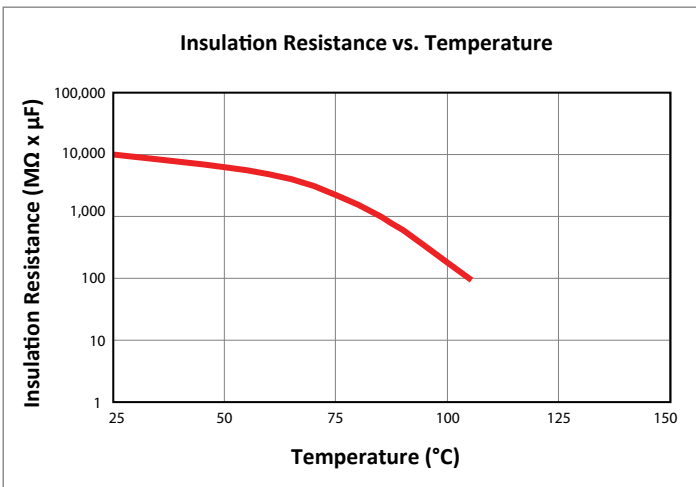
Process and inspection data are maintained on file and available upon special request.

## Environmental

Parameter	Method	Condition
Vibration	204	D
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F
Reference MIL-STD-202		

# Characteristics

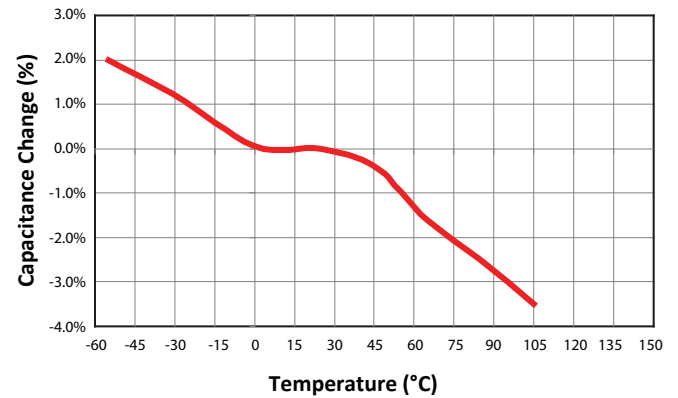
## Insulation Resistance



## Dielectric Strength

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

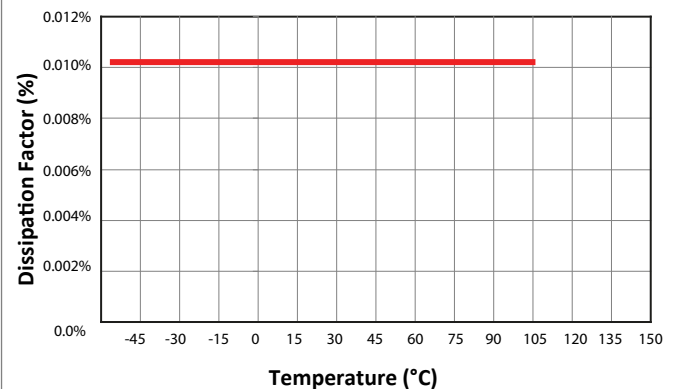
## Capacitance Change at 1kHz vs. Temperature



## 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 +105°C and frequencies to 1MHz.

## Dissipation Factor at 1kHz vs. Temperature

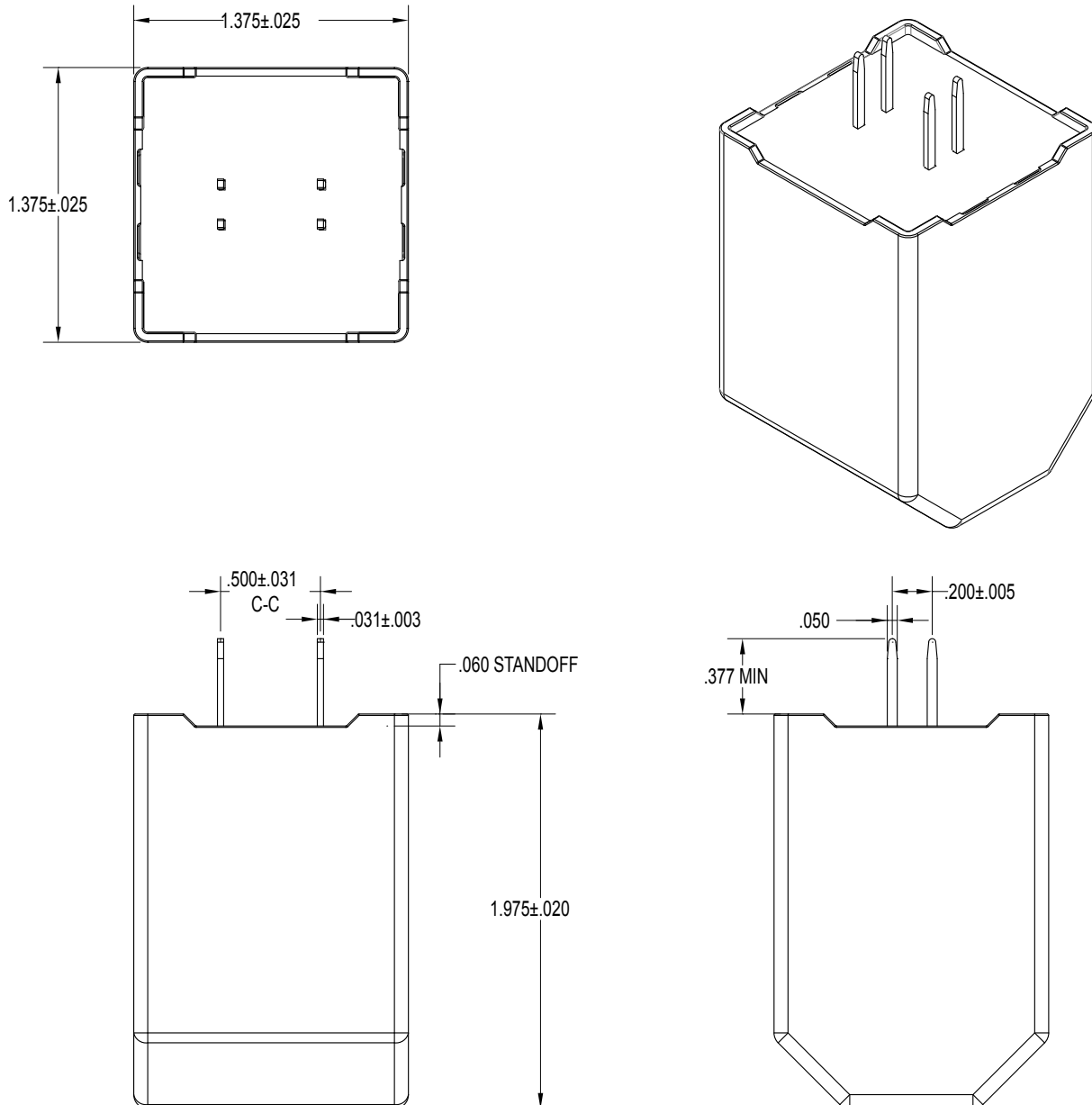


# Detail Data

PART NUMBER	CAP ( $\mu$ F)	VOLTAGE VDC	ESR (Milliohms)	Rms Current (10 kHz)				I pk (AMPS)	dv/dt (V/ $\mu$ s)	ESL (nH)	Fres (kHz)
				25°C	45°C	65°C	85°C				
UP38BA040	40	600	5	34	29	24	17	1542	39	16	148
UP38BA035	35	600	5.5	30	26	22	16	1349	39	16	190
UP38BF030	30	750	6	31	27	22	16	1322	44	16	205
UP38BL017	17	1000	6.5	30	24	20	14	1073	63	16	273
UP38BM014	14	1100	7	27	23	19	14	909	76	16	301
UP38BN012	12	1200	8	26	23	19	13	758	76	16	325
UP38BR008	8	1400	10	22	19	16	11	663	95	16	398
UP38BT006	6	1600	13	20	18	14	10	534	114	16	459
UP38BX005	5	1800	9	19	17	13	9	758	76	16	503
UP38CA004	4	2000	10	18	16	13	9	663	95	16	563
UP38CB003	3	2400	13	18	16	12	8	534	114	16	650

Rev. C

# Style



## Additional Information

UNLYTIC® technology provides a dry film solution for electrolytic capacitor replacement, offering ten (10) times the current density and three (3) times the over voltage protection. For safety, eliminates the possibility of caustic electrolyte leakage and its harmful effects to the environment.

This capacitor is designed for switching power supplies where high voltages at elevated temperatures are needed. The component is designed to perform under conditions of high peak current and dv/dt without impact to long term reliability. The housing has integrated standoffs molded in. They help to support the component to withstand elevated shock and vibration conditions.

## How to Order

TYPE Unlytic® Polypropylene	→	<b>UP38</b>
VOLTAGE BA=600VDC, BF=750VDC, BL=1000VDC, BM=1100VDC, BN=1200VDC, BR=1400VDC, BT=1600VDC, BX=1800VDC, CA=2000VDC, CB=2400VDC	→	<b>BA</b>
CAPACITANCE IN PICOFARADS Last 4 characters represent capacitance to 1 significant digit. 0350 = 35.0µF	→	<b>0350</b>

### Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type UP38, 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

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