



**GE Capacitors**

By REGAL-BELOIT

# Capacitors for AC and DC General Purpose Applications



**Proven EIA-456 Compliant**

60,000 Hour Reliability Industry Standard



GE Capacitors by Regal-Beloit 1946 West Cook Road, Fort Wayne, Indiana 46818 USA

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# Capacitor Application Data Sheet

To ensure correct selection of a capacitor for your application, please provide the information indicated below. This sheet may be duplicated or additional copies may be obtained from RBC.

Of particular importance are the voltages and current waveforms complete with values of voltage and current over a complete cycle.

Send this data to your local RBC Sales Representative or directly to:

## GE Capacitors by Regal-Beloit

1946 West Cook Road  
Fort Wayne, Indiana 46818 USA

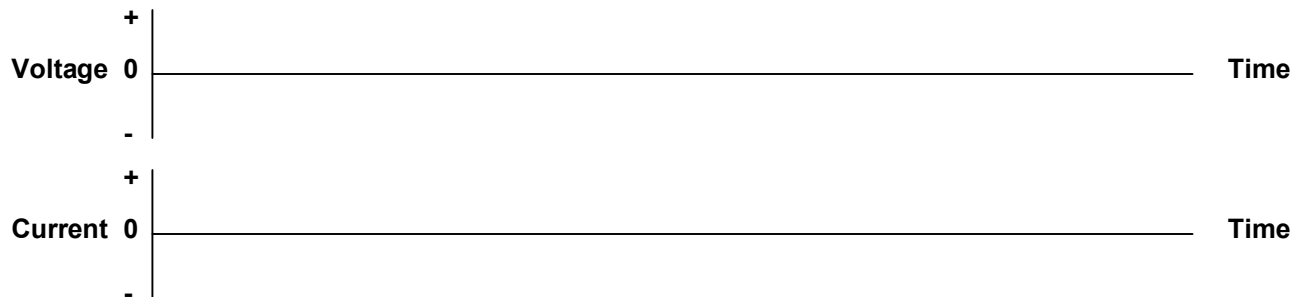
**Phone:** (260) 416-5400

**Fax:** (260) 416-5460

**Email:** capacitors@regalbeloit.com

### PRIMARY INFORMATION (Essential)

1. **Application:** \_\_\_\_\_
2. **Capacitance:** \_\_\_\_\_ **Tolerance:** \_\_\_\_\_
3. **Peak Voltage:** \_\_\_\_\_ **RMS Voltage:** \_\_\_\_\_
4. **Peak Current:** \_\_\_\_\_ **RMS Current:** \_\_\_\_\_
5. **Transient Voltage:** \_\_\_\_\_ **Duration:** \_\_\_\_\_ **Freq. Of Occurrence:** \_\_\_\_\_
6. **Frequency or Repetition Rate (Hz):** \_\_\_\_\_ **Duty Cycle:** \_\_\_\_\_
7. **Ambient Temperature:** \_\_\_\_\_ **Max.:** \_\_\_\_\_ **Min.:** \_\_\_\_\_
8. **Capacitor Charge Time:** \_\_\_\_\_ **Discharge Time:** \_\_\_\_\_
9. **Required Operating Life (Hours):** \_\_\_\_\_
10. **Waveforms:**



### SECONDARY INFORMATION (Provide as Appropriate)

11. **Physical Size Limitations:** \_\_\_\_\_
12. **Mounting Requirements:** \_\_\_\_\_
13. **Applicable Specifications:** \_\_\_\_\_
14. **Type of Cooling Available:** \_\_\_\_\_
15. **Unusual Atmospheric Conditions:** \_\_\_\_\_
16. **Other Special Requirements:** \_\_\_\_\_
17. **Number of Samples Required:** \_\_\_\_\_
18. **Potential Usage:** \_\_\_\_\_



|                                                |           |
|------------------------------------------------|-----------|
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## **GE Capacitors by REGAL-BELOIT**

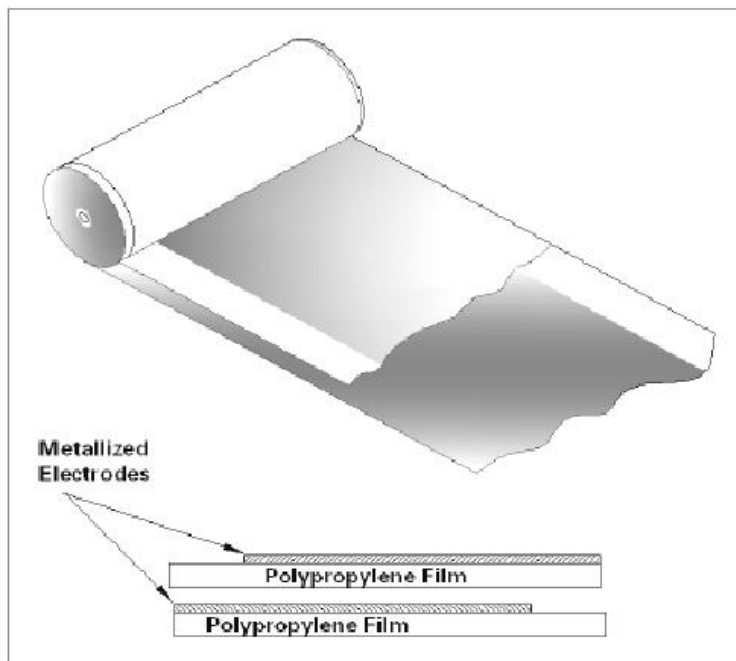
### **Capacitors for General Purpose Applications**

Metallized film capacitors are unsurpassed in terms of size, weight, performance, and reliability for AC applications. Regal-Beloit brings over 60 year of capacitor manufacturing experience to the product lines described in this publication. These capacitors represent the best in product design for long-term reliability and safe operation. Regal-Beloit's materials, product, and process development work continue to provide capacitor users with outstanding total value.

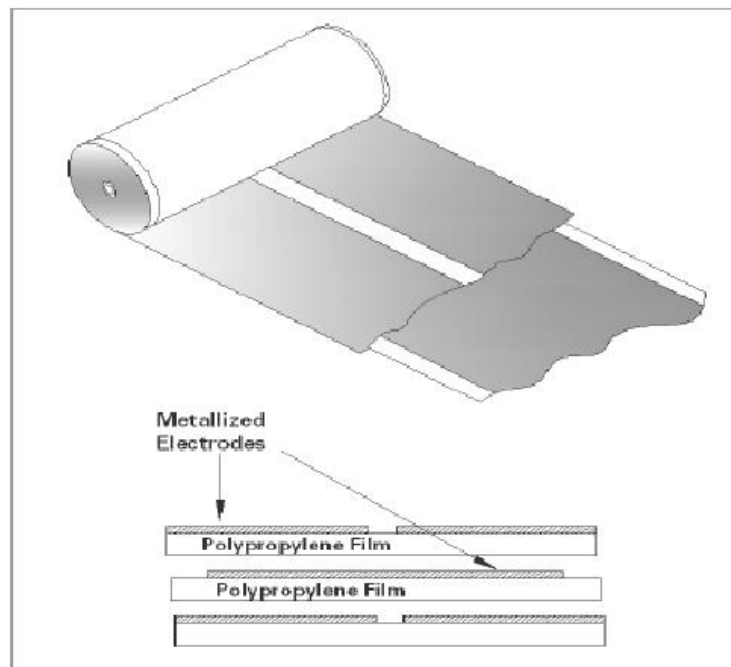
The specific products in this bulletin are aimed at market / application segments for General Purpose, Power Supply, and Electronic Power Conversion.

The GEM III General Purpose Capacitors are used for filtering on a wide variety of light industrial equipment. The conversion of electrical power and uninterruptible power supplies and drive control systems requires filter capacitors. An application note is included to help customers in the correct choice and use of these capacitors.

## GEM III Construction



## GEM III Series Construction



Regal-Beloit's GEM III capacitors are manufactured with high-grade metallized polypropylene film. This film is in the range of 5 to 10 microns thick, depending on the application, voltage, and conditions. The metallized electrode is several hundred angstroms thick.

The film is wound into capacitor rolls on high-speed, high-precision machines. The winding is extremely tight so that there is not enough space between the layers for corona (localized partial electrical discharges) to occur. The rolls are sprayed on both ends with metal to make the connection to the extremely thin edges of the metallized electrodes. This process is critical to the quality and performance of the capacitors.

The rolls are assembled in metal cases, Regal-Beloit's proprietary Dielektrol VI liquid is introduced under vacuum, and the capacitors are sealed. They are then subjected to 100% electrical testing for capacitance, dissipation factor, and high potential electrical withstand, both terminal-to-terminal and terminal-to-case.

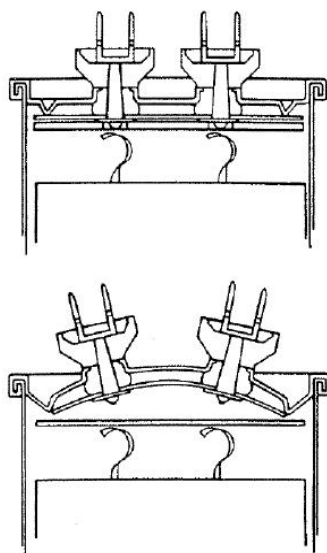
## Pressure Sensitive Interrupter

All the capacitors listed in this publication contain Regal-Beloit's Pressure Sensitive Interrupter (PSI). This device, developed by GE, is designed to sense the build-up of pressure within the capacitor if a fault occurs and to interrupt the internal electrical connections before the case can rupture.

The PSI carries U.L.\* recognition for applications where the specified fault currents are not exceeded. The fault current is the maximum current that is available from the circuit to flow through the capacitor if the capacitor were to become a short circuit with zero impedance. **It is the responsibility of the capacitor user to determine what the available fault current is for a particular application.**

In the Catalog Number listings a four character U.L. Code, Pxxx, is given. This number is part of the listing for Regal-Beloit in U.L. File No. E7793. When applying to U.L. for approvals or recognition of equipment using these capacitors refer to the Pxxx number and not the Catalog Number of the capacitor in question.

Proper operation of the PSI requires that the cover be able to expand without restriction. The following mounting considerations should be noted in mounting the these capacitors.

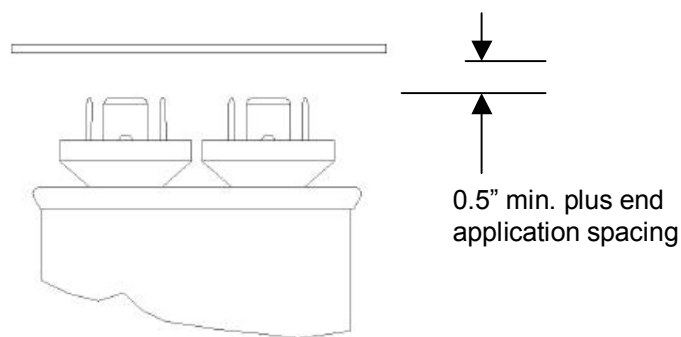


\*Underwriter's Laboratory

## Mounting Considerations

### Vertical Clearance

There must be sufficient clearance between the tops of the terminals (and/or the assembled wire connectors) and a plane perpendicular to the capacitor terminals. This clearance must be at least 0.5 inches plus the electrical spacing requirements of the end application.

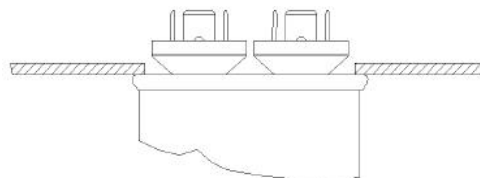
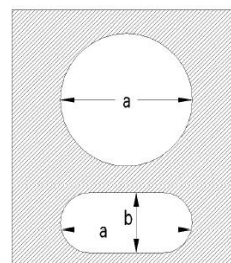


### Cut-Out Clearance

In certain instances, capacitors are mounted with the top of the capacitors case resting against the chassis and the terminals protruding through the chassis. Care must be taken to see that the cutout in the chassis is large enough. The following dimensions are recommended.

| Case Style | a    | b    |
|------------|------|------|
| A          | 2.00 | 1.00 |
| B          | 2.25 | 1.25 |
| C          | 2.50 | 1.62 |
| D          | 3.25 | 1.62 |

| Case Style | a    |
|------------|------|
| P          | 1.62 |
| S          | 1.88 |
| T          | 2.38 |



This series of GEM III is **designed specifically for applications such as AC filters where harmonic frequencies greater than 60Hz are common**. Application Data is provided starting on page 9 that gives the Equivalent Series Resistance (ESR) for these units. This allows the user to calculate the losses for each design / application and to ensure that they are kept within the permissible limits. **Any questions** regarding the suitability of a capacitor for a particular application may be referred to Regal-Beloit Engineers by **contacting your Regal-Beloit sales representative**.

## SPECIFICATIONS:

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Available Capacitance Range:</b>            | 2 to 120 $\mu$ F                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Capacitance Tolerance:</b>                  | $\pm$ 6%                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Capacitance Variation with Temperature:</b> | See Chart E-3 on page 13.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Rated Voltage:</b>                          | See Rating Tables. Rating is the 60Hz RMS voltage for a sinusoidal waveform. For other waveforms refer to the Application Note on page 9.                                                                                                                                                                                                                                                                                                                       |
| <b>Leakage Current:</b>                        | 30 $\mu$ A maximum                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Frequency:</b>                              | 50/60 Hz. For higher frequencies refer to the Application Note on page 10.                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Operating Temperature:</b>                  | -40°C to +70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Storage Temperature:</b>                    | -40°C to +90°C                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Operating Life:</b>                         | 60,000 hours with 94% survival<br>(In accordance with the EIA-456 Industry Standard)                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Dissipation Factor:</b>                     | 0.1% maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Case Material/Finish:</b>                   | Unpainted Aluminum Case, Tin Plated Steel Cover.                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Terminations:</b>                           | 'Combo' terminal: 0.250" x 0.031" quick connect blades                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Dielectric Fluid:</b>                       | Dielektrol VI                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Internal Protection:</b>                    | UL recognized Pressure Sensitive Interrupter. See Ratings Table for Regal-Beloit's UL Code Number listed under Regal-Beloit's UL File E7793 (N). For UL submittals with these capacitors, use the RBC 'Pxxx' number not the Catalog Number. The corresponding generic UL designation that includes the Available Faults Current (AFC) rating is given below. All these capacitors are capable of interrupting available fault currents of up to 10,000 amperes. |

| Case Style | RBC Code | Generic UL Code |
|------------|----------|-----------------|
| A          | P921     | A10000AFC       |
| P          | P965     | P10000AFC       |
| S          | P968     | S10000AFC       |
| T          | P969     | T10000AFC       |

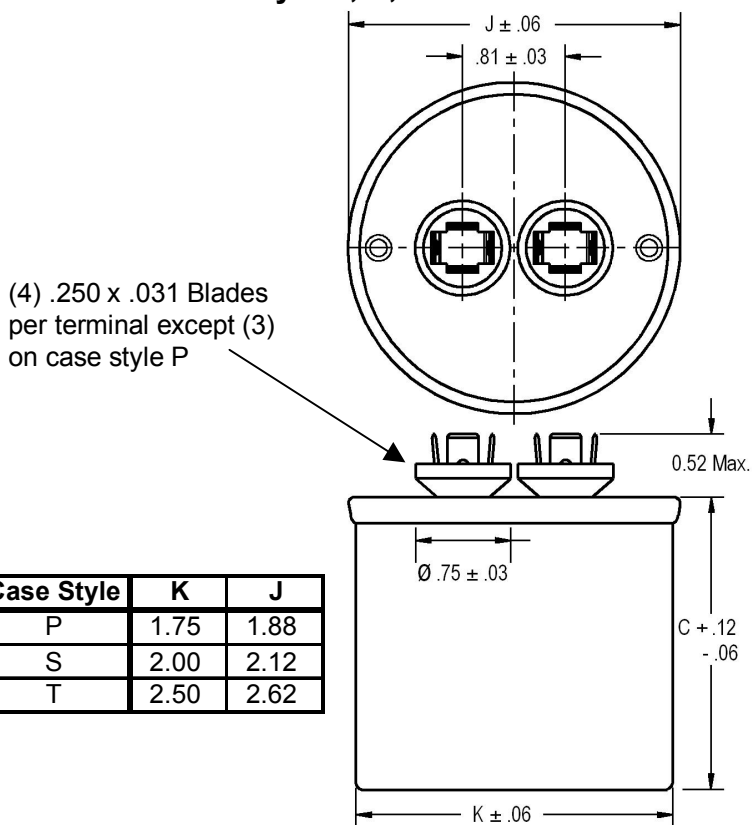
# Gen Purpose AC Capacitors – GEM III

## Single Ratings – 1 Section

07

| Voltage (VAC) | Capacitance (μF) | Catalog Number | Case Style | Base Size (in.) | Can Type | Height C (in.) | UL Code |
|---------------|------------------|----------------|------------|-----------------|----------|----------------|---------|
| 240           | 15.0             | 97F8036        | P          | 1.75            | Round    | 2.88           | P965    |
|               | 25.0             | 97F8037        | P          | 1.75            | Round    | 2.88           | P965    |
|               | 30.0             | 97F8038        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 35.0             | 97F8039        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 40.0             | 97F8040        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 45.0             | 97F8041        | P          | 1.75            | Round    | 4.75           | P965    |
|               | 50.0             | 97F8042        | P          | 1.75            | Round    | 4.75           | P965    |
|               | 55.0             | 97F8043        | P          | 1.75            | Round    | 4.75           | P965    |
|               | 60.0             | 97F8044        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 65.0             | 97F8045        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 70.0             | 97F8046        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 75.0             | 97F8047        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 80.0             | 97F8048        | T          | 2.50            | Round    | 3.88           | P969    |
|               | 85.0             | 97F8049        | T          | 2.50            | Round    | 3.88           | P969    |
|               | 90.0             | 97F8050        | T          | 2.50            | Round    | 3.88           | P969    |
|               | 95.0             | 97F8051        | T          | 2.50            | Round    | 4.75           | P969    |
|               | 100.0            | 97F8052        | T          | 2.50            | Round    | 4.75           | P969    |
|               | 120.0            | 97F8053        | T          | 2.50            | Round    | 4.75           | P969    |

Case Style P, S, and T



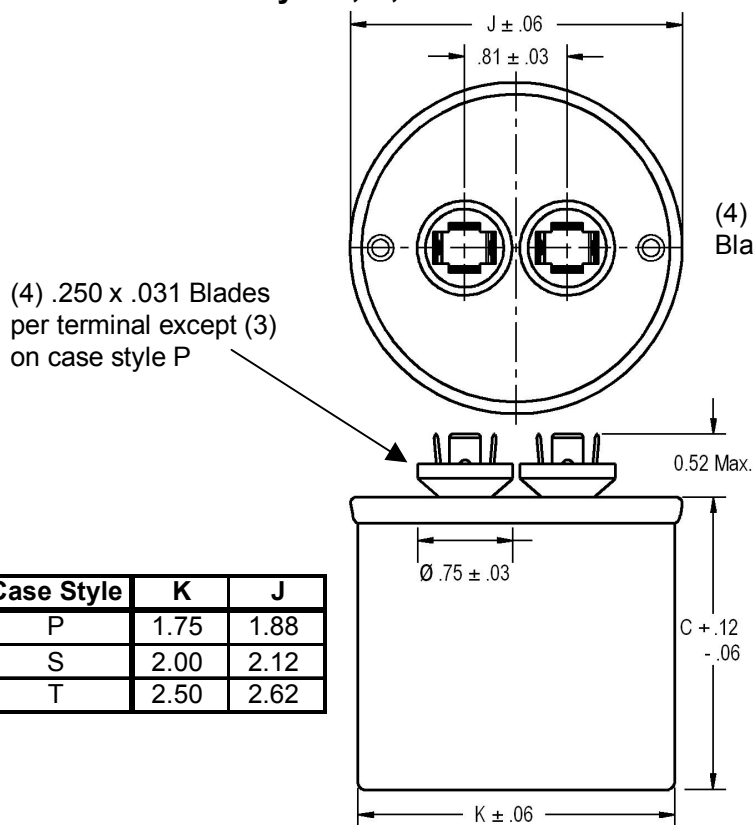
\*It is Regal-Beloit's goal to serve you with the **most cost effective** and **highest quality capacitor** designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and **will continue to offer the above ratings (and more) in case configurations to meet your application(s).**

# Gen Purpose AC Capacitors – GEM III

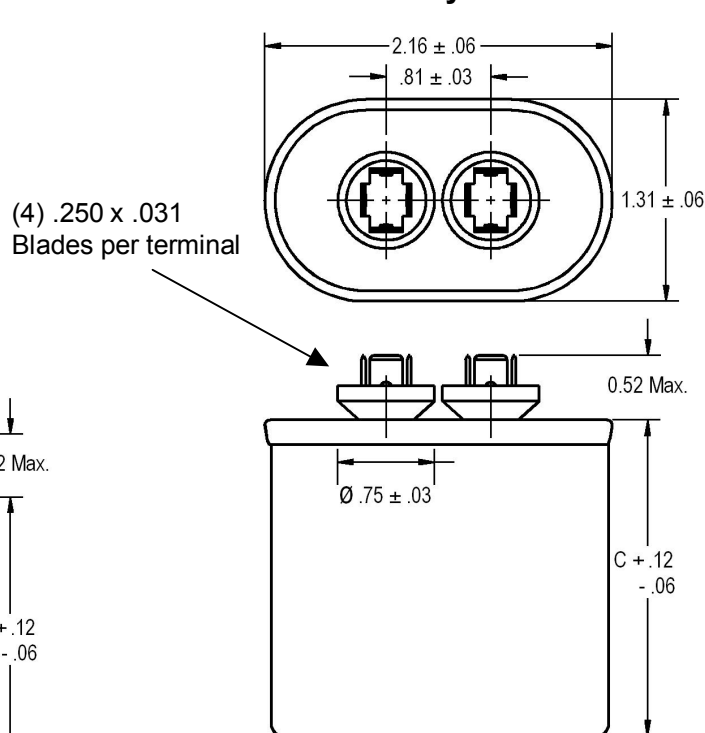
## Single Ratings – 1 Section

| Voltage (VAC) | Capacitance (μF) | Catalog Number | Case Style | Base Size (in.) | Can Type | Height C (in.) | UL Code |
|---------------|------------------|----------------|------------|-----------------|----------|----------------|---------|
| <b>370</b>    | 3.0              | 97F8054        | A          | 1.25            | Oval     | 2.12           | P921    |
|               | 4.0              | 97F8055        | A          | 1.25            | Oval     | 2.12           | P921    |
|               | 5.0              | 97F8056        | A          | 1.25            | Oval     | 2.88           | P921    |
|               | 6.0              | 97F8057        | A          | 1.25            | Oval     | 2.88           | P921    |
|               | 7.5              | 97F8058        | A          | 1.25            | Oval     | 2.88           | P921    |
|               | 10.0             | 97F8059        | A          | 1.25            | Oval     | 3.88           | P921    |
|               | 12.5             | 97F8060        | A          | 1.25            | Oval     | 3.88           | P921    |
|               | 15.0             | 97F8061        | P          | 1.75            | Round    | 2.88           | P965    |
|               | 17.5             | 97F8062        | P          | 1.75            | Round    | 2.88           | P965    |
|               | 20.0             | 97F8063        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 25.0             | 97F8064        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 30.0             | 97F8065        | P          | 1.75            | Round    | 3.88           | P965    |
|               | 35.0             | 97F8066        | P          | 1.75            | Round    | 4.75           | P965    |
|               | 40.0             | 97F8067        | P          | 1.75            | Round    | 4.75           | P965    |
|               | 45.0             | 97F8068        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 50.0             | 97F8069        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 55.0             | 97F8070        | S          | 2.00            | Round    | 4.75           | P968    |
|               | 60.0             | 97F8071        | T          | 2.50            | Round    | 3.88           | P969    |
|               | 65.0             | 97F8072        | T          | 2.50            | Round    | 3.88           | P969    |
|               | 70.0             | 97F8073        | T          | 2.50            | Round    | 4.75           | P969    |

Case Style P, S, and T



Case Style A



\*It is Regal-Beloit's goal to serve you with the **most cost effective** and **highest quality capacitor** designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and **will continue to offer the above ratings (and more) in case configurations to meet your application(s).**

# Gen Purpose AC Capacitors – GEM III

## Application Notes – 97F8000 Series – 240 & 370 VAC

09

ESR Values for 97F8000 Series – Curve Numbers refer to Graphs on Page 10.

| Voltage (VAC) | Catalog Number | Capacitance (μF) | ESR (ohms) | Curve Number |
|---------------|----------------|------------------|------------|--------------|
| 240           | 97F8036        | 15.0             | 0.0257     | 2            |
|               | 97F8037        | 25.0             | 0.0180     | 2            |
|               | 97F8038        | 30.0             | 0.0228     | 3            |
|               | 97F8039        | 35.0             | 0.0206     | 3            |
|               | 97F8040        | 40.0             | 0.0190     | 3            |
|               | 97F8041        | 45.0             | 0.0241     | 4            |
|               | 97F8042        | 50.0             | 0.0226     | 4            |
|               | 97F8043        | 55.0             | 0.0213     | 4            |
|               | 97F8044        | 60.0             | 0.0215     | 5            |
|               | 97F8045        | 65.0             | 0.0206     | 5            |
|               | 97F8046        | 70.0             | 0.0198     | 5            |
|               | 97F8047        | 75.0             | 0.0191     | 5            |
|               | 97F8048        | 80.0             | 0.0164     | 5            |
|               | 97F8049        | 85.0             | 0.0160     | 5            |
|               | 97F8050        | 90.0             | 0.0156     | 5            |
|               | 97F8051        | 95.0             | 0.0193     | 6            |
|               | 97F8052        | 100.0            | 0.0189     | 6            |
|               | 97F8053        | 120.0            | 0.0176     | 6            |

| Voltage (VAC) | Catalog Number | Capacitance (μF) | ESR (ohms) | Curve Number |
|---------------|----------------|------------------|------------|--------------|
| 370           | 97F8054        | 3.0              | 0.0700     | 1            |
|               | 97F8055        | 4.0              | 0.0539     | 1            |
|               | 97F8056        | 5.0              | 0.0586     | 2            |
|               | 97F8057        | 6.0              | 0.0499     | 2            |
|               | 97F8058        | 7.5              | 0.0411     | 2            |
|               | 97F8059        | 10.0             | 0.0471     | 3            |
|               | 97F8060        | 12.5             | 0.0392     | 3            |
|               | 97F8061        | 15.0             | 0.0244     | 2            |
|               | 97F8062        | 17.5             | 0.0218     | 2            |
|               | 97F8063        | 20.0             | 0.0281     | 3            |
|               | 97F8064        | 25.0             | 0.0240     | 3            |
|               | 97F8065        | 30.0             | 0.0213     | 3            |
|               | 97F8066        | 35.0             | 0.0262     | 4            |
|               | 97F8067        | 40.0             | 0.0240     | 4            |
|               | 97F8068        | 45.0             | 0.0235     | 5            |
|               | 97F8069        | 50.0             | 0.0222     | 5            |
|               | 97F8070        | 55.0             | 0.0210     | 5            |
|               | 97F8071        | 60.0             | 0.0175     | 5            |
|               | 97F8072        | 65.0             | 0.0169     | 5            |
|               | 97F8073        | 70.0             | 0.0207     | 6            |

The 97F8000 Series of capacitors may be used in AC applications where the voltage waveform is non-sinusoidal. This Application Note is provided to assist in the correct use of the capacitors where higher frequency harmonic currents are present. If you need further assistance please contact Regal-Beloit's Capacitors Operation through your normal sales channel.

Higher frequency currents are commonly encountered in the filter circuits of Static Power Converters. These frequencies range from 180 to 1500 Hz for a 60 Hz system in various combinations of the odd harmonics depending on the type of converter. Generally, there are not significant harmonic currents above the 25<sup>th</sup> harmonic.

These capacitors can carry a total current of up to 15 amperes RMS (fundamental plus harmonics). The Equivalent Series Resistance (ESR) for each Catalog Number is shown in the ESR tables on this page. This value may be used to calculate the expected watts loss for a particular application. The user must determine the total RMS current (fundamental plus harmonics) for the application. The watts loss is then calculated using the equation:

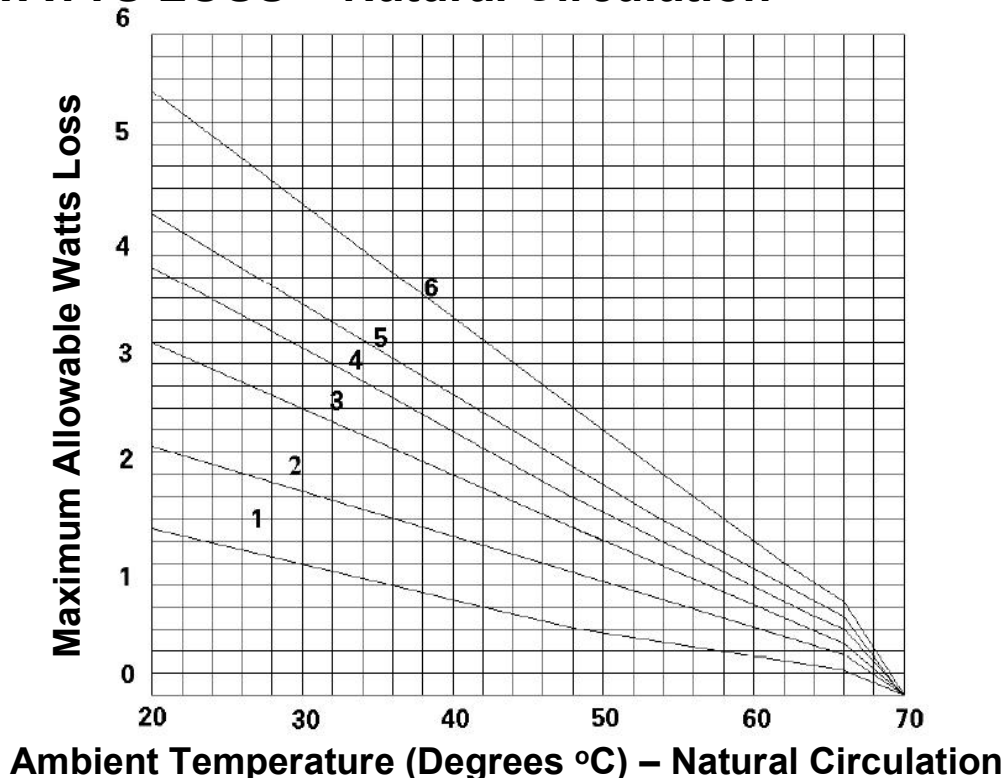
$$W = I^2 \times \text{ESR} \quad I = \text{Total RMS current} \quad \text{ESR} = \text{Value from ESR Tables}$$

The calculated watts from this equation must not exceed the allowable watts loss shown on the curve corresponding to the particular capacitor. Two sets of curves are shown, one for natural circulation and one for forced air circulation.

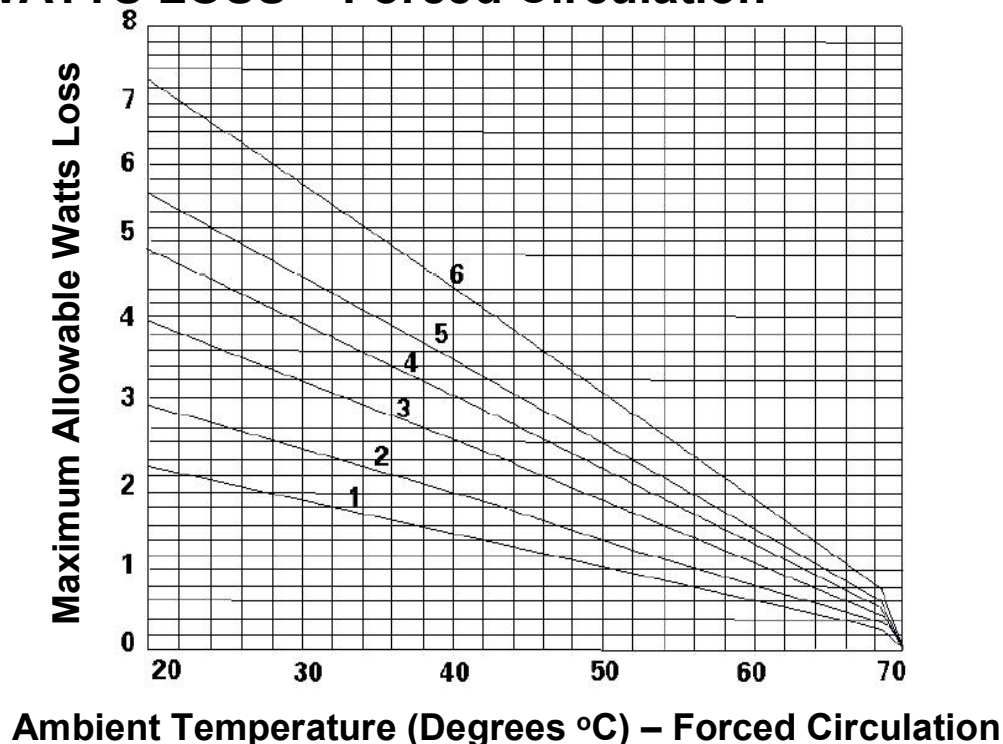
### NOTES:

- (1) In no case should the **total RMS current** of **15 amperes** be exceeded for any of these capacitors
- (2) Running the capacitors at case temperatures above 70°C will have a significant effect on expected life. (See chart G-1 on page 11).
- (3) Running the capacitors at voltages above the nominal rated voltage will also results in significantly reduced life. (See chart G-2 on page 12).

### ALLOWABLE WATTS LOSS – Natural Circulation

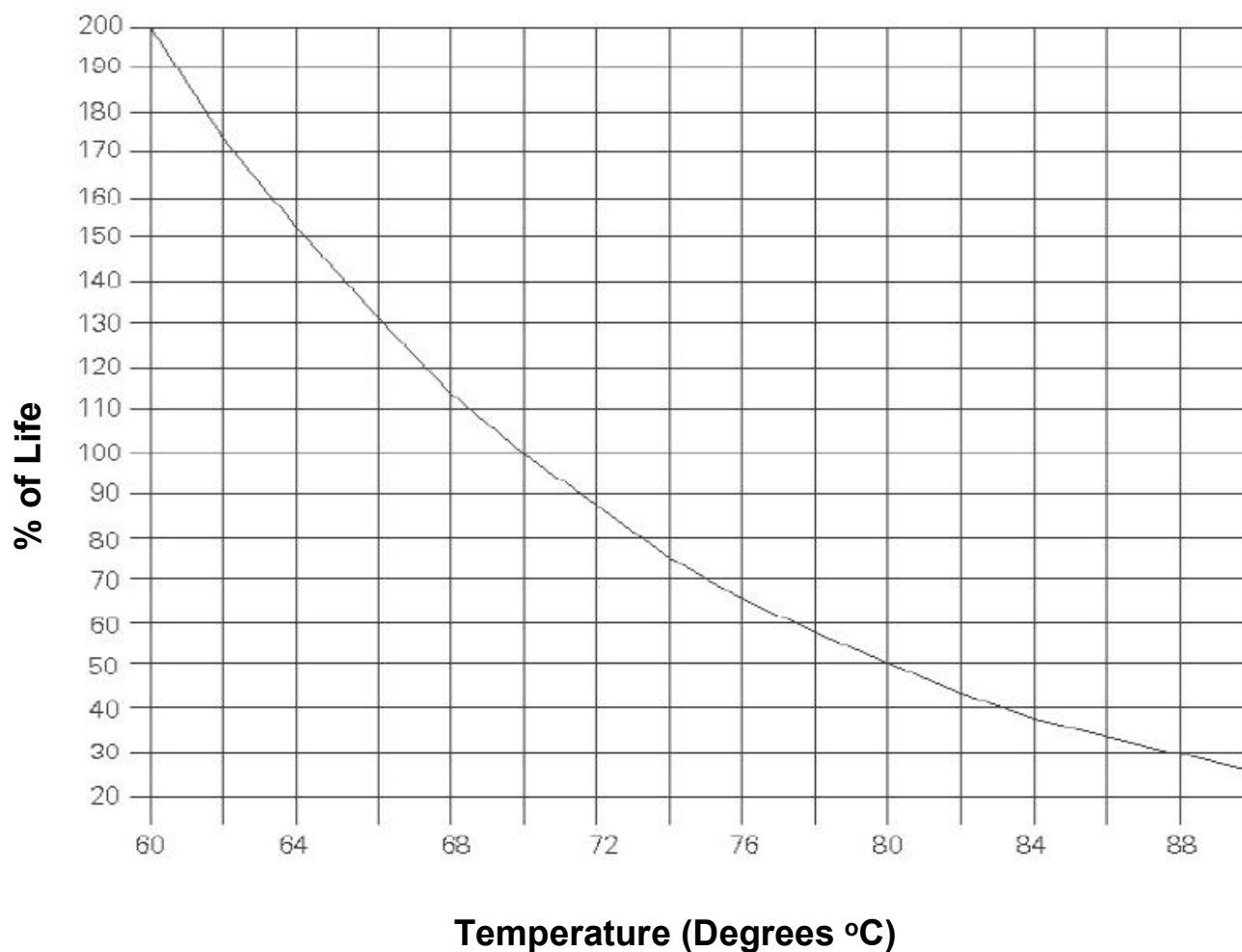


### ALLOWABLE WATTS LOSS – Forced Circulation



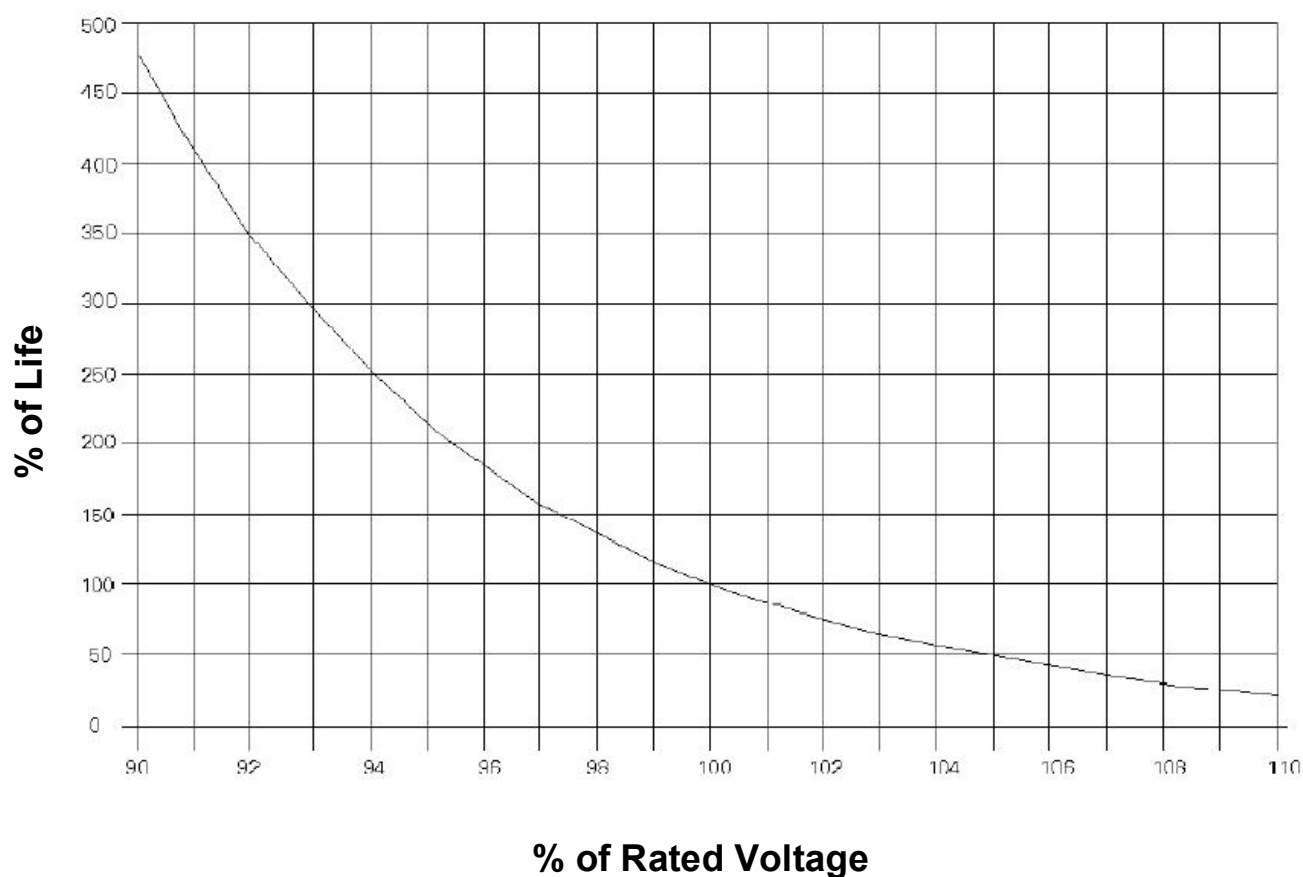
## LIFE vs. TEMPERATURE

CHART G-1



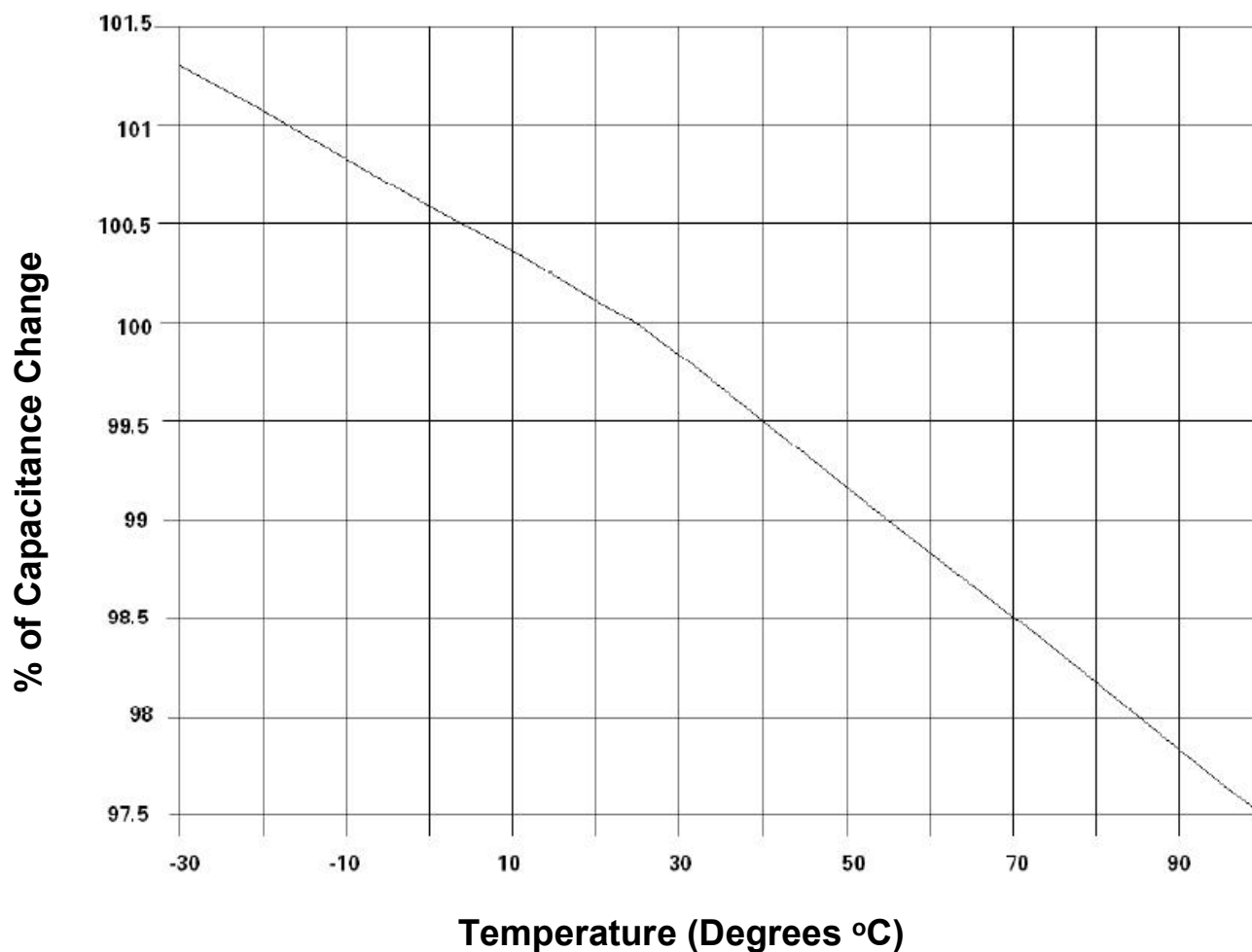
## LIFE vs. VOLTAGE

CHART G-2



## % CAPACITANCE vs. TEMPERATURE

CHART E-3



This series of GEM III is **designed specifically for general purpose AC applications in power supplies, UPS, and power conversion equipment.** Application Data is provided starting on page 16 that gives the Equivalent Series Resistance (ESR) for each unit. This allows the user to calculate the losses for each design / application and to ensure that they are kept within the permissible limits. **Any questions** regarding the suitability of a capacitor for a particular application may be referred to Regal-Beloit Engineers by **contacting your Regal-Beloit sales representative.**

## SPECIFICATIONS:

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available Capacitance Range:            | 1.5 to 45 $\mu$ F                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Capacitance Tolerance:                  | $\pm$ 6%                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Capacitance Variation with Temperature: | See Chart E-3 on page 20.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Rated Voltage:                          | See Rating Tables. Rating is the 60Hz RMS voltage for a sinusoidal waveform. For other waveforms refer to the Application Note on page 16.                                                                                                                                                                                                                                                                                                                      |
| Leakage Current:                        | 30 $\mu$ A maximum                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Frequency:                              | 50/60 Hz. For higher frequencies refer to the Application Note on page 17.                                                                                                                                                                                                                                                                                                                                                                                      |
| Operating Temperature:                  | -40°C to +70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Storage Temperature:                    | -40°C to +90°C                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Operating Life:                         | 60,000 hours with 94% survival<br>(In accordance with the EIA-456 Industry Standard)                                                                                                                                                                                                                                                                                                                                                                            |
| Dissipation Factor:                     | 0.1% maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Case Material/Finish:                   | Unpainted Aluminum Case, Tin Plated Steel Cover.<br>Contact Regal-Beloit if material/finish to meet UL outdoor standards is required.                                                                                                                                                                                                                                                                                                                           |
| Terminations:                           | 'Combo' terminal: 0.250" x 0.031" quick connect blades                                                                                                                                                                                                                                                                                                                                                                                                          |
| Dielectric Fluid:                       | Dielektrol VI                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Internal Protection:                    | UL recognized Pressure Sensitive Interrupter. See Ratings Table for Regal-Beloit's UL Code Number listed under Regal-Beloit's UL File E7793 (N). For UL submittals with these capacitors, use the RBC 'Pxxx' number not the Catalog Number. The corresponding generic UL designation that includes the Available Faults Current (AFC) rating is given below. All these capacitors are capable of interrupting available fault currents of up to 10,000 amperes. |

| Case Style | RBC Code | Generic UL Code |
|------------|----------|-----------------|
| A          | P961     | A10000AFC       |
| B          | P962     | B10000AFC       |
| C          | P963     | C10000AFC       |
| D          | P964     | D10000AFC       |

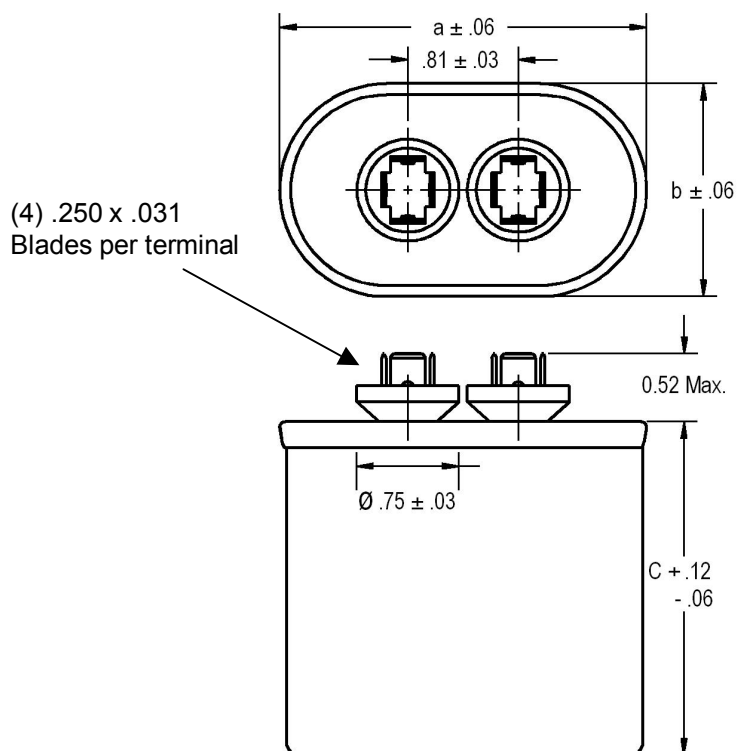
# Gen Purpose AC Capacitors – GEM III

## Single Ratings – 1 Section

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| Voltage (VAC) | Capacitance (μF) | Catalog Number | Case Style | Base Size (in.) | Can Type | Height C (in.) | UL Code |
|---------------|------------------|----------------|------------|-----------------|----------|----------------|---------|
| <b>600</b>    | 1.5              | 97F8240        | A          | 1.25            | Oval     | 2.12           | P961    |
|               | 2.0              | 97F8241        | A          | 1.25            | Oval     | 2.12           | P961    |
|               | 2.5              | 97F8242        | A          | 1.25            | Oval     | 2.88           | P961    |
|               | 3.0              | 97F8243        | A          | 1.25            | Oval     | 2.88           | P961    |
|               | 4.0              | 97F8244        | A          | 1.25            | Oval     | 2.88           | P961    |
|               | 5.0              | 97F8245        | A          | 1.25            | Oval     | 3.88           | P961    |
|               | 6.0              | 97F8246        | A          | 1.25            | Oval     | 3.88           | P961    |
|               | 7.0              | 97F8247        | A          | 1.25            | Oval     | 4.75           | P961    |
|               | 8.0              | 97F8248        | A          | 1.25            | Oval     | 4.75           | P961    |
|               | 10.0             | 97F8249        | B          | 1.50            | Oval     | 3.88           | P962    |
|               | 12.0             | 97F8250        | B          | 1.50            | Oval     | 3.88           | P962    |
|               | 15.0             | 97F8251        | B          | 1.50            | Oval     | 3.88           | P962    |
|               | 18.0             | 97F8252        | B          | 1.50            | Oval     | 4.75           | P962    |
|               | 20.0             | 97F8253        | B          | 1.50            | Oval     | 4.75           | P962    |
|               | 25.0             | 97F8254        | C          | 1.75            | Oval     | 4.75           | P963    |
|               | 30.0             | 97F8255        | D          | 2.00            | Oval     | 3.88           | P964    |
|               | 35.0             | 97F8256        | D          | 2.00            | Oval     | 4.75           | P964    |
|               | 40.0             | 97F8257        | D          | 2.00            | Oval     | 4.75           | P964    |
|               | 45.0             | 97F8258        | D          | 2.00            | Oval     | 4.75           | P964    |

Case Style A, B, C, and D



| Case Style | a    | b    |
|------------|------|------|
| A          | 2.16 | 1.31 |
| B          | 2.69 | 1.56 |
| C          | 2.91 | 1.91 |
| D          | 3.66 | 1.97 |

\*It is **Regal-Beloit's goal** to serve you with the **most cost effective** and **highest quality capacitor** designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and **will continue to offer the above ratings (and more) in case configurations to meet your application(s).**

# Gen Purpose AC Capacitors – GEM III

## Application Notes – 97F8200 Series – 600 VAC

ESR Values for 97F8200 Series – Curve Numbers refer to Graphs on Page 17.

| Voltage (VAC) | Catalog Number | Capacitance (μF) | ESR (ohms) | Curve Number |
|---------------|----------------|------------------|------------|--------------|
| 600           | 97F8240        | 1.5              | 0.1277     | 1            |
|               | 97F8241        | 2.0              | 0.0971     | 1            |
|               | 97F8242        | 2.5              | 0.0984     | 2            |
|               | 97F8243        | 3.0              | 0.0831     | 2            |
|               | 97F8244        | 4.0              | 0.0639     | 2            |
|               | 97F8245        | 5.0              | 0.0723     | 3            |
|               | 97F8246        | 6.0              | 0.0615     | 3            |
|               | 97F8247        | 7.0              | 0.0739     | 4            |
|               | 97F8248        | 8.0              | 0.0657     | 4            |
|               | 97F8249        | 10.0             | 0.0404     | 4            |
|               | 97F8250        | 12.0             | 0.0366     | 4            |
|               | 97F8251        | 15.0             | 0.0309     | 4            |
|               | 97F8252        | 18.0             | 0.0361     | 5            |
|               | 97F8253        | 20.0             | 0.0334     | 5            |
|               | 97F8254        | 25.0             | 0.0294     | 5            |
|               | 97F8255        | 30.0             | 0.0220     | 5            |
|               | 97F8256        | 35.0             | 0.0258     | 6            |
|               | 97F8257        | 40.0             | 0.0240     | 6            |
|               | 97F8258        | 45.0             | 0.0225     | 6            |

The 97F8200 Series of capacitors may be used in AC applications where the voltage waveform is non-sinusoidal. This Application Note is provided to assist in the correct use of the capacitors where higher frequency harmonic currents are present. If you need further assistance please contact Regal-Beloit's Capacitors Operation through your normal sales channel.

Higher frequency currents are commonly encountered in the filter circuits of Static Power Converters. These frequencies range from 180 to 1500 Hz for a 60 Hz system in various combinations of the odd harmonics depending on the type of converter. Generally, there are not significant harmonic currents above the 25<sup>th</sup> harmonic.

These capacitors can carry a total current of up to 15 amperes RMS (fundamental plus harmonics). The Equivalent Series Resistance (ESR) for each Catalog Number is shown in the ESR tables on this page. This value may be used to calculate the expected watts loss for a particular application. The user must determine the total RMS current (fundamental plus harmonics) for the application. The watts loss is then calculated using the equation:

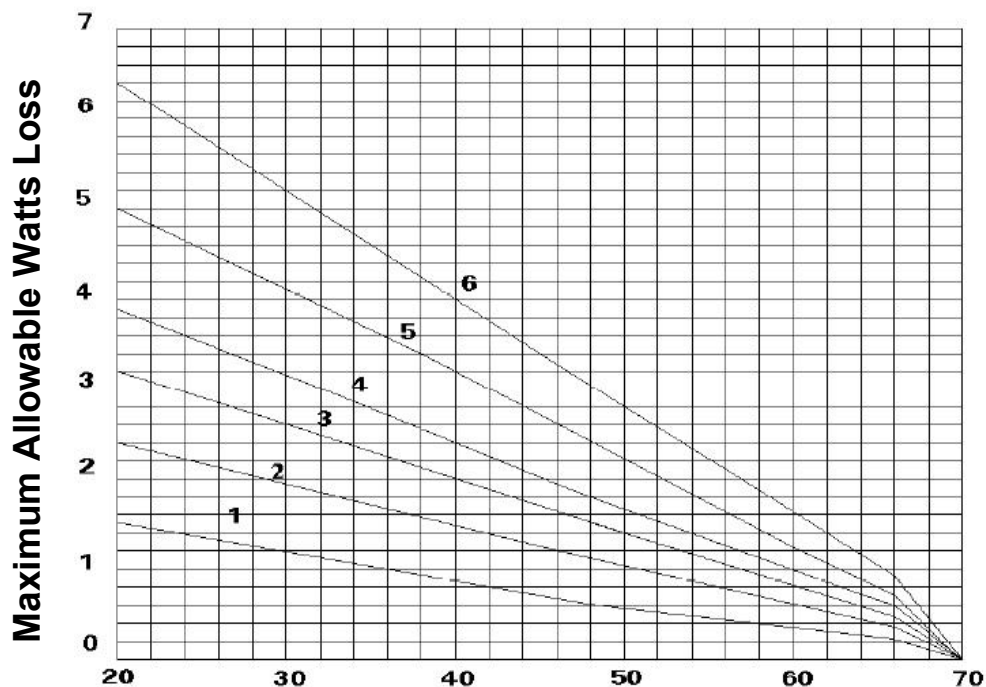
$$W = I^2 \times \text{ESR} \quad I = \text{Total RMS current} \quad \text{ESR} = \text{Value from ESR Tables}$$

The calculated watts from this equation must not exceed the allowable watts loss shown on the curve corresponding to the particular capacitor. Two sets of curves are shown, one for natural circulation and one for forced air circulation.

### NOTES:

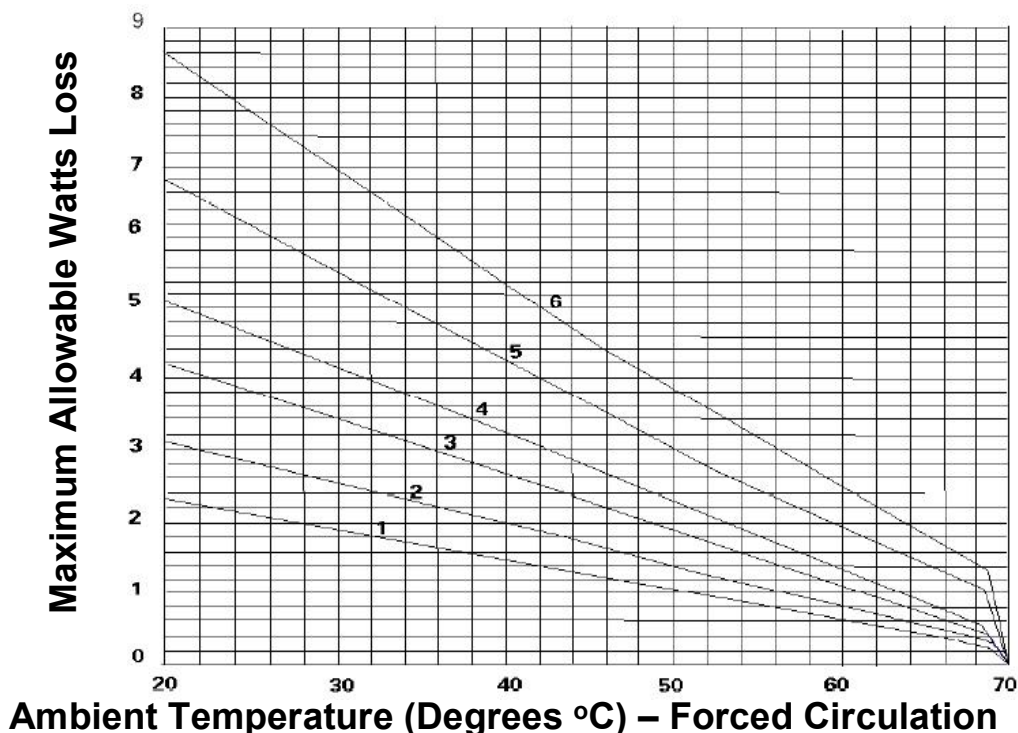
- (1) In no case should the **total RMS current** of **15 amperes** be exceeded for any of these capacitors
- (2) Running the capacitors at case temperatures above 70°C will have a significant effect on expected life. (See chart G-1 on page 18).
- (3) Running the capacitors at voltages above the nominal rated voltage will also results in significantly reduced life. (See chart G-2 on page 19).

### ALLOWABLE WATTS LOSS – Natural Circulation



Ambient Temperature (Degrees °C) – Natural Circulation

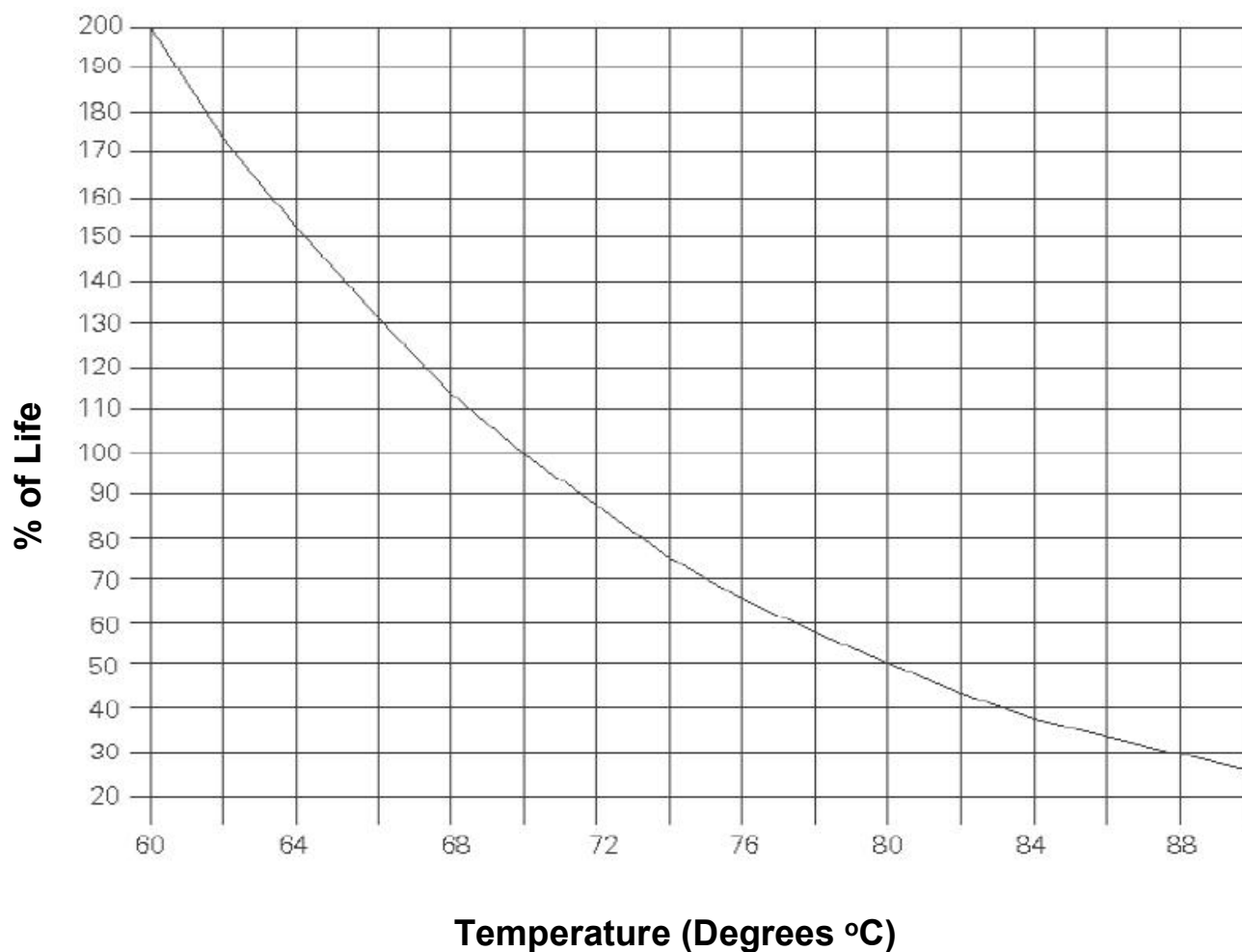
### ALLOWABLE WATTS LOSS – Forced Circulation



Ambient Temperature (Degrees °C) – Forced Circulation

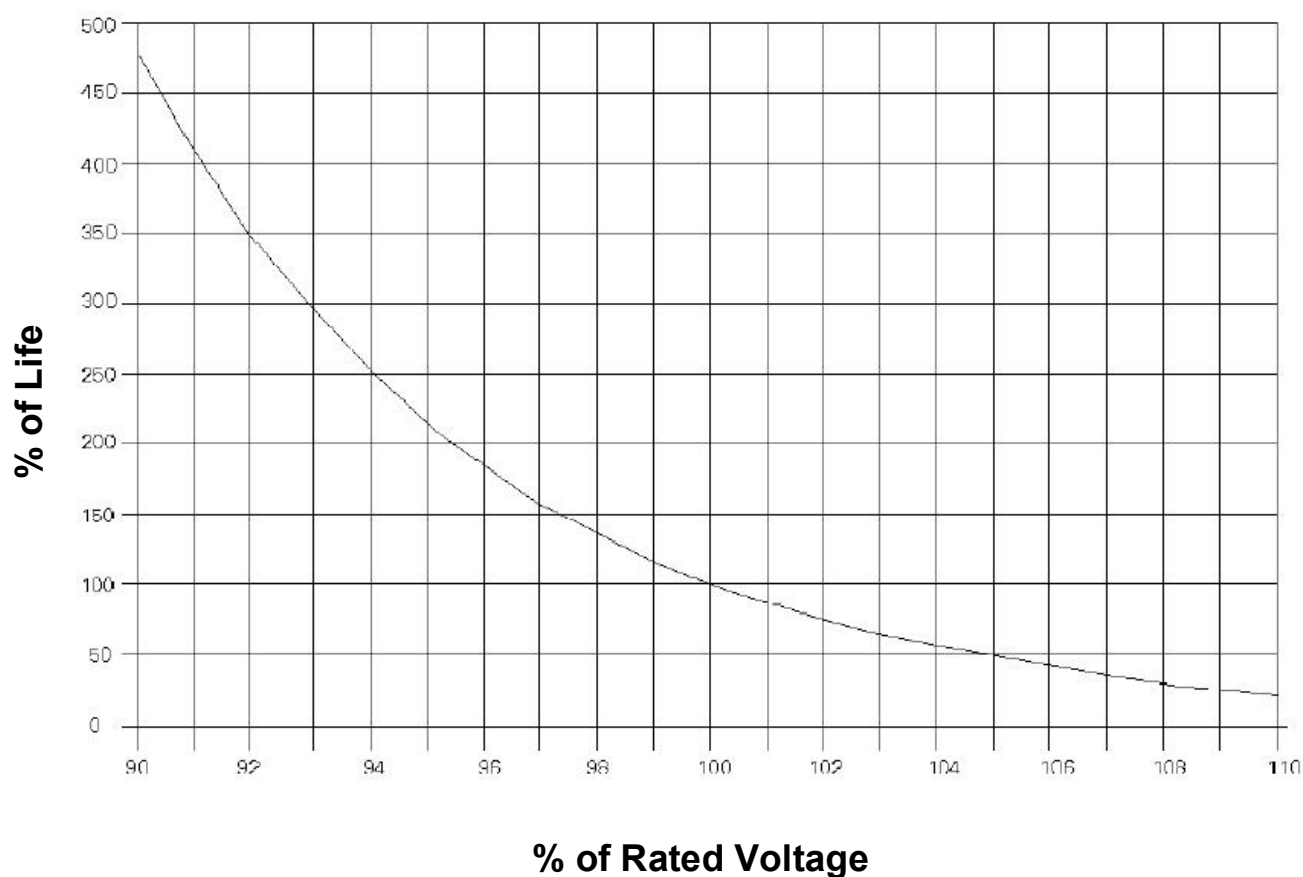
## LIFE vs. TEMPERATURE

CHART G-1



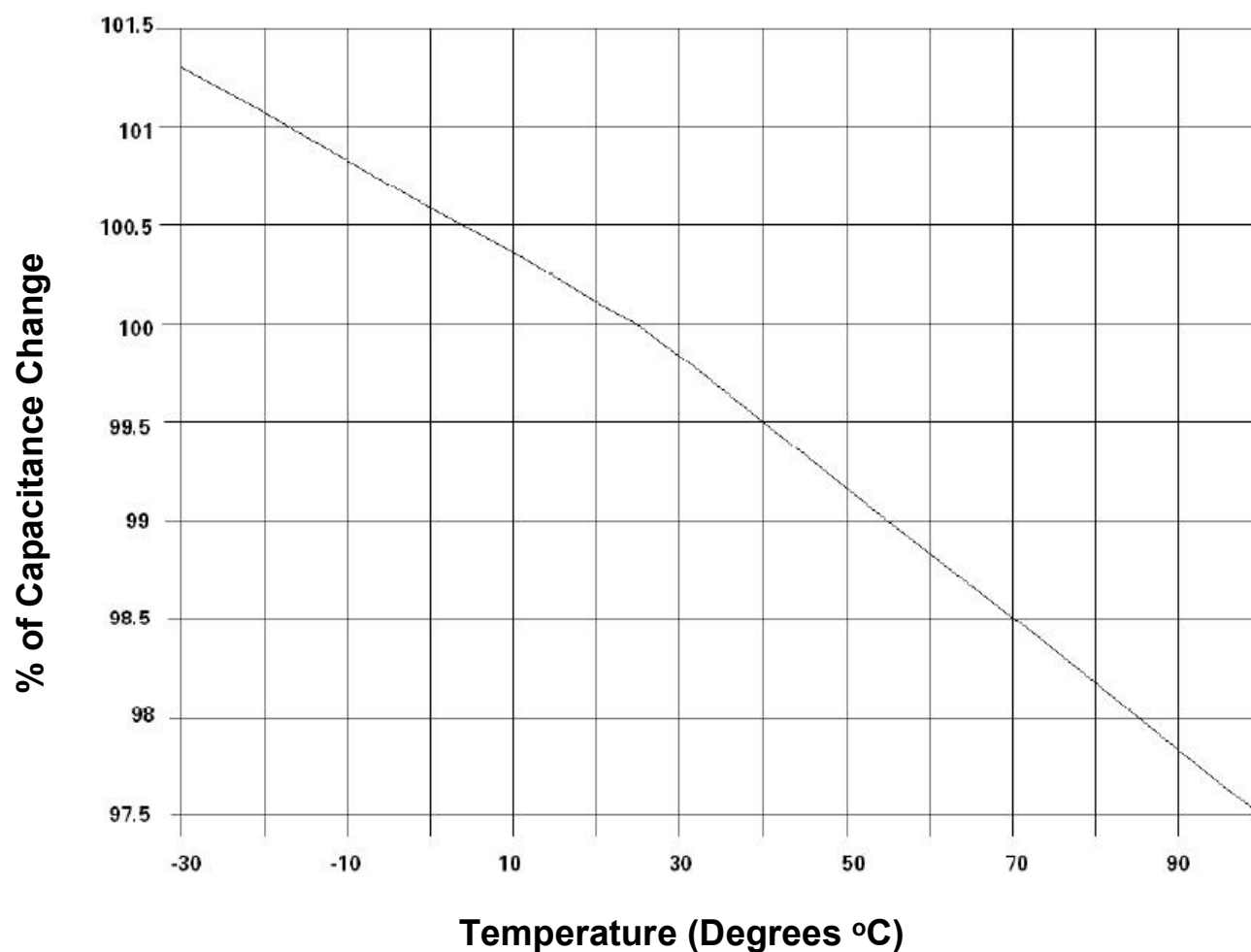
## LIFE vs. VOLTAGE

CHART G-2



## % CAPACITANCE vs. TEMPERATURE

CHART E-3



# Gen Purpose AC Capacitors – GEM III

## 660 VAC (Series Section)

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This series of GEM III is **designed specifically for general purpose applications in power supplies, UPS, and power conversation equipment.** Application Data is provided starting on page 23 that gives the Equivalent Series Resistance (ESR) for these units. This allows the user to calculate the losses for each design / application and to ensure that they are kept within the permissible limits. **Any questions** regarding the suitability of a capacitor for a particular application may be referred to Regal-Beloit Engineers by **contacting your Regal-Beloit sales representative.**

### SPECIFICATIONS:

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available Capacitance Range:            | 2 to 45 $\mu$ F                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Capacitance Tolerance:                  | $\pm$ 6%                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Capacitance Variation with Temperature: | See Chart E-3 on page 27.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Rated Voltage:                          | See Rating Tables. Rating is the 60Hz RMS voltage for a sinusoidal waveform. For other waveforms refer to the Application Note on page 23.                                                                                                                                                                                                                                                                                                                     |
| Leakage Current:                        | 30 $\mu$ A maximum                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Frequency:                              | 50/60 Hz. For higher frequencies refer to the Application Note on page 24.                                                                                                                                                                                                                                                                                                                                                                                     |
| Operating Temperature:                  | -40°C to +70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Storage Temperature:                    | -40°C to +90°C                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Operating Life:                         | 60,000 hours with 94% survival<br>(In accordance with the EIA-456 Industry Standard)                                                                                                                                                                                                                                                                                                                                                                           |
| Dissipation Factor:                     | 0.1% maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Case Material/Finish:                   | Unpainted Aluminum Case, Tin Plated Steel Cover.                                                                                                                                                                                                                                                                                                                                                                                                               |
| Terminations:                           | ‘Combo’ terminal: 0.250” x 0.031” quick connect blades                                                                                                                                                                                                                                                                                                                                                                                                         |
| Dielectric Fluid:                       | Dielektrol VI                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Internal Protection:                    | UL recognized Pressure Sensitive Interrupter. See Ratings Table for Regal-Beloit’s UL Code Number listed under Regal-Beloit’s UL File E7793 (N). For UL submittals with these capacitors, use the RBC ‘Pxxx’ number not the Catalog Number. The corresponding generic UL designation that includes the Available Faults Current (AFC) rating is given below. All these capacitors are capable of interrupting available fault currents of up to 1,000 amperes. |

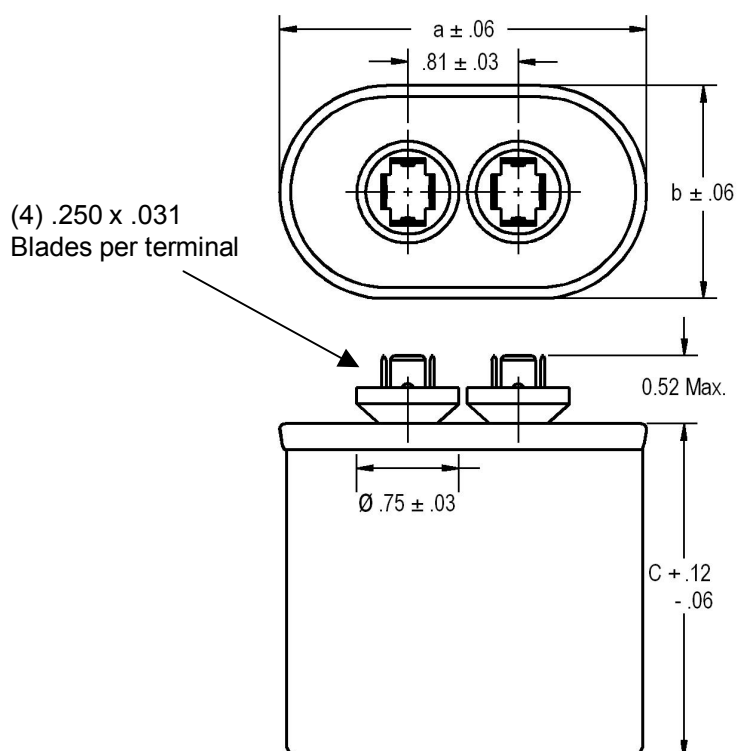
| Case Style | RBC Code | Generic UL Code |
|------------|----------|-----------------|
| A          | P851     | A1000AFC        |
| B          | P852     | B1000AFC        |
| C          | P853     | C1000AFC        |

# Gen Purpose AC Capacitors – GEM III

## Single Ratings – 1 Section

| Voltage (VAC) | Capacitance (μF) | Catalog Number | Case Style | Base Size (in.) | Can Type | Height C (in.) | UL Code |
|---------------|------------------|----------------|------------|-----------------|----------|----------------|---------|
| 660           | 2.0              | 27L6095        | A          | 1.25            | Oval     | 3.88           | P851    |
|               | 2.5              | 27L6093        | A          | 1.25            | Oval     | 3.88           | P851    |
|               | 3.0              | 27L6094        | A          | 1.25            | Oval     | 3.88           | P851    |
|               | 4.0              | 27L6012        | A          | 1.25            | Oval     | 3.88           | P851    |
|               | 5.0              | 27L6013        | A          | 1.25            | Oval     | 3.88           | P851    |
|               | 6.0              | 27L6014        | A          | 1.25            | Oval     | 4.75           | P851    |
|               | 7.0              | 27L6015        | A          | 1.25            | Oval     | 4.75           | P851    |
|               | 8.0              | 27L6016        | A          | 1.25            | Oval     | 4.75           | P851    |
|               | 10.0             | 27L6017        | B          | 1.50            | Oval     | 3.88           | P852    |
|               | 12.0             | 27L6018        | B          | 1.50            | Oval     | 4.75           | P852    |
|               | 15.0             | 27L6073        | C          | 1.75            | Oval     | 4.75           | P853    |
|               | 18.0             | 27L6089        | D          | 2.00            | Oval     | 3.88           | P854    |
|               | 20.0             | 27L6082        | D          | 2.00            | Oval     | 4.75           | P854    |
|               | 25.0             | 27L6022        | D          | 2.00            | Oval     | 4.75           | P854    |
|               | 30.0             | 27L6023        | D          | 2.00            | Oval     | 4.75           | P854    |

Case Style A, B, C, and D



| Case Style | a    | b    |
|------------|------|------|
| A          | 2.16 | 1.31 |
| B          | 2.69 | 1.56 |
| C          | 2.91 | 1.91 |
| D          | 3.66 | 1.97 |

\*It is **Regal-Beloit's goal** to serve you with the **most cost effective** and **highest quality capacitor** designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and **will continue to offer the above ratings (and more) in case configurations to meet your application(s).**

# Gen Purpose AC Capacitors – GEM III

## Application Notes – 27L Series – 660 VAC

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ESR Values for 27L Series – Curve Numbers refer to Graphs on Page 24.

| Voltage (VAC) | Catalog Number | Capacitance (μF) | ESR (ohms) | Curve Number |
|---------------|----------------|------------------|------------|--------------|
| 660           | 27L6095        | 2.0              | 0.0971     | 1            |
|               | 27L6093        | 2.5              | 0.0984     | 2            |
|               | 27L6094        | 3.0              | 0.0831     | 2            |
|               | 27L6012        | 4.0              | 0.0639     | 2            |
|               | 27L6013        | 5.0              | 0.0723     | 2            |
|               | 27L6014        | 6.0              | 0.0615     | 3            |
|               | 27L6015        | 7.0              | 0.0739     | 3            |
|               | 27L6016        | 8.0              | 0.0657     | 4            |
|               | 27L6017        | 10.0             | 0.0404     | 4            |
|               | 27L6018        | 12.0             | 0.0366     | 4            |
|               | 27L6073        | 15.0             | 0.0309     | 4            |
|               | 27L6089        | 18.0             | 0.0361     | 4            |
|               | 27L6082        | 20.0             | 0.0334     | 5            |
|               | 27L6022        | 25.0             | 0.0294     | 5            |
|               | 27L6023        | 30.0             | 0.0220     | 5            |

The 27L Series of capacitors may be used in AC applications where the voltage waveform is non-sinusoidal. This Application Note is provided to assist in the correct use of the capacitors where higher frequency harmonic currents are present. If you need further assistance please contact Regal-Beloit's Capacitors Operation through your normal sales channel.

Higher frequency currents are commonly encountered in the filter circuits of Static Power Converters. These frequencies range from 180 to 1500 Hz for a 60 Hz system in various combinations of the odd harmonics depending on the type of converter. Generally, there are not significant harmonic currents above the 25<sup>th</sup> harmonic.

These capacitors can carry a total current of up to 15 amperes RMS (fundamental plus harmonics). The Equivalent Series Resistance (ESR) for each Catalog Number is shown in the ESR tables on this page. This value may be used to calculate the expected watts loss for a particular application. The user must determine the total RMS current (fundamental plus harmonics) for the application. The watts loss is then calculated using the equation:

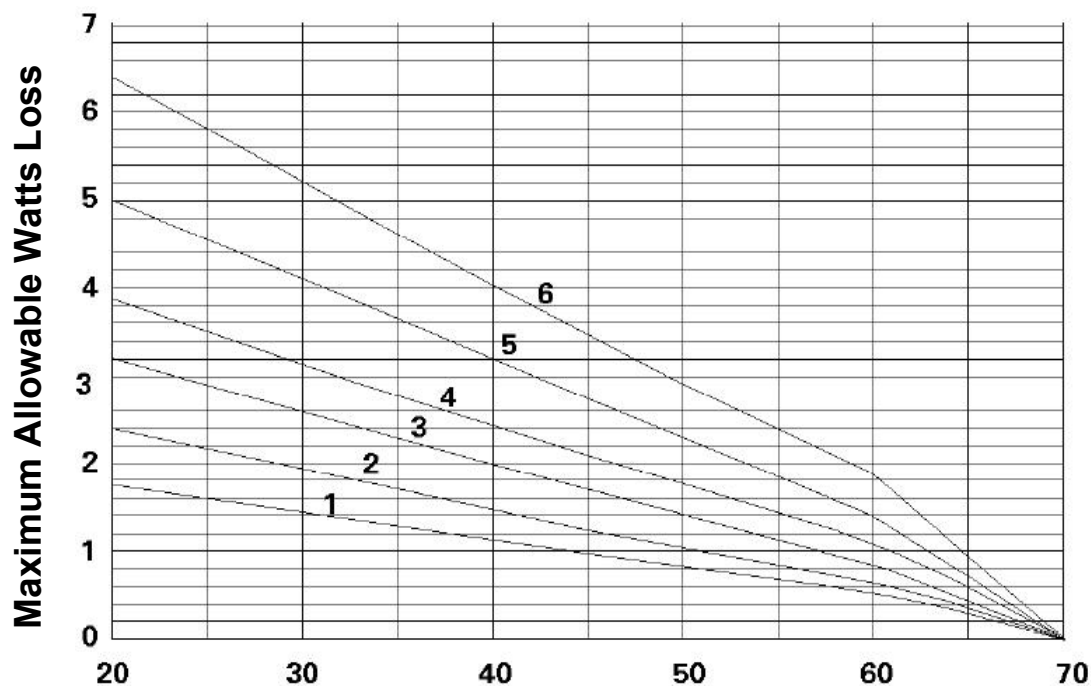
$$W = I^2 \times \text{ESR} \quad I = \text{Total RMS current} \quad \text{ESR} = \text{Value from ESR Tables}$$

The calculated watts from this equation must not exceed the allowable watts loss shown on the curve corresponding to the particular capacitor. Two sets of curves are shown, one for natural circulation and one for forced air circulation.

### NOTES:

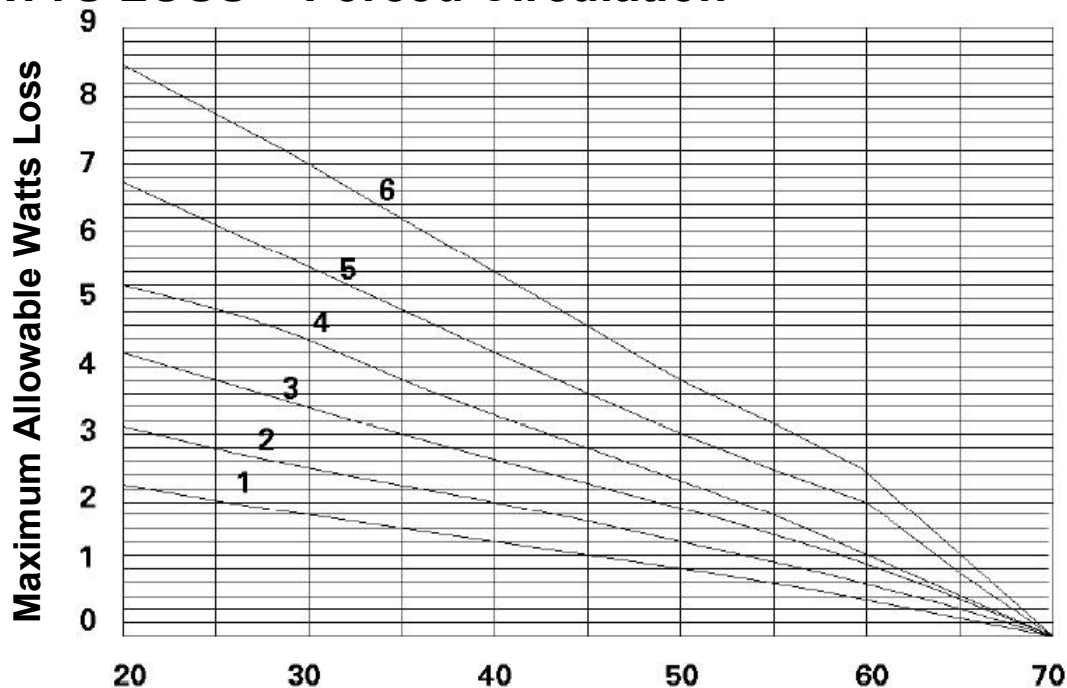
- (1) In no case should the **total RMS current** of **15 amperes** be exceeded for any of these capacitors
- (2) Running the capacitors at case temperatures above 70°C will have a significant effect on expected life. (See chart G-1 on page 25).
- (3) Running the capacitors at voltages above the nominal rated voltage will also results in significantly reduced life. (See chart G-2 on page 26).

### ALLOWABLE WATTS LOSS – Natural Circulation



Ambient Temperature (Degrees °C) – Natural Circulation

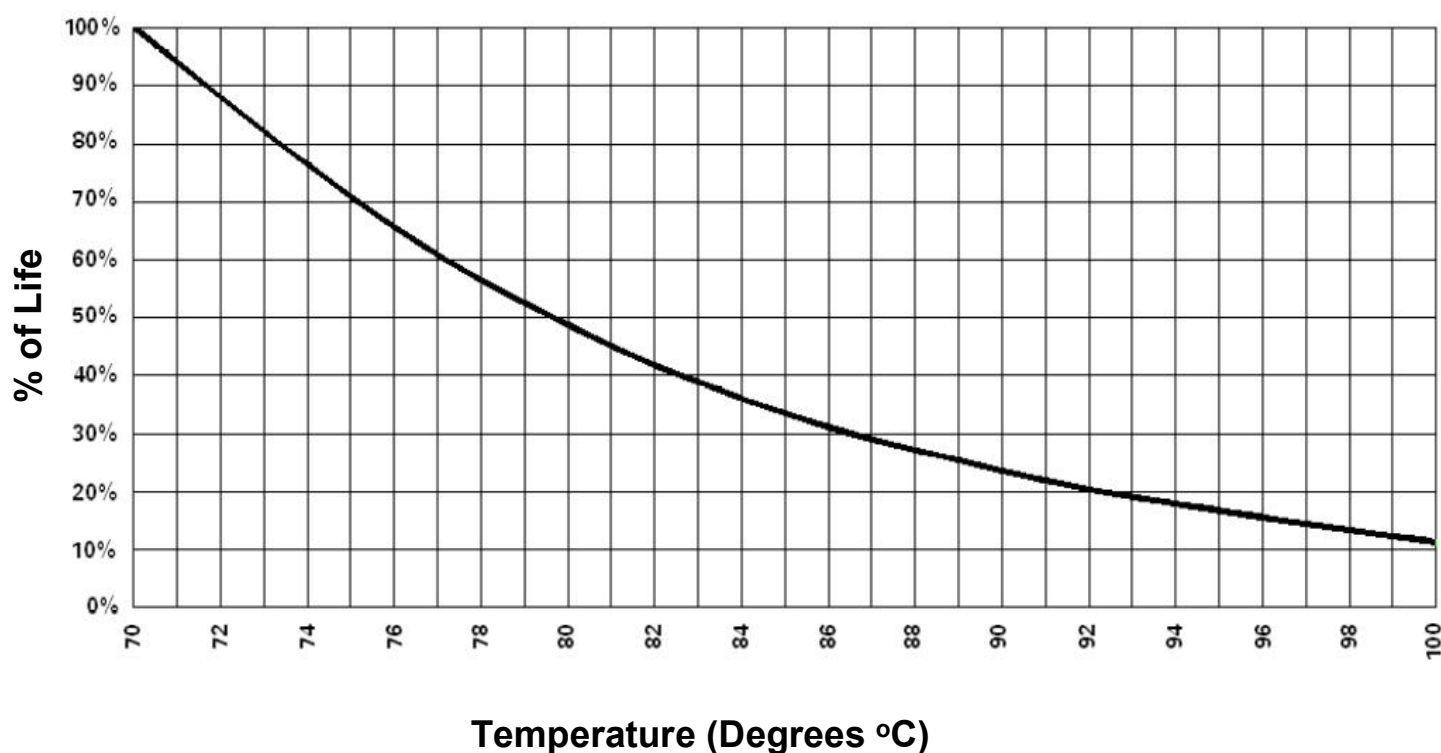
### ALLOWABLE WATTS LOSS – Forced Circulation



Ambient Temperature (Degrees °C) – Forced Circulation

## LIFE vs. TEMPERATURE

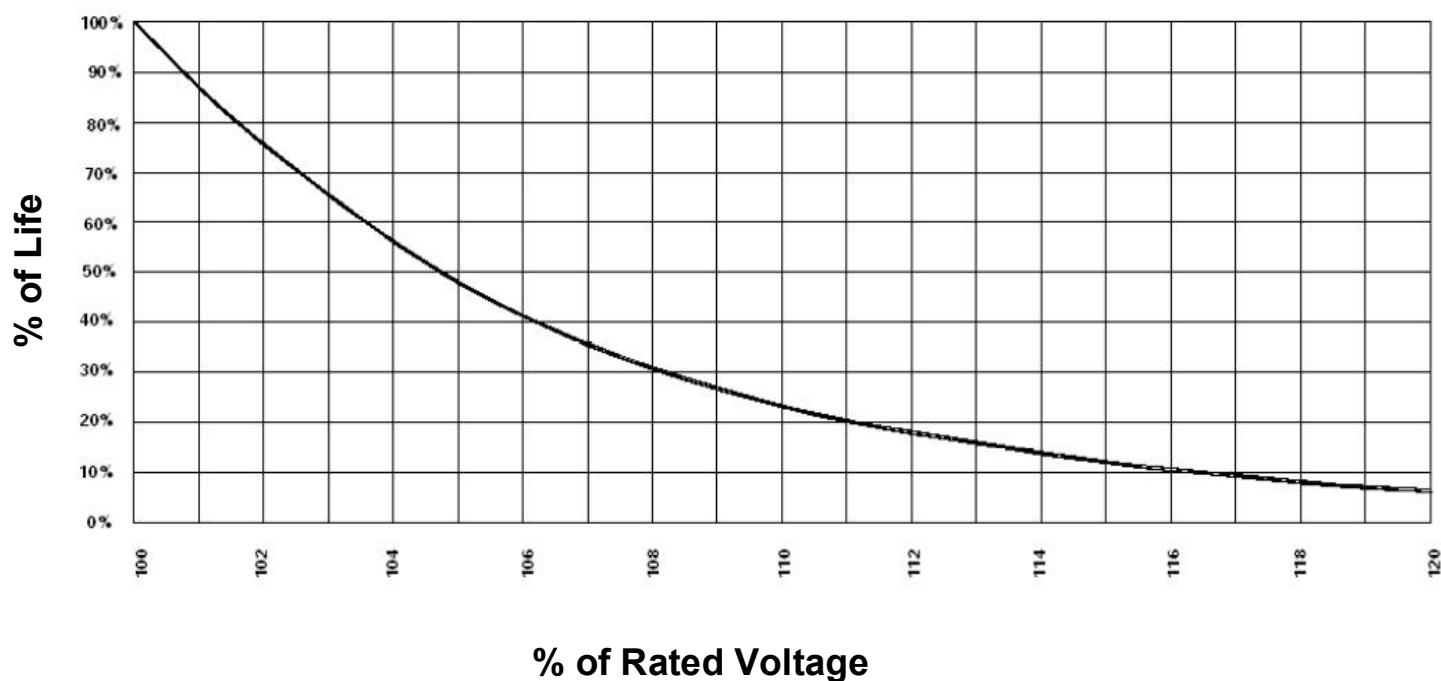
CHART G-1



The above chart is intended as general reference only. Any indication of extended life by reducing temperature is in no way a guarantee of extended product life.

## LIFE vs. VOLTAGE

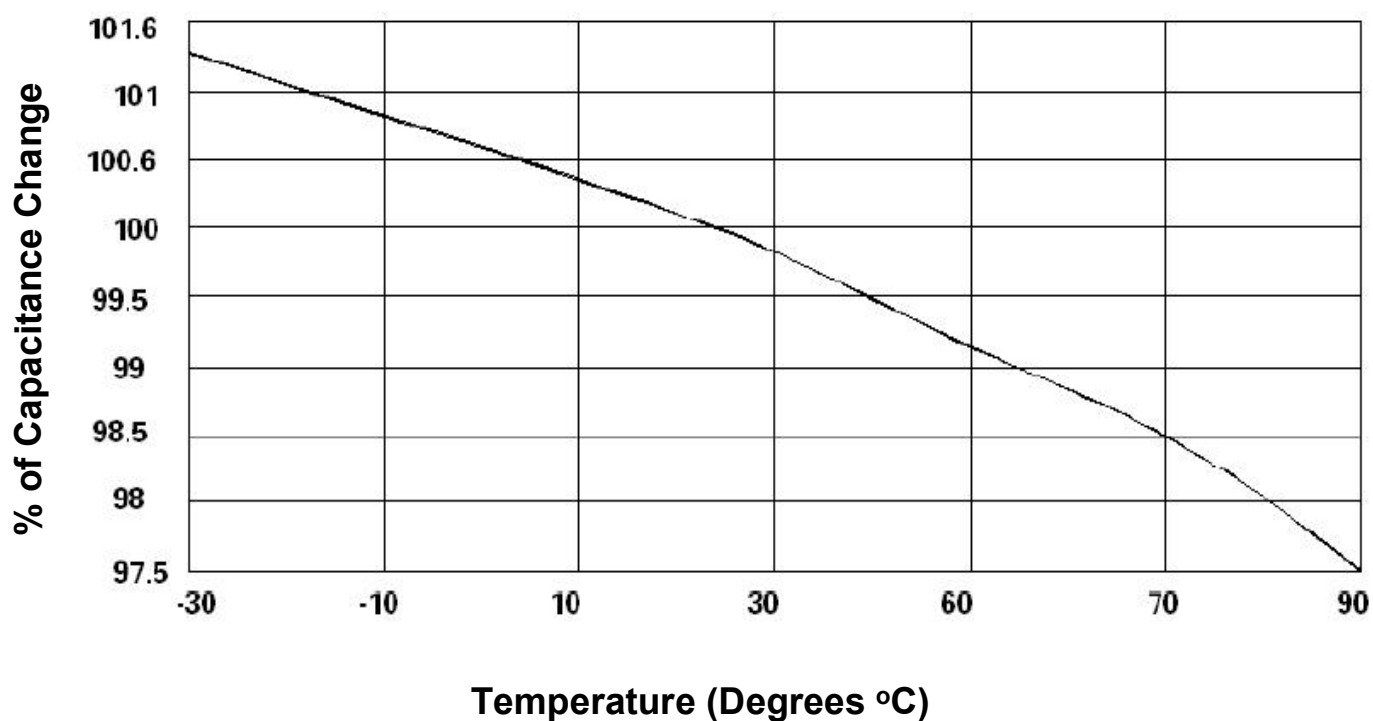
CHART G-2



The above chart is intended as general reference only. Any indication of extended life by reducing voltage is in no way a guarantee of extended product life.

## % CAPACITANCE vs. TEMPERATURE

CHART E-3



# 28 Gen Purpose AC/DC Capacitors – GEM III

## 1000 VDC Peak

This series of GEM III – dual rated AC/DC Capacitors is **designed specifically for applications such as AC/DC filters where harmonic frequencies greater than 60Hz are common**. These capacitors are typically used in DC filters at voltages above those served by electrolytic type construction. **Any questions** regarding the suitability of a capacitor for a particular application may be referred to Regal-Beloit Engineers through **contacting your Regal-Beloit sales representative**.

### SPECIFICATIONS:

|                                         |                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Available Capacitance Range:            | 3 to 50 $\mu$ F                                                                                                |
| Capacitance Tolerance:                  | $\pm$ 6%                                                                                                       |
| Capacitance Variation with Temperature: | $\pm$ 5% from -40°C to +70°C                                                                                   |
| Rated Voltage:                          | See Rating Tables. Rating is the Max Peak DC Voltage.                                                          |
| Ripple Voltage:                         | The RMS ripple voltage should not exceed the following percentages of the rated voltage for these frequencies: |

| <u>Frequency</u> | <u>% of Rated Voltage</u> |
|------------------|---------------------------|
| 60 Hz            | 44                        |
| 120 Hz           | 30                        |
| 400 Hz           | 12                        |
| 1,000 Hz         | 8                         |
| 10,000 Hz        | 0.6                       |

|                        |                                                        |
|------------------------|--------------------------------------------------------|
| Operating Temperature: | -30°C to +70°C                                         |
| Storage Temperature:   | -55°C to +70°C                                         |
| Operating Life:        | 60,000 hours with 90% survival with proper derating.   |
| Dissipation Factor:    | 0.3% maximum                                           |
| Case Material/Finish:  | Unpainted Aluminum Case, Tin Plated Steel Cover.       |
| Terminations:          | 'Combo' terminal: 0.250" x 0.031" quick connect blades |
| Dielectric Fluid:      | Dielektrol VI                                          |
| Internal Protection:   | UL recognized Pressure Sensitive Interrupter. See      |

| Case Style | RBC Code | Generic UL Code |
|------------|----------|-----------------|
| A          | P921     | A10000AFC       |
| P          | P965     | P10000AFC       |
| S          | P968     | S10000AFC       |
| T          | P969     | T10000AFC       |

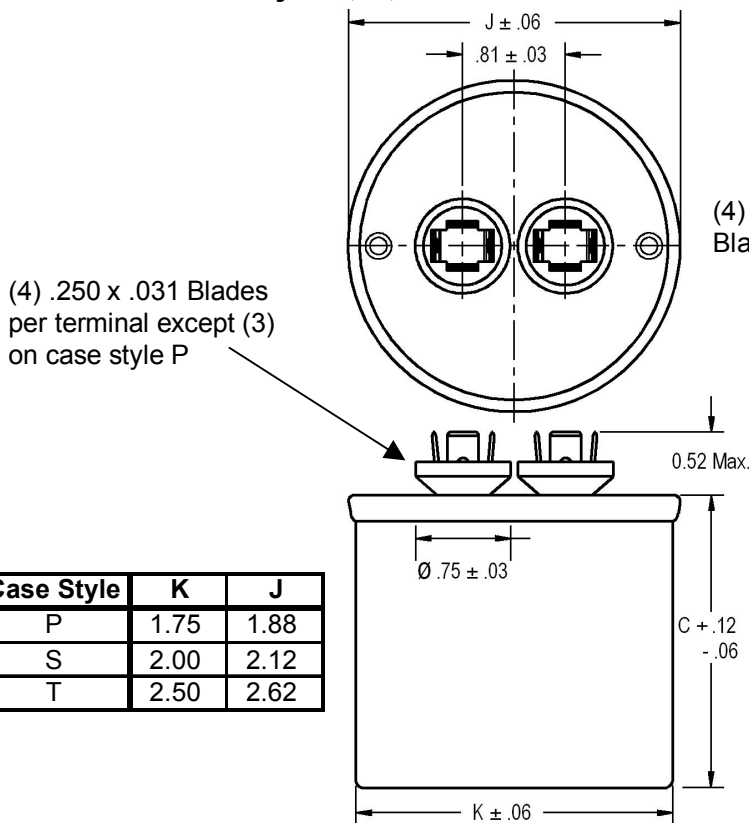
Ratings Table for Regal-Beloit's UL Code Number listed under Regal-Beloit's UL File E7793 (N). For UL submittals with these capacitors, use the RBC 'Pxxx' number not the Catalog Number. The corresponding generic UL designation that includes the Available Faults Current (AFC) rating is given below. All these capacitors are capable of interrupting available fault currents of up to 10,000 amperes.

# Gen Purpose AC/DC Capacitors – GEM III 29

## Single Ratings – 1 Section

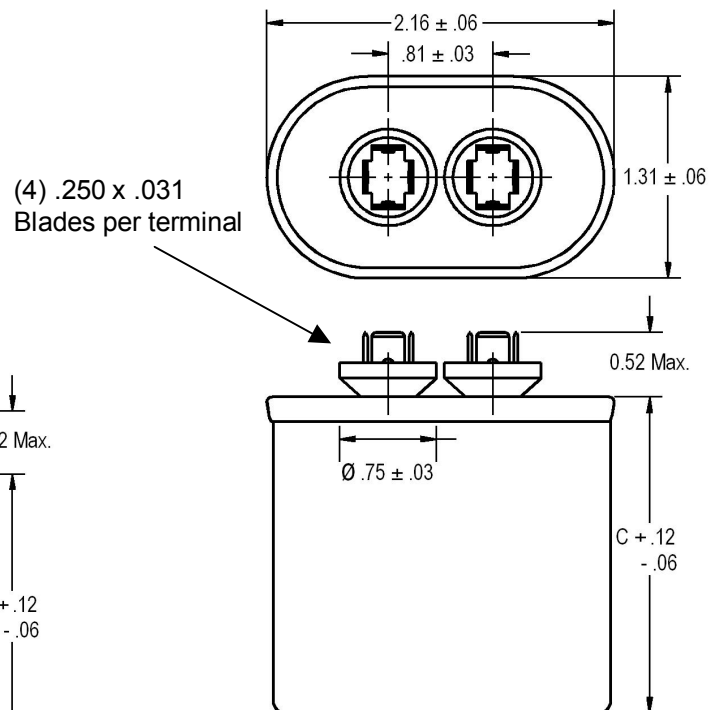
| Voltage Rating                     | Capacitance (μF) | Catalog Number | Case Style | Base Size (in.) | Can Type | Height C (in.) |
|------------------------------------|------------------|----------------|------------|-----------------|----------|----------------|
| <b>1000 VDC Peak<br/>(440 VAC)</b> | 3.0              | 97F5437        | A          | 1.25            | Oval     | 2.12           |
|                                    | 4.0              | 97F5337        | A          | 1.25            | Oval     | 2.88           |
|                                    | 5.0              | 97F5339        | A          | 1.25            | Oval     | 2.88           |
|                                    | 6.0              | 97F5436        | A          | 1.25            | Oval     | 2.88           |
|                                    | 7.5              | 97F9036        | A          | 1.25            | Oval     | 3.88           |
|                                    | 10.0             | 97F5300        | A          | 1.25            | Oval     | 3.88           |
|                                    | 12.5             | 97F5001        | P          | 1.75            | Round    | 2.88           |
|                                    | 15.0             | 97F9037        | P          | 1.75            | Round    | 2.88           |
|                                    | 17.5             | 97F9038        | P          | 1.75            | Round    | 3.88           |
|                                    | 20.0             | 97F9039        | P          | 1.75            | Round    | 3.88           |
|                                    | 25.0             | 97F9040        | P          | 1.75            | Round    | 4.75           |
|                                    | 30.0             | 97F5023        | P          | 1.75            | Round    | 4.75           |
|                                    | 35.0             | 97F9041        | S          | 2.00            | Round    | 4.75           |
|                                    | 40.0             | 97F5116        | S          | 2.00            | Round    | 4.75           |
|                                    | 45.0             | 97F5209        | T          | 2.50            | Round    | 3.88           |
|                                    | 50.0             | 97F5211        | T          | 2.50            | Round    | 3.88           |

**Case Style P, S, and T**



| Case Style | K    | J    |
|------------|------|------|
| P          | 1.75 | 1.88 |
| S          | 2.00 | 2.12 |
| T          | 2.50 | 2.62 |

**Case Style A**



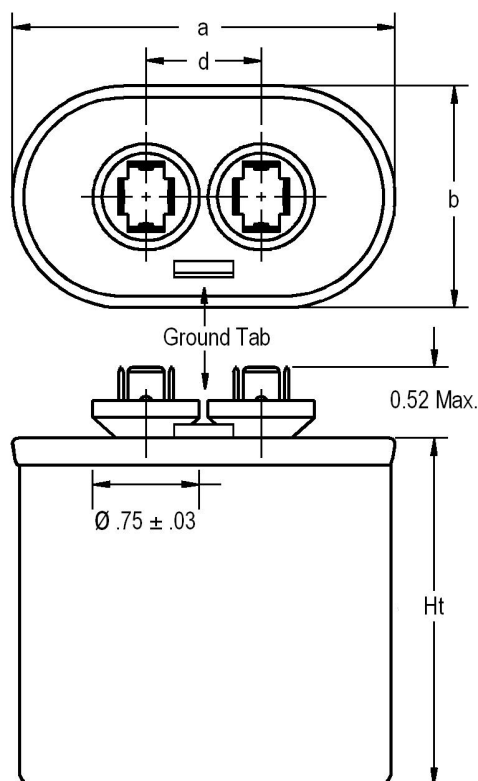
\*It is **Regal-Beloit's goal** to serve you with the **most cost effective** and **highest quality capacitor** designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and **will continue to offer the above ratings (and more) in case configurations to meet your application(s).**

# Cross Reference

## 600 VAC 26F6600 Series to NEW 660 VAC 27L Series

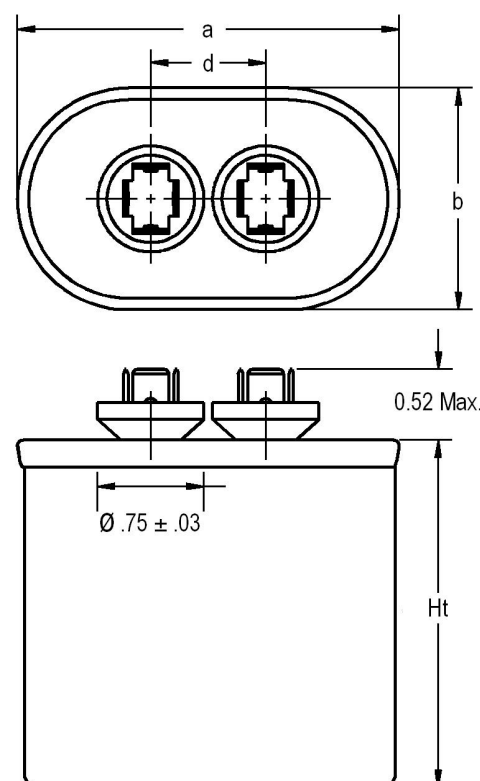
| Series Name                         | Capacitance (μF) | Catalog Number | Case Style | Height Ht (in.) | Series Name                    | Capacitance (μF) | Catalog Number | Case Style | Height Ht (in.) | UL Code |
|-------------------------------------|------------------|----------------|------------|-----------------|--------------------------------|------------------|----------------|------------|-----------------|---------|
| <b>Film / Paper</b><br>(26F Series) | 2.0              | 26F6618        | A          | 2.12            | <b>GEM III</b><br>(27L Series) | 2.0              | 27L6095        | A          | 3.88            | P851    |
|                                     | 2.5              | 26F6619        | A          | 2.12            |                                | 2.5              | 27L6093        | A          | 3.88            | P851    |
|                                     | 3.0              | 26F6620        | A          | 2.38            |                                | 3.0              | 27L6094        | A          | 3.88            | P851    |
|                                     | 4.0              | 26F6621        | A          | 3.12            |                                | 4.0              | 27L6012        | A          | 3.88            | P851    |
|                                     | 5.0              | 26F6622        | A          | 3.50            |                                | 5.0              | 27L6013        | A          | 3.88            | P851    |
|                                     | 6.0              | 26F6623        | A          | 4.25            |                                | 6.0              | 27L6014        | A          | 4.75            | P851    |
|                                     | 7.0              | 26F6624        | A          | 4.50            |                                | 7.0              | 27L6015        | A          | 4.75            | P851    |
|                                     | 8.0              | 26F6625        | A          | 5.50            |                                | 8.0              | 27L6016        | A          | 4.75            | P851    |
|                                     | 10.0             | 26F6626        | C          | 3.88            |                                | 10.0             | 27L6017        | B          | 3.88            | P852    |
|                                     | 12.0             | 26F6627        | C          | 4.50            |                                | 12.0             | 27L6018        | B          | 4.75            | P852    |
|                                     | 15.0             | 26F6628        | C          | 5.50            |                                | 15.0             | 27L6073        | C          | 4.75            | P853    |
|                                     | 18.0             | 26F6629        | C          | 6.75            |                                | 18.0             | 27L6089        | D          | 3.88            | P854    |
|                                     | 20.0             | 26F6634        | D          | 6.25            |                                | 20.0             | 27L6082        | D          | 4.75            | P854    |
|                                     | 25.0             | 26F6665        | D          | 7.25            |                                | 25.0             | 27L6022        | D          | 4.75            | P854    |
|                                     | 30.0             | 26F6636        | D          | 8.00            |                                | 30.0             | 27L6023        | D          | 4.75            | P854    |

**Film / Paper**  
(26F Series) Outline



| Case Style | a    | b    | d    |
|------------|------|------|------|
| A          | 2.16 | 1.31 | 0.81 |
| B          | 2.69 | 1.56 | 0.81 |
| C          | 2.91 | 1.91 | 0.81 |
| D          | 3.66 | 1.97 | 0.81 |

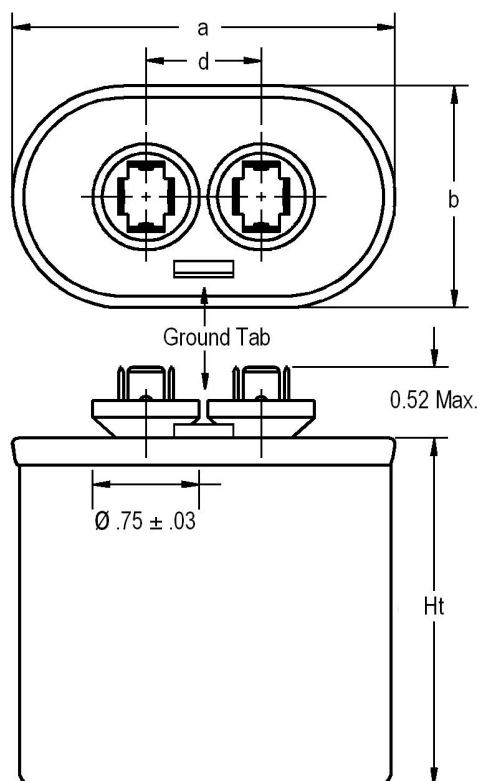
**GEM III**  
(27L Series) Outline



## 600 VAC 61L Series to NEW 660 VAC 27L Series

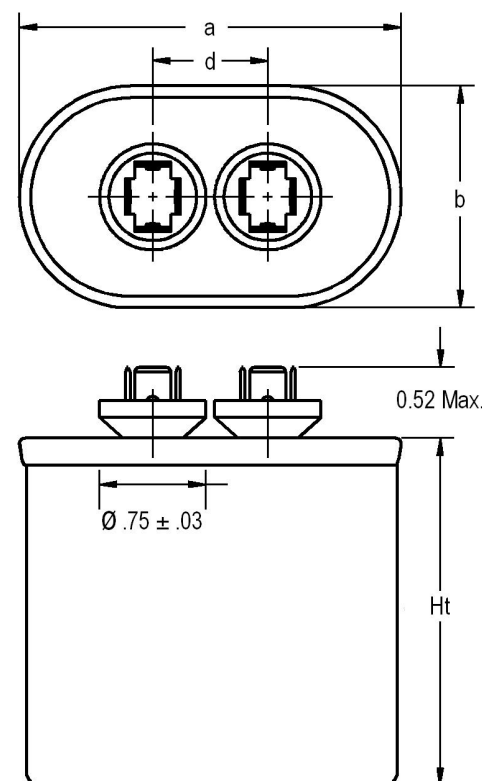
| Series Name                   | Capacitance (μF) | Catalog Number | Case Style | Height Ht (in.) | Series Name                    | Capacitance (μF) | Catalog Number | Case Style | Height Ht (in.) | UL Code |
|-------------------------------|------------------|----------------|------------|-----------------|--------------------------------|------------------|----------------|------------|-----------------|---------|
| <b>GEM II</b><br>(61L Series) | 2.0              | 61L1271        | A          | 2.12            | <b>GEM III</b><br>(27L Series) | 2.0              | 27L6095        | A          | 3.88            | P851    |
|                               | 2.5              | 61L1280        | A          | 2.88            |                                | 2.5              | 27L6093        | A          | 3.88            | P851    |
|                               | 3.0              | 61L1272        | A          | 2.88            |                                | 3.0              | 27L6094        | A          | 3.88            | P851    |
|                               | 4.0              | 61L313         | A          | 2.88            |                                | 4.0              | 27L6012        | A          | 3.88            | P851    |
|                               | 5.0              | 61L1273        | A          | 3.88            |                                | 5.0              | 27L6013        | A          | 3.88            | P851    |
|                               | 6.0              | 61L1274        | A          | 3.88            |                                | 6.0              | 27L6014        | A          | 4.75            | P851    |
|                               | 7.0              | 61L316         | A          | 3.88            |                                | 7.0              | 27L6015        | A          | 4.75            | P851    |
|                               | 8.0              | 61L1275        | A          | 4.75            |                                | 8.0              | 27L6016        | A          | 4.75            | P851    |
|                               | 10.0             | 61L1286        | B          | 3.88            |                                | 10.0             | 27L6017        | B          | 3.88            | P852    |
|                               | 12.0             | 61L1276        | B          | 4.75            |                                | 12.0             | 27L6018        | B          | 4.75            | P852    |
|                               | 15.0             | 61L1289        | B          | 5.75            |                                | 15.0             | 27L6073        | C          | 4.75            | P853    |
|                               | 18.0             | 61L1277        | B          | 5.75            |                                | 18.0             | 27L6089        | D          | 3.88            | P854    |
|                               | 20.0             | 61L322         | C          | 4.75            |                                | 20.0             | 27L6082        | D          | 4.75            | P854    |
|                               | 25.0             | 61L323         | C          | 5.75            |                                | 25.0             | 27L6022        | D          | 4.75            | P854    |
|                               | 30.0             | 61L324         | D          | 5.75            |                                | 30.0             | 27L6023        | D          | 4.75            | P854    |

**GEM II**  
(61L Series) Outline



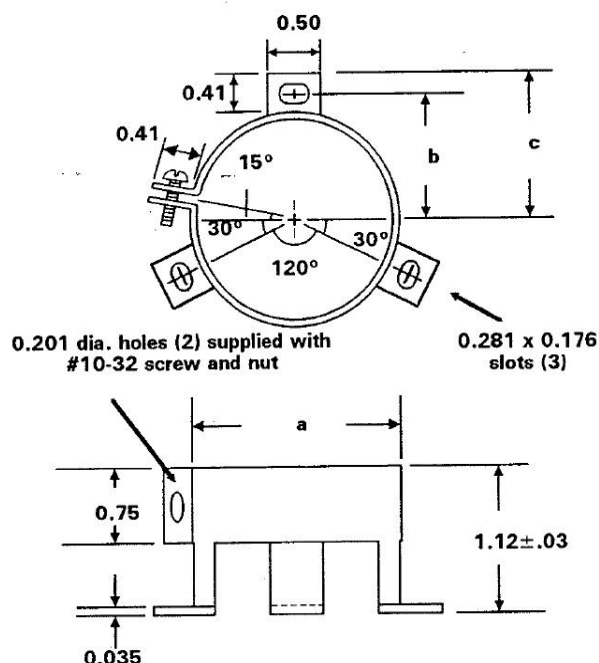
| Case Style | a    | b    | d    |
|------------|------|------|------|
| A          | 2.16 | 1.31 | 0.81 |
| B          | 2.69 | 1.56 | 0.81 |
| C          | 2.91 | 1.91 | 0.81 |
| D          | 3.66 | 1.97 | 0.81 |

**GEM III**  
(27L Series) Outline

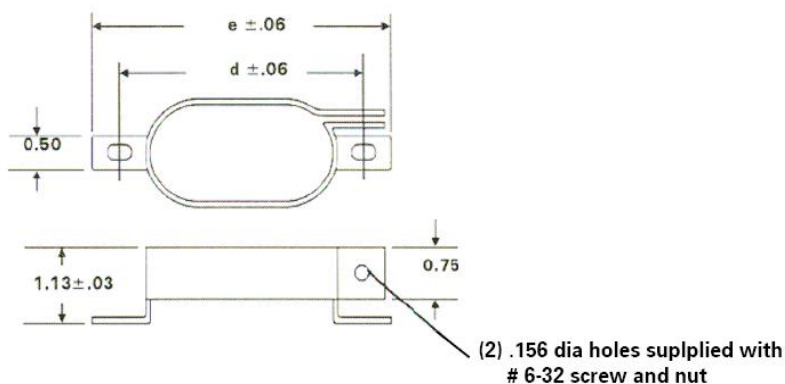


## UNIVERSAL WRAP AROUND BRACKETS – Round Cases

| Case Style | Bracket Part Number | a    | b    | c    |
|------------|---------------------|------|------|------|
| P          | M295A601631         | 1.75 | 1.12 | 1.31 |
| S          | M295A601632         | 2.00 | 1.25 | 1.44 |
| T          | M295A601633         | 2.50 | 1.50 | 1.69 |



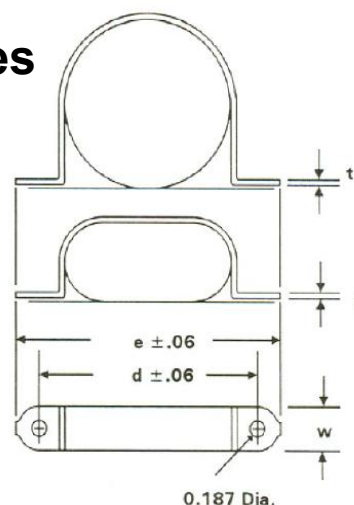
## UNIVERSAL WRAP AROUND BRACKETS – Oval Cases



| Case Style | Bracket Part Number | d    | e    |
|------------|---------------------|------|------|
| A          | M128A2244AC21       | 2.69 | 3.13 |
| B          | M128A2244AB25       | 3.27 | 3.70 |
| C          | M128A2244AB22       | 3.44 | 3.88 |
| D          | M128A2244AB23       | 4.19 | 4.63 |

## WRAP AROUND BRACKETS – Oval & Round Cases

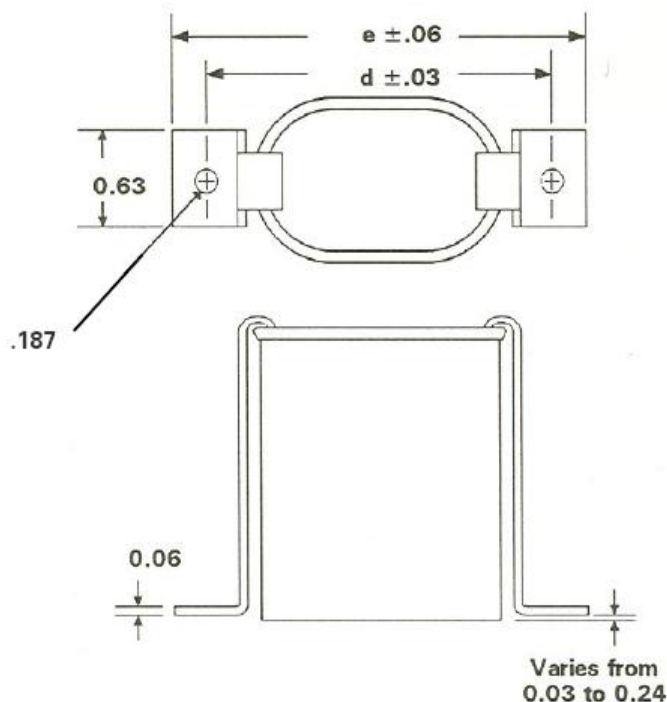
| Case Style | Bracket Part Number | d    | e    | w    | t    |
|------------|---------------------|------|------|------|------|
| A          | M982706521          | 2.56 | 2.94 | 0.50 | 0.02 |
| B          | M982706531          | 3.06 | 3.50 | 0.63 | 0.02 |
| C          | M614A30161          | 3.31 | 3.81 | 0.75 | 0.03 |
| D          | M614A30151          | 4.06 | 4.56 | 0.75 | 0.03 |
| P          | M279A723524         | 2.50 | 2.88 | 0.75 | 0.04 |
| S          | M279A723522         | 2.75 | 3.12 | 0.75 | 0.04 |
| T          | M279A723523         | 3.25 | 3.62 | 0.75 | 0.04 |



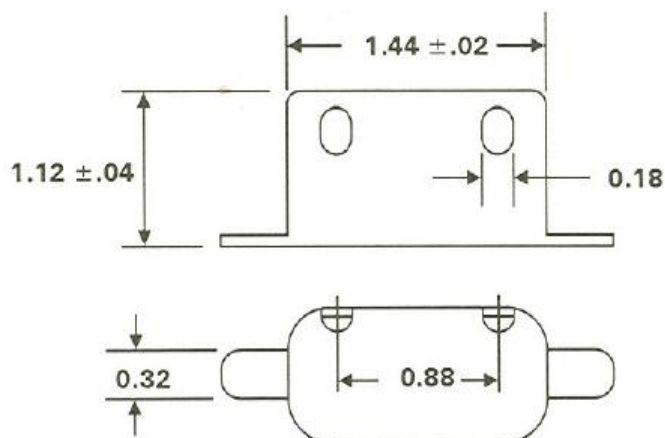
## FOOTED BRACKETS – Oval & Round Cases

| Case Height | Bracket Part Number |
|-------------|---------------------|
| 2.12        | M302C920210         |
| 2.88        | M302C920113         |
| 3.88        | M302C920115         |
| 4.75        | M302C920116         |
| 5.75        | M302C920209         |

| Case Style | d    | e    |
|------------|------|------|
| A          | 2.56 | 3.00 |
| B          | 3.13 | 3.56 |
| C          | 3.38 | 3.81 |
| D          | 4.13 | 4.56 |
| P          | 2.33 | 2.76 |
| S          | 2.57 | 3.00 |
| T          | 3.07 | 3.50 |

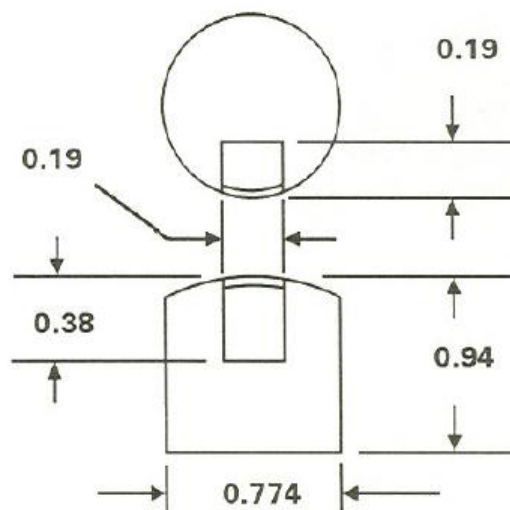


## PROTECTIVE BOOT

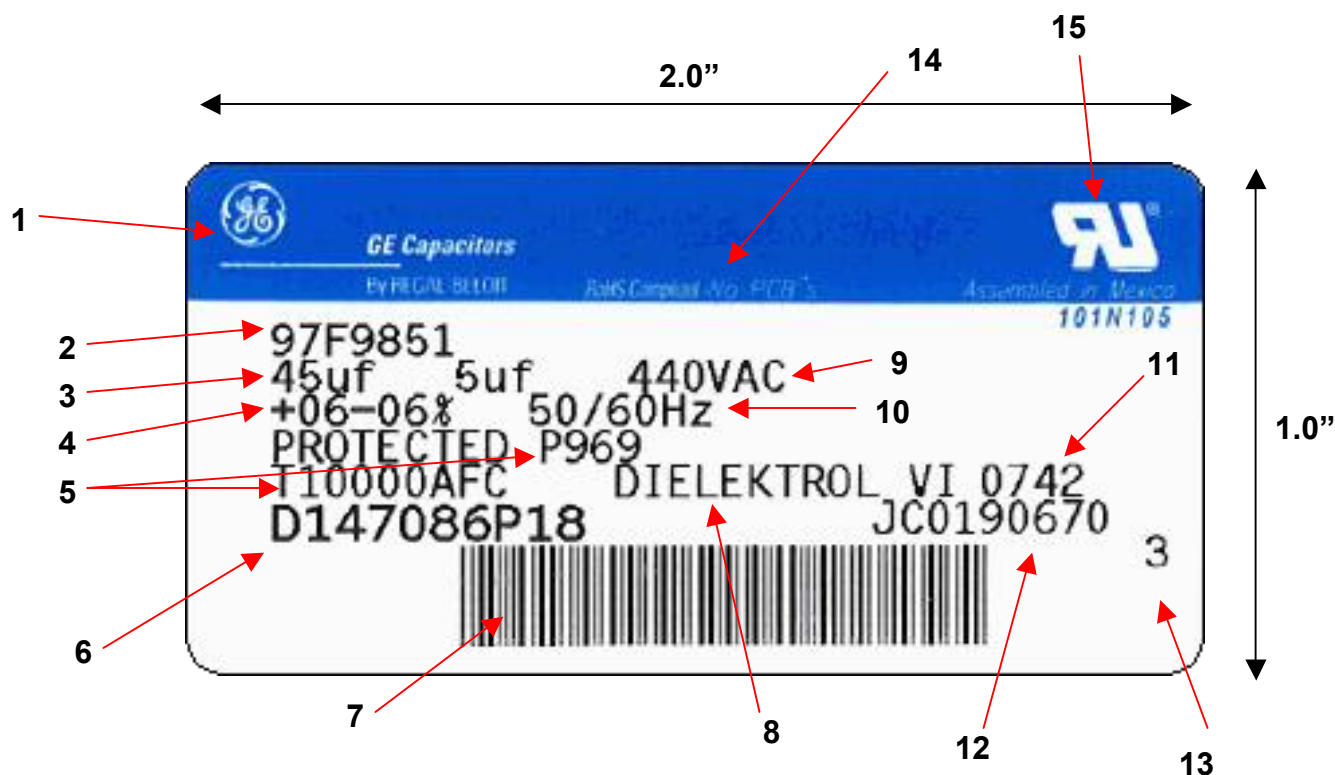


| Boot Part Number | Temperature Rating |
|------------------|--------------------|
| M614A52721       | 60°C               |
| M178A374421      | 105°C              |

## PROTECTIVE CAP



| Cap Part Number | M115A155223 |
|-----------------|-------------|
|-----------------|-------------|



1. Product / Brand
2. GE / RBC Catalog Model Number
3. Capacitance in Micro-Farads
4. Tolerance
5. UL Designation Including Available Fault Current (AFC) Rating
6. Customer Part Number
7. Bar Code
8. GE Product Name of Dielectric Fluid
9. AC Voltage Rating
10. Frequency

11. Manufacturing Date Code

|                          |        |
|--------------------------|--------|
| <i>Example:</i>          |        |
| 02                       | 34     |
| ↑                        | ↑      |
| Year                     | Fiscal |
| (Last Digits<br>of Year) | Week   |

12. Manufacturing WIP Job Number
13. Label Sequence Number
14. RoHS Compliant Statement
15. UL Approved Logo

| AVAILABLE<br>REGAL-BELOIT COMPONENT CAPACITOR PUBLICATIONS |                                                       |                   |
|------------------------------------------------------------|-------------------------------------------------------|-------------------|
| Publication                                                | Description                                           | Replaces          |
| GEC-001                                                    | AC Capacitors for Motor Run Applications              | CPD-510           |
| GEC-002                                                    | AC Capacitors for HID Lighting Applications           | CPD-511           |
| GEC-003                                                    | Capacitors for AC and DC General Purpose Applications | CPD-512           |
| GEC-004                                                    | Power Electrolytic Capacitors                         | CPD-517           |
| GEC-005                                                    | Snubber, High Current DC, and Switching Capacitors    | CPD-518, 519, 520 |
| GEC-006                                                    | Dry Capacitors                                        | New Pub.          |
| PLC-001                                                    | PROLINE Capacitors                                    | New Pub.          |

Please contact your local Regal-Beloit Sales Representative for further information.

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**[www.gecapacitors.com](http://www.gecapacitors.com)**

