



Dry Capacitors for Motor Run & HID Lighting Applications



Proven EIA-456 Compliant

60,000 Hour Reliability Industry Standard



Genteq Capacitors 1946 West Cook Road, Fort Wayne, Indiana 46818 USA
 Phone: (260) 416-5400 Fax: (260) 416-5460 Email: capacitors@regalbeloit.com
www.genteqcapacitors.com



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.

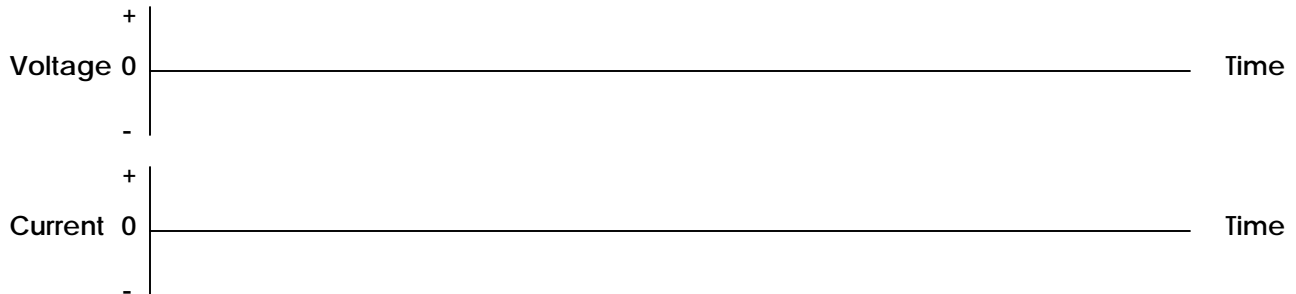
Send this data to your local RBC Sales Representative or directly to:

Genteq Capacitors
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: _____

Customer Acknowledgement, Release and Indemnity

Dry Capacitor Products

This Customer Acknowledgement, Release and Indemnity ("Acknowledgement, Release and Indemnity") is hereby provided this [NUMERICAL] day of [MONTH], [YEAR] by [LEGAL NAME OF BUYER], a [STATE OF INCORPORATION] corporation, having a place of business at [PRIMARY BUSINESS ADDRESS OF CUSTOMER] ("Customer") to RBCMC Manufacturing Corporation, a Wisconsin corporation, having a place of business at 1946 West Cook Road, Fort Wayne, IN 46818 ("RBCMC").

INFORMATION AND BACKGROUND

RBCMC Dry Capacitor Products are dry film capacitors encased in a plastic container and encapsulated with a polyurethane compound. These products are produced and sold under the 24D series of part numbers. This capacitor series is meant for applications where the user has determined that a dry metallized film capacitor with no internal protective device is suitable and acceptable.

RBCMC's Dry Capacitor Products are UL recognized for construction only under UL's file E215336. This recognition was issued by both Underwriter's Laboratories (UL) and the Canadian Standards Association (CSA) in conjunction.

Customer wishes to purchase RBCMC Dry Capacitor Products from RBCMC.

When RBCMC Dry Capacitor Products fail, they generate gas, which may rupture the product's housing; the rupture may occur slowly or rapidly, and is typically accompanied by emission of smoke and odor and/or melting of the product's contents. Temperatures generated during the failure of the product may exceed 149°C. "Fail" and/or "Failure," as used herein, means to reach end-of-life.

Upon request, RBCMC can provide information regarding the construction and characteristics of RBCMC Dry Capacitor Products. However, RBCMC has no role and accepts no responsibility for evaluating or giving advice with respect to the proprietary or safety of the use of RBCMC Dry Capacitor Products in end-use applications intended by Customer and/or Customer's customers.

RBCMC is willing to sell RBCMC Dry Capacitor Products to Customer pursuant to its standard terms and conditions of sale and other mutually agreed upon terms and conditions, and strictly subject to and conditioned upon Customer's agreement with and execution of this Acknowledgement, Release and Indemnity.

ACKNOWLEDGEMENT AND AGREEMENT

Customer hereby acknowledges and agrees that:

- (1) he/she/they have read and understood this Acknowledgement, Release and Indemnity;
- (2) When RBCMC Dry Capacitor Products fail, they generate gas, which may rupture the product's housing; the rupture may occur slowly or rapidly, and is typically accompanied by emission of smoke and odor and/or melting of the product's contents. Temperatures generated during the failure of the product may exceed 149°C.
- (3) Customer accepts full responsibility for evaluation and determination of the proper and safe use of RBCMC Dry Capacitor Products in the applications in which Customer and/or its end user customers will use them; Customer expressly and impliedly affirms that he/she/they are relying upon their own skill and judgment in selecting and purchasing RBCMC Dry Capacitor Products as suitable for his/her/their intended use or the intended use of his/her/their end-user customers.
- (4) Customer bears all risks, including but not limited to the risk as to the effects of the occurrence of failures in the intended applications of the RBCMC Dry Capacitor Products and the risk of any and all liability arising from such failures.

Customer Acknowledgement, Release and Indemnity

Dry Capacitor Products (continued...)

(5) RBCMC has no role and accepts no responsibility for evaluating or giving advice with respect to the proprietary or safety of the use of RBCMC Dry Capacitor Products in end-use applications intended by Customer and/or Customer's customers. RBCMC is not responsible for any injuries, damage, consequential or otherwise, resulting from failure of a RBCMC Dry Capacitor Product.

(6) Customer, his/her/their buyer(s) and/or the ultimate user(s) understand and agree that no officer, director, employee, agent, salesman, representative, distributor or affiliate of RBCMC has any authority to make any statement or representation contrary to the terms set forth hereinabove. Any such statement or representation is hereby effectively disavowed.

(7) RBCMC provides no warranty or representation that, on failure, RBCMC Dry Capacitor Products will not cause injury or death or protect the user from injury or death.

(8) To the extent of a conflict between this Acknowledgement, Release and Indemnity and RBCMC's standard conditions of sale, this Acknowledgement, Release and Indemnity shall take precedence.

(9) TO THE FULLEST EXTENT ALLOWED BY LAW, CUSTOMER HEREBY RELEASES AND DISCHARGES RBCMC AND ITS AFFILIATES FOR ANY LOSS OR DAMAGE AND ANY CLAIMS OR DEMANDS THEREFORE, ON ACCOUNT OF INJURY TO ANY PERSON OR DAMAGE TO PROPERTY OF CUSTOMER OR OF ANY THIRD PARTY OR RESULTING IN THE DEATH OF ANY PERSON, WHERE SUCH INJURY OR DAMAGE ARISES FROM THE FAILURE OF AN RBCMC DRY CAPACITOR PRODUCT, WHETHER CAUSED BY THE ACTIVE OR PASSIVE NEGLIGENCE OF RBCMC AND/OR ANY RBCMC AFFILIATE.

(10) TO THE FULLEST EXTENT ALLOWED BY LAW, CUSTOMER WAIVES ANY RIGHT TO PRESENT ANY LEGAL CLAIM OR SUIT AGAINST RBCMC AND/OR ITS AFFILIATES, WHETHER BASED ON NEGLIGENCE, BREACH OF CONTRACT, BREACH OF WARRANTY, STRICT PRODUCT LIABILITY, DANGEROUS CONDITION OF PROPERTY, INDEMNITY OR ANY OTHER LEGAL THEORIES WHERE SUCH CLAIM OR SUIT IS RELATED TO THE FAILURE OF A RBCMC DRY CAPACITOR PRODUCT.

(11) TO THE FULLEST EXTENT ALLOWED BY LAW, CUSTOMER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS RBCMC, ITS AFFILIATES, AND THEIR OFFICERS, DIRECTORS, AND EMPLOYEES, FROM ANY AND ALL CLAIMS, SUITS, COSTS OR EXPENSES OF ANY KIND INCLUDING ATTORNEY FEES AND EXPERT AND CONSULTANT FEES INCURRED AS A RESULT MADE BY ANY PERSON FOR PERSONAL INJURY, INCLUDING DEATH OR PROPERTY DAMAGE, WHICH CLAIM IN ANY WAY ARISES OUT OF OR IS IN ANY WAY RELATED TO THE FAILURE OF A RBCMC DRY CAPACITOR PRODUCT, REGARDLESS OF WHETHER OR NOT CAUSED BY THE ACTIVE, PASSIVE, OR SOLE NEGLIGENCE OF RBCMC AND/OR ITS AFFILIATES. THIS OBLIGATION TO DEFEND, INDEMNIFY AND HOLD HARMLESS EQUALLY BINDS CUSTOMER'S ASSIGNS AND SUCCESSORS.

This Acknowledgement, Release and Indemnity shall apply to RBCMC Dry Capacitor Products shipped by RBCMC to Customer between **[WHEN]** and **[WHEN]**.

This Acknowledgement, Release and Indemnity shall be governed by the laws of the State of Wisconsin.

Acknowledged and agreed:

[FULL LEGAL NAME OF CUSTOMER]

By: _____

Name: _____

Title: _____

Date: _____

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Genteq Capacitors

Dry Capacitors for Motor Run 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. Regal-Beloit's materials, product, and process development work continue to provide capacitor users with outstanding total value.

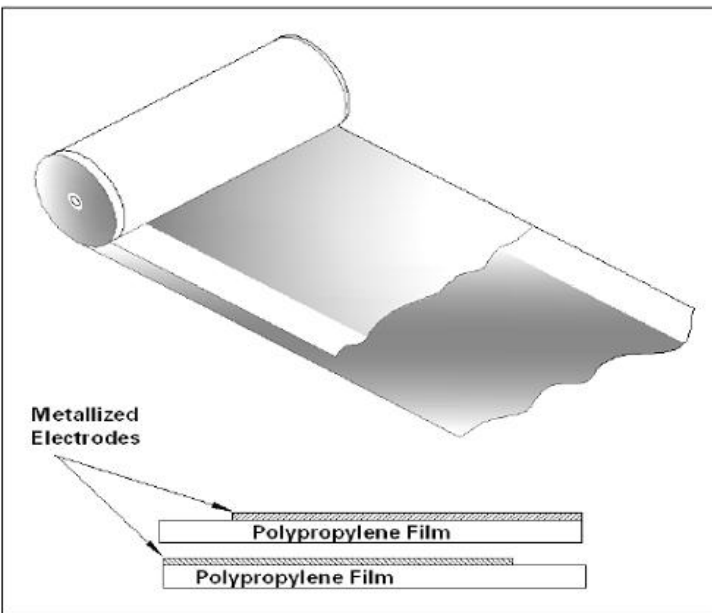
The Motor Run Dry Capacitors are widely used with permanent split phase capacitor motors for the more efficient use of electricity. These motors are used in heating and cooling equipment, appliances, business machines, office equipment, and a wide variety of light commercial and industrial equipment.

Dry Capacitor 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 plastic cases, an encapsulate is introduced, and the capacitors are cured. 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.



Genteq Capacitors

Dry Capacitors for HID Lighting 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.

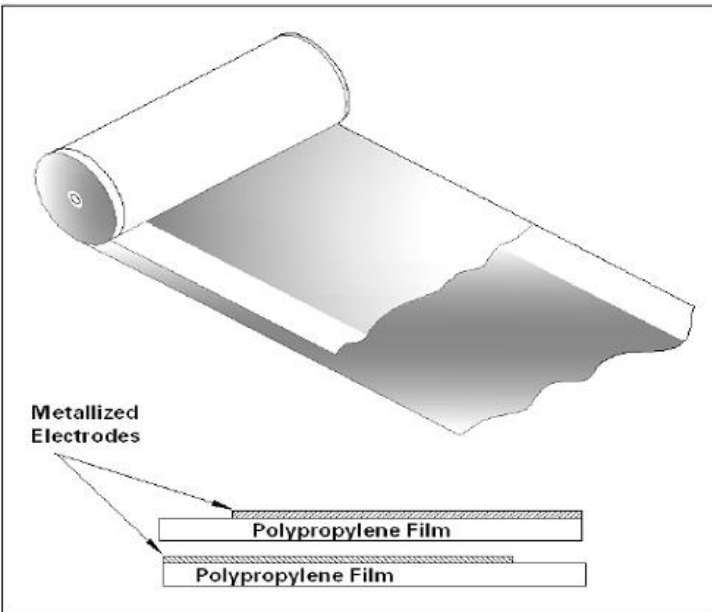
The HID Lighting Dry Capacitors are designed specifically for HID Lighting applications where the capacitors are used as part of the ballast circuit for mercury vapor, metal halide, and high-pressure sodium lamps. The units are designed to operate at temperatures up to 90°C, which is the normal requirement for HID ballast capacitors. Due to advances in material technology and breakthroughs in proprietary capacitor manufacturing processes, selected ratings are now available for operation up to 100°C for 60,000 hours.

Dry Capacitor Construction

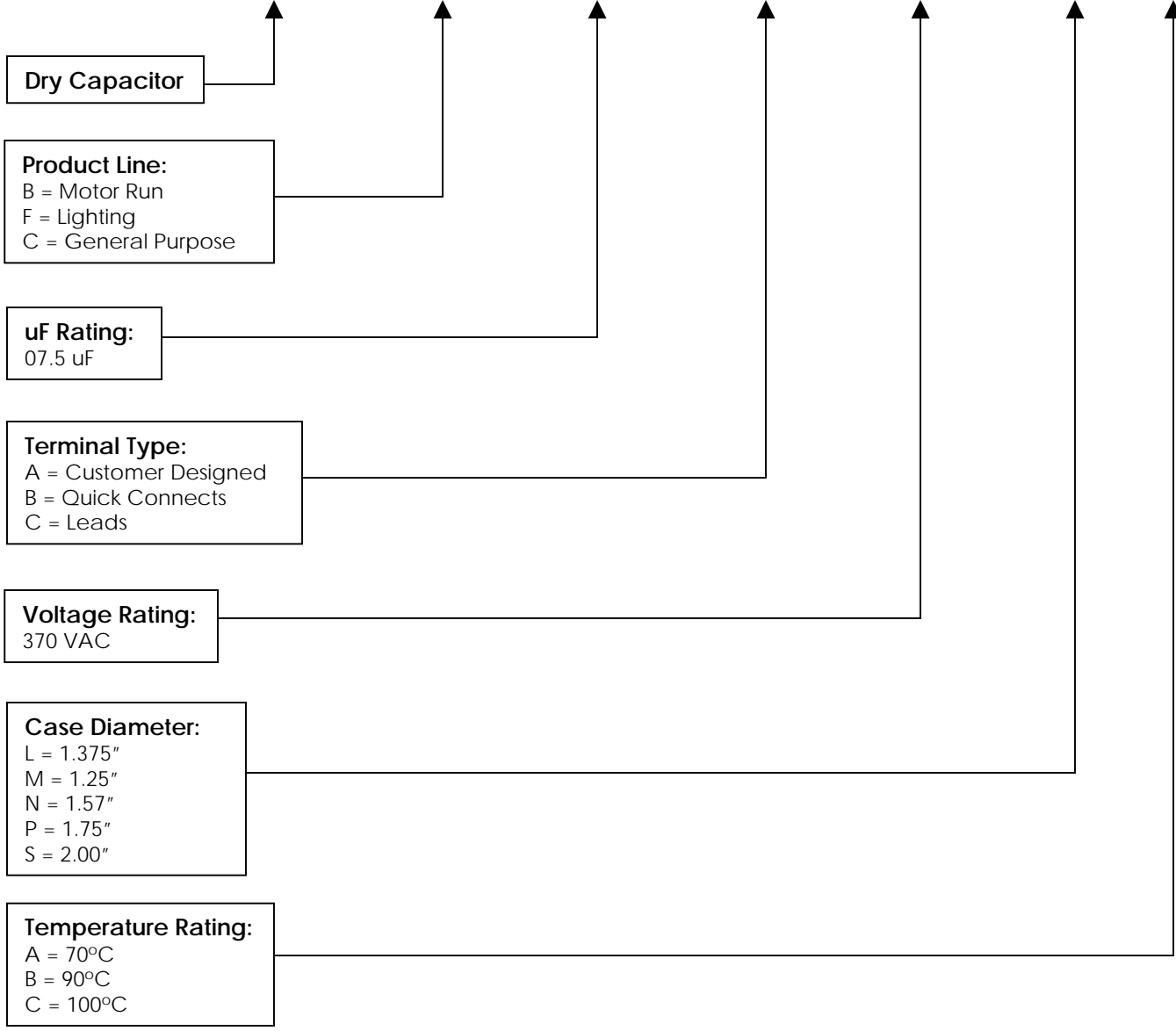
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The film is wound into capacitor rolls on high-speed, high-precision machines. The winding is extremely tight so that there is not enough space between the layers for corona (localized partial electrical discharges) to occur. The rolls are sprayed 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 plastic cases, an encapsulate is introduced, and the capacitors are cured. 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.



24D B 075 B 370 P A



Data from Example Part Nbr Above:

Product Line:	Motor Run
uF Rating:	7.5uF
Terminal Type:	Quick Connects
Voltage Rating:	370VAC
Case Diameter:	1.75"
Temperature Rating:	70°C

Dry Capacitors – Motor run

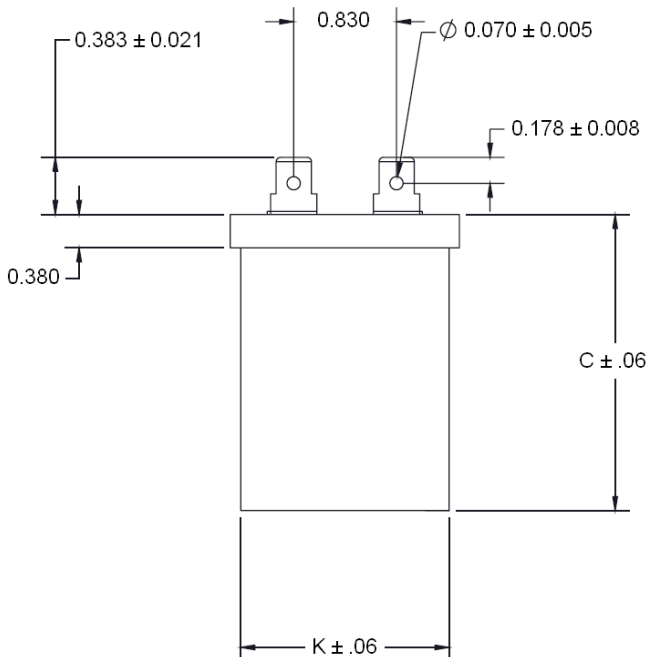
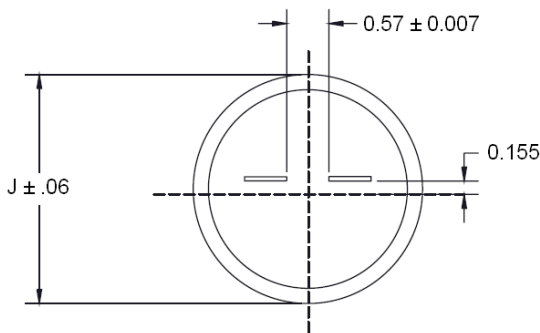
370 VAC

This capacitor series is **designed specifically for the motor run applications** where the capacitors are used in conjunction with permanent split capacitor type motors. They may be **used on either 50 or 60-Hertz systems** but should not be used at higher frequencies or in applications where higher frequency harmonics are present. If there are **any questions** regarding the correct application of these products, please **contact your RBC sales representative**.

SPECIFICATIONS:

Available Capacitance Range:	1 to 50 μ F
Capacitance Tolerance:	\pm 10%
Capacitance Variation with Temperature:	See Chart M-3 on page 9.
Rated Voltage:	See Rating Tables. Rating is the 50/60Hz RMS voltage for a sinusoidal waveform.
Leakage Current:	30 μ A maximum
Frequency:	50/60 Hz.
Operating Temperature:	-40°C to +70°C
Storage Temperature:	-40°C to +90°C
Operating Life:	60,000 hours with 94% survival (In accordance with the EIA-456 Industry Standard)
Dissipation Factor:	0.1% maximum
Case Material/Finish:	Plastic
Terminations:	'Combo' terminal: 0.250" x 0.031" quick connect blades
Encapsulate:	Polyurethane Resin

Voltage (VAC)	Capacitance (μF)	Catalog Number	Case Style	Base Size (in.)	Can Type	Height C (in.)
370	7.5	24D B 075 B 370 L A	L	1.375	Round	2.52
	10.0	24D B 100 B 370 L A	L	1.375	Round	2.52
	12.5	24D B 125 B 370 L A	L	1.375	Round	2.52
	15.0	24D B 150 B 370 L A	L	1.375	Round	2.52
	20.0	24D B 200 B 370 N A	N	1.57	Round	3.15
	25.0	24D B 250 B 370 N A	N	1.57	Round	3.15
	30.0	24D B 300 B 370 N A	N	1.57	Round	3.15
	35.0	24D B 350 B 370 P A	P	1.75	Round	3.18
	40.0	24D B 400 B 370 P A	P	1.75	Round	3.80
45.0	24D B 500 B 370 P A	P	1.75	Round	3.80	

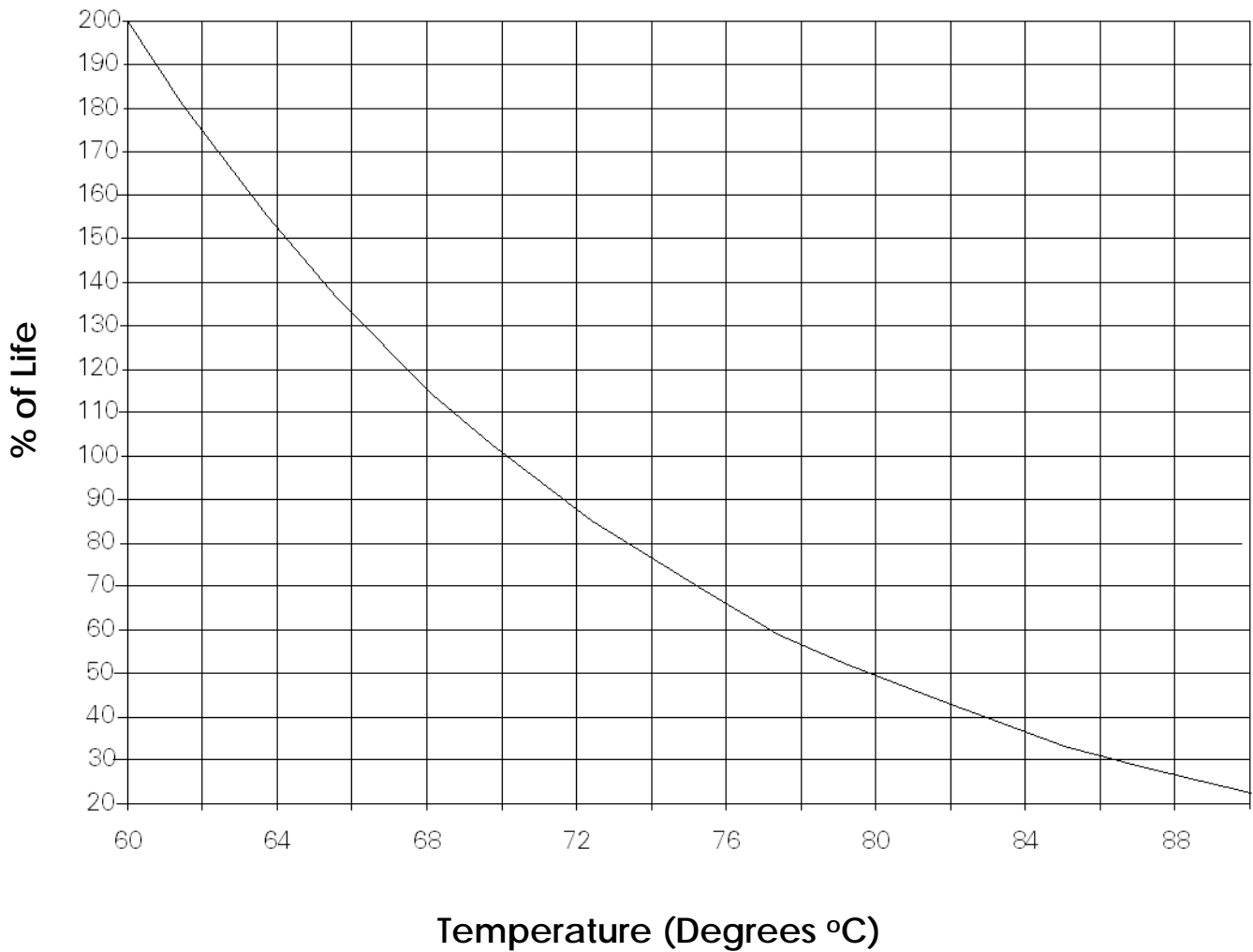


Case Style	K	J
L	1.375	1.375
N	1.57	1.695
P	1.75	1.875

*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).**

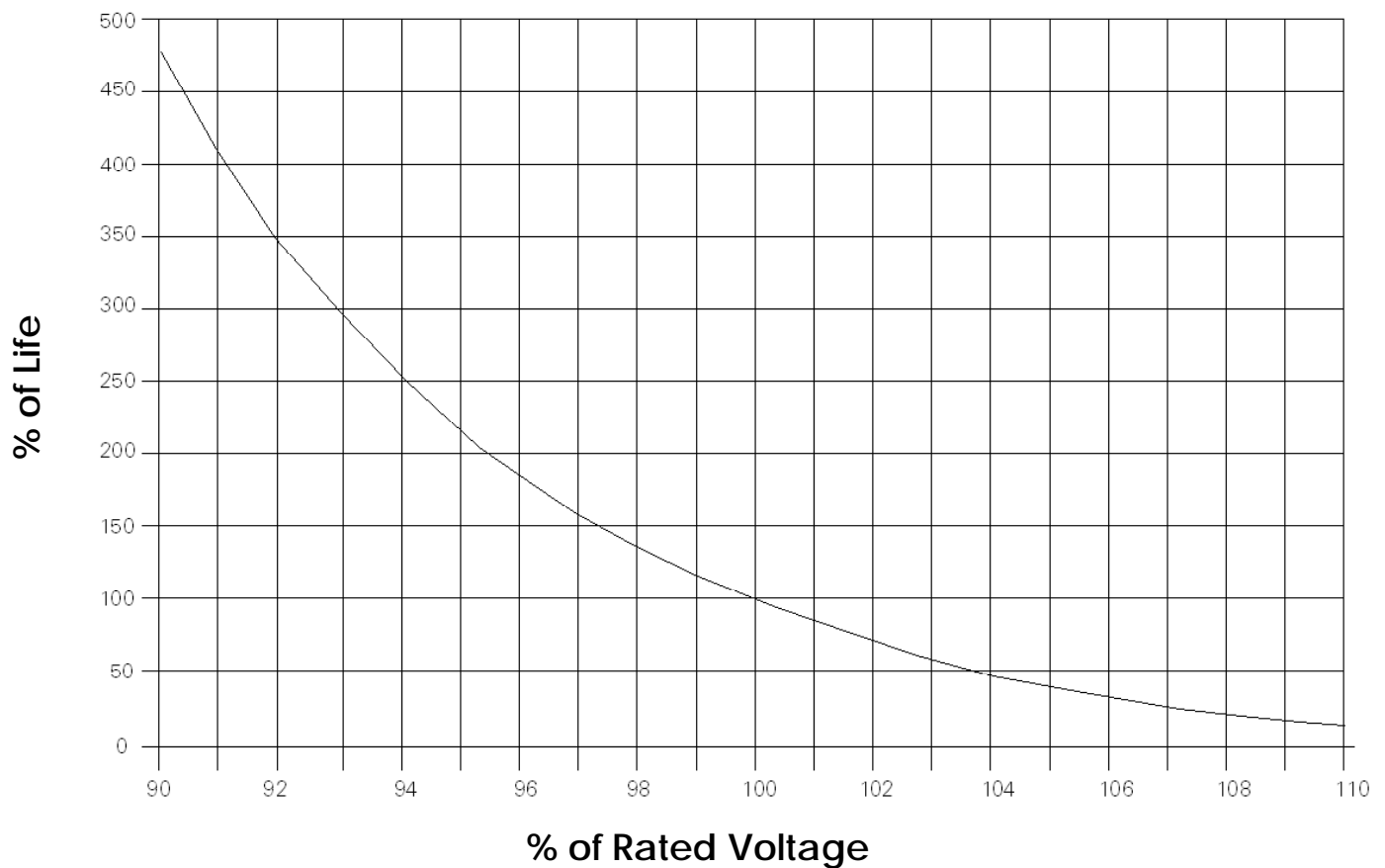
LIFE vs TEMPERATURE

CHART M-1



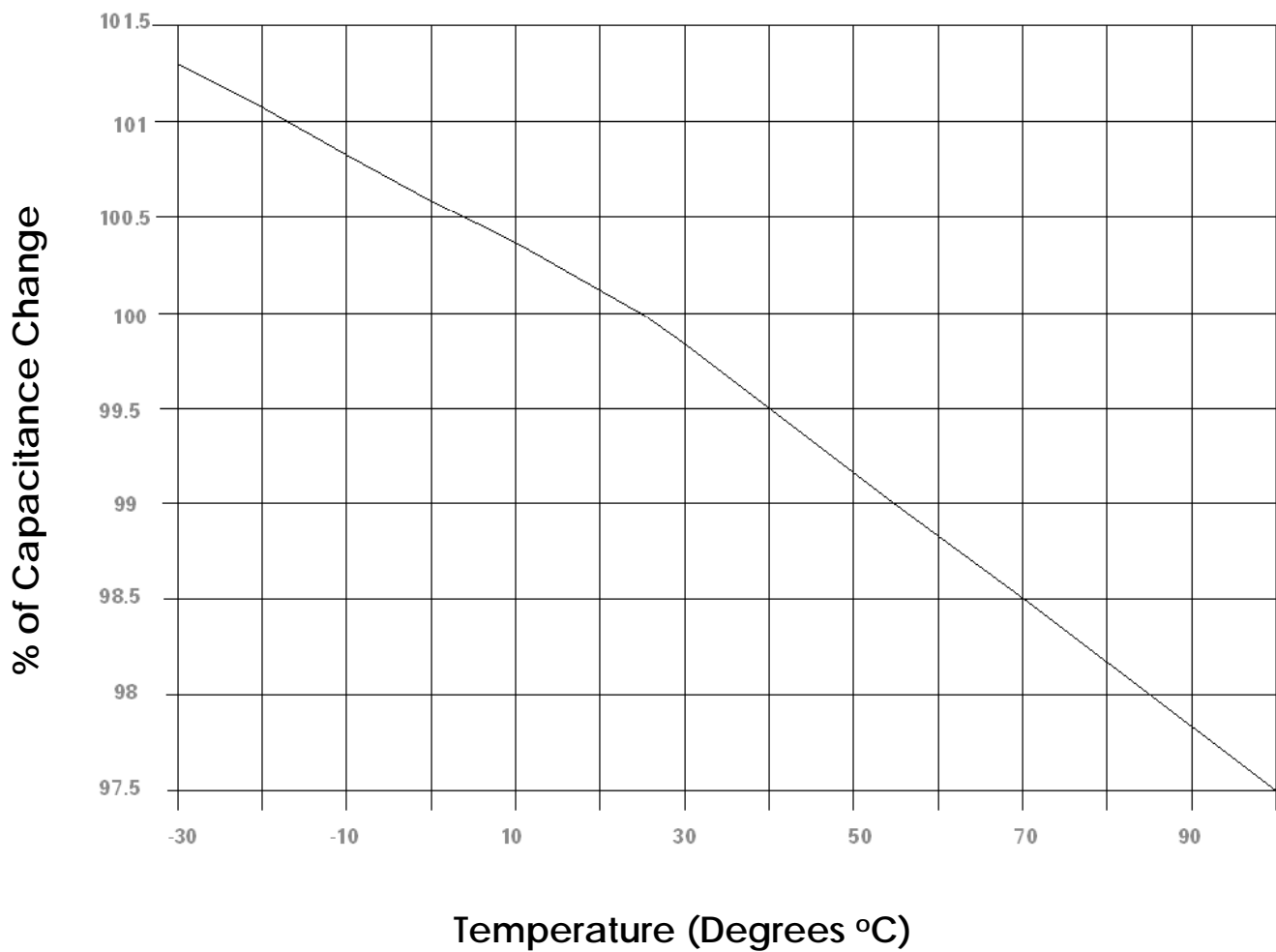
LIFE vs VOLTAGE

CHART M-2



% CAPACITANCE vs. TEMPERATURE

CHART M-3



This capacitor series is **designed specifically for the HID Lighting applications** where the capacitors are used as part of the ballast circuit for mercury vapor, metal halide, and high-pressure sodium lamps. The units are designed to **operate at up to 90°C**, which is the normal requirement for HID ballast capacitors. Due to advances in material technology and breakthroughs in proprietary capacitor manufacturing processes, **selected ratings** are now available for operation up to **100°C** for 60,000 hours. If there are **any questions** regarding the correct application of these products, please **contact your RBC sales representative**.

SPECIFICATIONS:

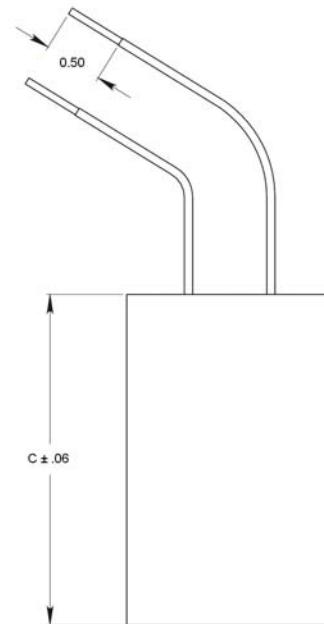
Available Capacitance Range:	1 to 50 μ F
Capacitance Tolerance:	\pm 3%
Capacitance Variation with Temperature:	See Chart L-3 on page 15.
Rated Voltage:	See Rating Tables.
Leakage Current:	30 μ A maximum
Frequency:	50/60 Hz.
Operating Temperature:	-40°C to +90°C and up to 100°C MAX on selected ratings.
Storage Temperature:	-40°C to +90°C
Operating Life:	60,000 hours with 90% survival
Dissipation Factor:	0.1% maximum
Case Material/Finish:	Plastic Case.
Terminations:	Fly Leads: #16 AWG UL / CSA Recognized, 600VAC & 150 °C rated.
Encapsulate:	Polyurethane Resin

Dry Capacitors – HID Lighting

Single Ratings – 1 Section

Voltage (VAC)	Capacitance (µF)	Catalog Number	Case Style	Base Size (in.)	Can Type	Height C (in.)
280	8.0	24D F 80 C 280 M B	M	1.25	Round	2.90
	10.0	24D F 100 C 280 M B	M	1.25	Round	2.90
	12.0	24D F 120 C 280 M B	M	1.25	Round	2.90
	15.0	24D F 150 C 280 N B	N	1.57	Round	2.76
	17.5	24D F 175 C 280 P B	P	1.75	Round	3.80
	20.0	24D F 200 C 280 P B	P	1.75	Round	3.80
	22.5	24D F 230 C 280 P B	P	1.75	Round	3.80
	24.0	24D F 240 C 280 P B	P	1.75	Round	3.80
	26.0	24D F 260 C 280 P B	P	1.75	Round	3.80
	28.0	24D F 280 C 280 P B	P	1.75	Round	3.80
	29.0	24D F 290 C 280 P B	P	1.75	Round	3.80
	34.0	24D F 340 C 280 P B	P	1.75	Round	3.80
	35.0	24D F 350 C 280 P B	P	1.75	Round	4.50
	40.0	24D F 400 C 280 P B	P	1.75	Round	4.50
	42.0	24D F 420 C 280 P B	P	1.75	Round	4.50
	45.0	24D F 450 C 280 P B	P	1.75	Round	4.50
48.0	24D F 480 C 280 S B	S	2.00	Round	4.80	
52.0	24D F 520 C 280 S B	S	2.00	Round	4.80	

Case Style	K	J
M	1.25	1.25
N	1.57	1.570
P	1.75	1.750
S	2.00	2.00



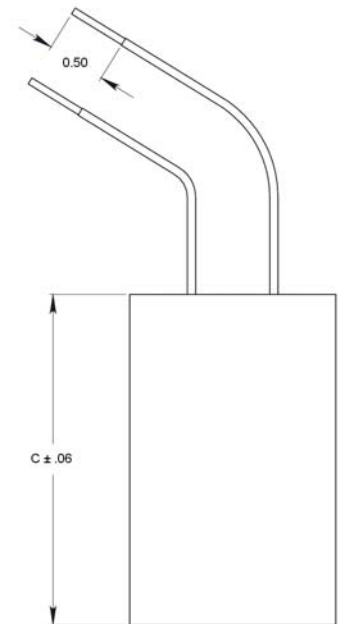
*It is Regal-Beloit's goal to serve you with the most cost effective and highest quality capacitor designs. Standardization to the catalog type shown is a major program at Regal-Beloit. However, Regal-Beloit remains sensitive to your needs and requirements, and will continue to offer the above ratings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

Dry Capacitors – HID Lighting

Single Ratings – 1 Section

Voltage (VAC)	Capacitance (µF)	Catalog Number	Case Style	Base Size (in.)	Can Type	Height C (in.)
330	6.0	24D F 60 C 330 M B	M	1.25	Round	2.90
	7.0	24D F 70 C 330 M B	M	1.25	Round	2.90
	8.0	24D F 80 C 330 M B	M	1.25	Round	2.90
	10.0	24D F 100 C 330 N B	N	1.57	Round	2.76
	11.0	24D F 110 C 330 N B	N	1.57	Round	2.76
	12.0	24D F 120 C 330 N B	N	1.57	Round	2.76
	13.0	24D F 130 C 330 N B	N	1.57	Round	2.76
	13.5	24D F 135 C 330 N B	N	1.57	Round	2.76
	14.0	24D F 140 C 330 N B	N	1.57	Round	2.76
	15.0	24D F 150 C 330 N B	N	1.57	Round	2.76
	16.0	24D F 160 C 330 N B	N	1.57	Round	2.76
	17.5	24D F 175 C 330 P B	P	1.75	Round	3.80
	18.0	24D F 180 C 330 P B	P	1.75	Round	3.80
	19.0	24D F 190 C 330 P B	P	1.75	Round	3.80
	20.0	24D F 200 C 330 P B	P	1.75	Round	3.80
	21.0	24D F 210 C 330 P B	P	1.75	Round	3.80
	22.5	24D F 225 C 330 P B	P	1.75	Round	3.80
	24.0	24D F 240 C 330 P B	P	1.75	Round	3.80
	26.0	24D F 260 C 330 P B	P	1.75	Round	3.80
	28.0	24D F 280 C 330 P B	P	1.75	Round	3.80
29.0	24D F 290 C 330 P B	P	1.75	Round	3.80	
30.0	24D F 300 C 330 P B	P	1.75	Round	3.80	
32.0	24D F 320 C 330 P B	P	1.75	Round	3.80	
34.0	24D F 340 C 330 P B	P	1.75	Round	3.80	
36.0	24D F 360 C 330 P B	P	1.75	Round	4.50	
45.0	24D F 450 C 330 P B	P	1.75	Round	4.50	

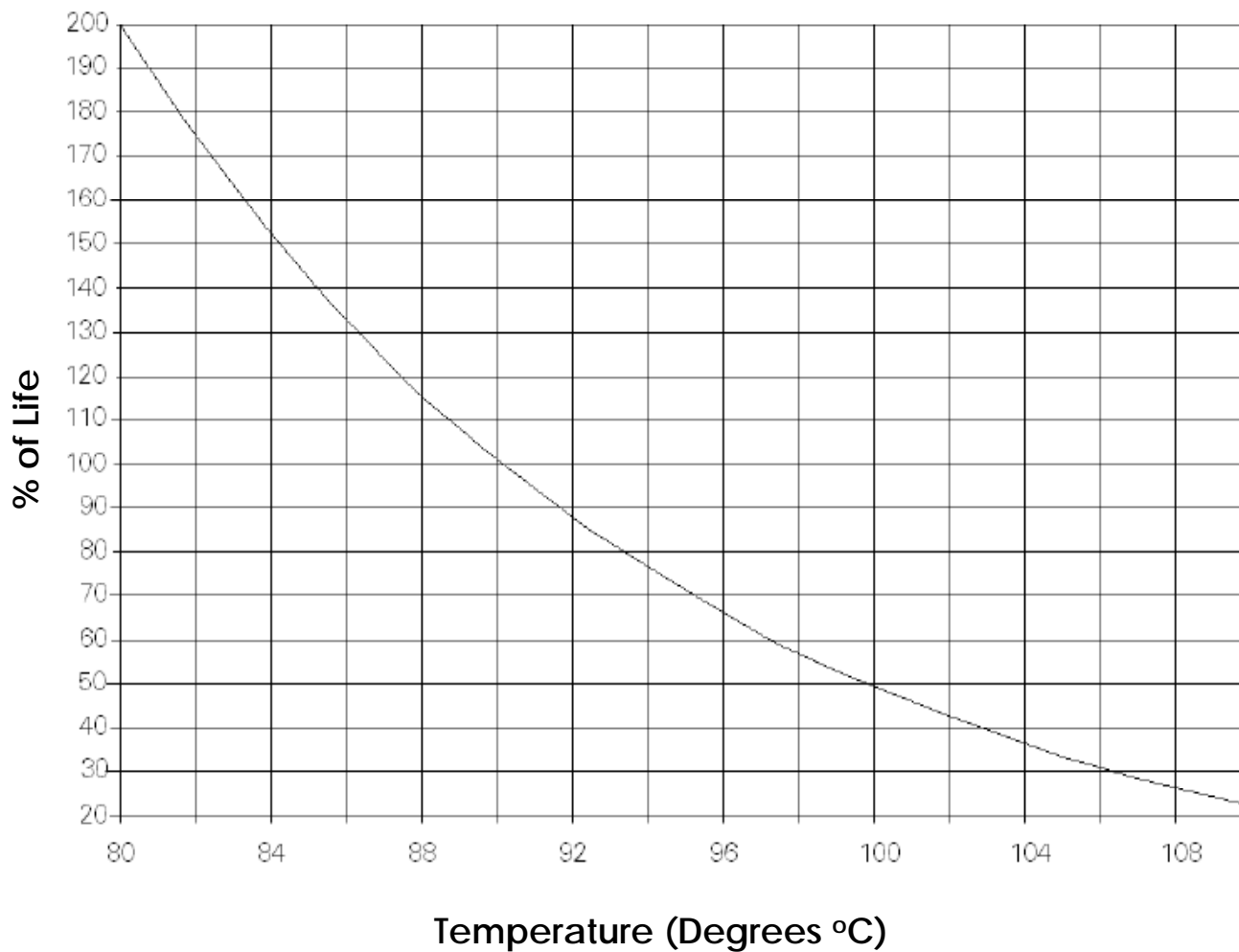
Case Style	K	J
M	1.25	1.25
N	1.57	1.570
P	1.75	1.750
S	2.00	2.00



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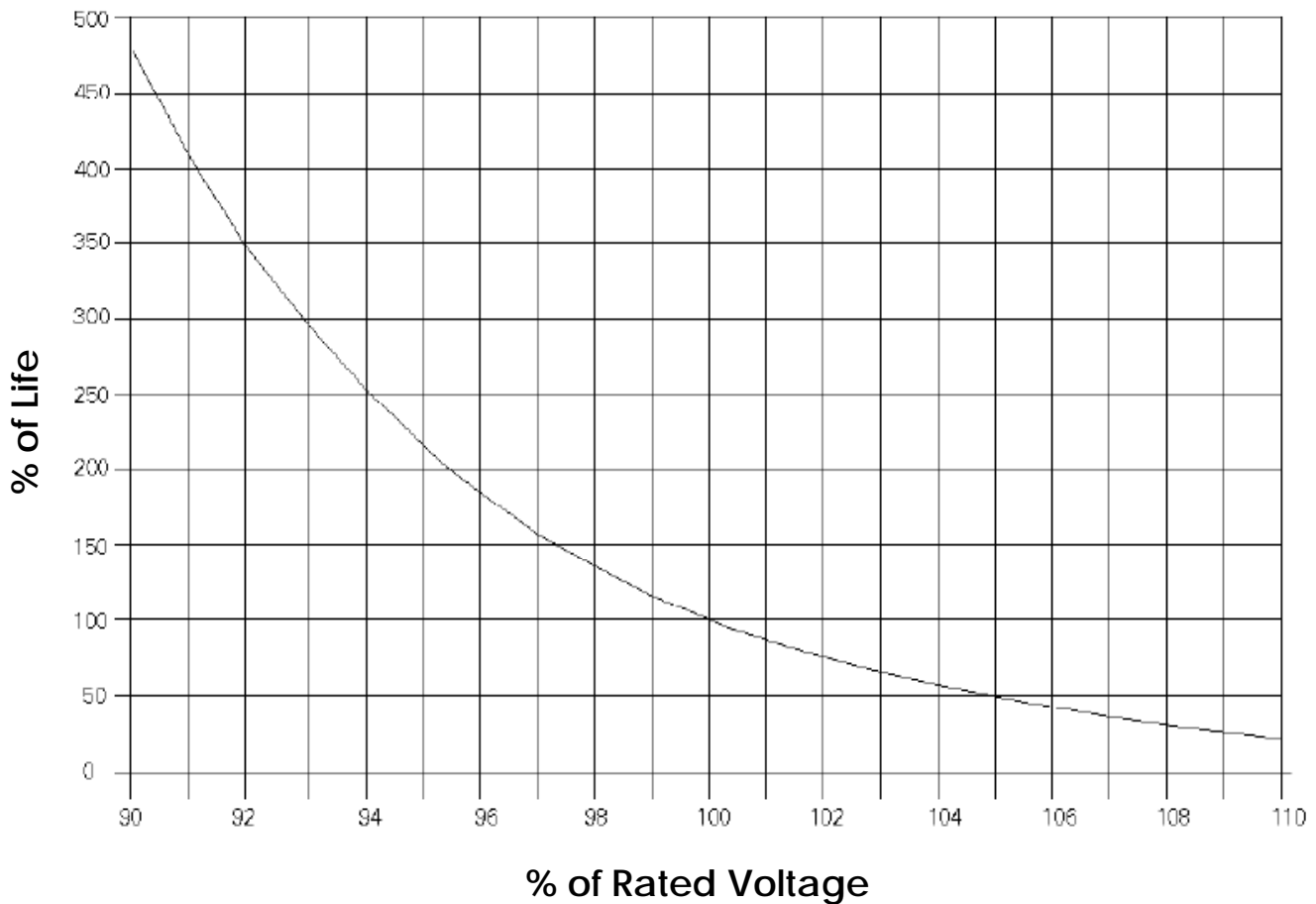
LIFE vs TEMPERATURE

CHART L-1



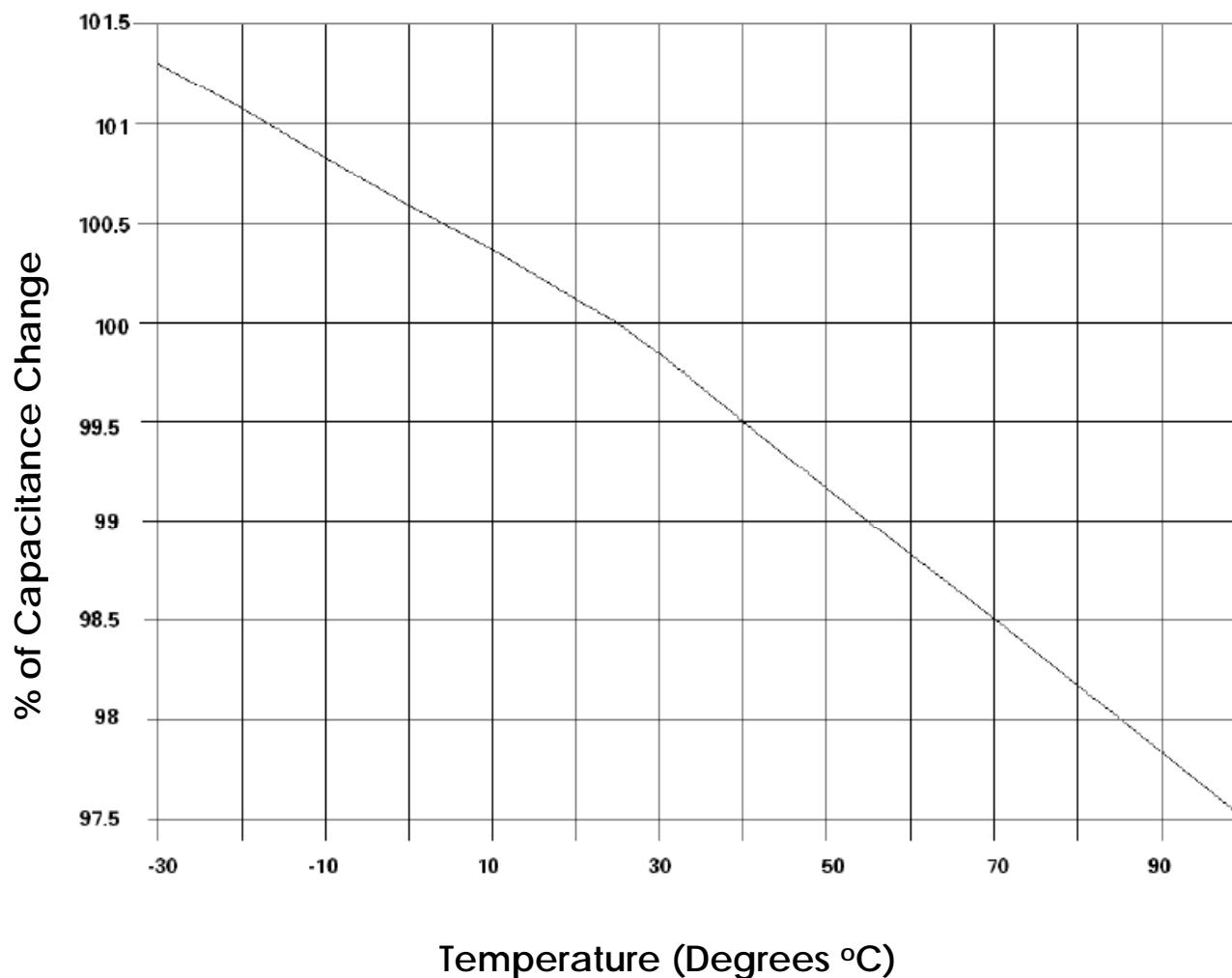
LIFE vs VOLTAGE

CHART L-2

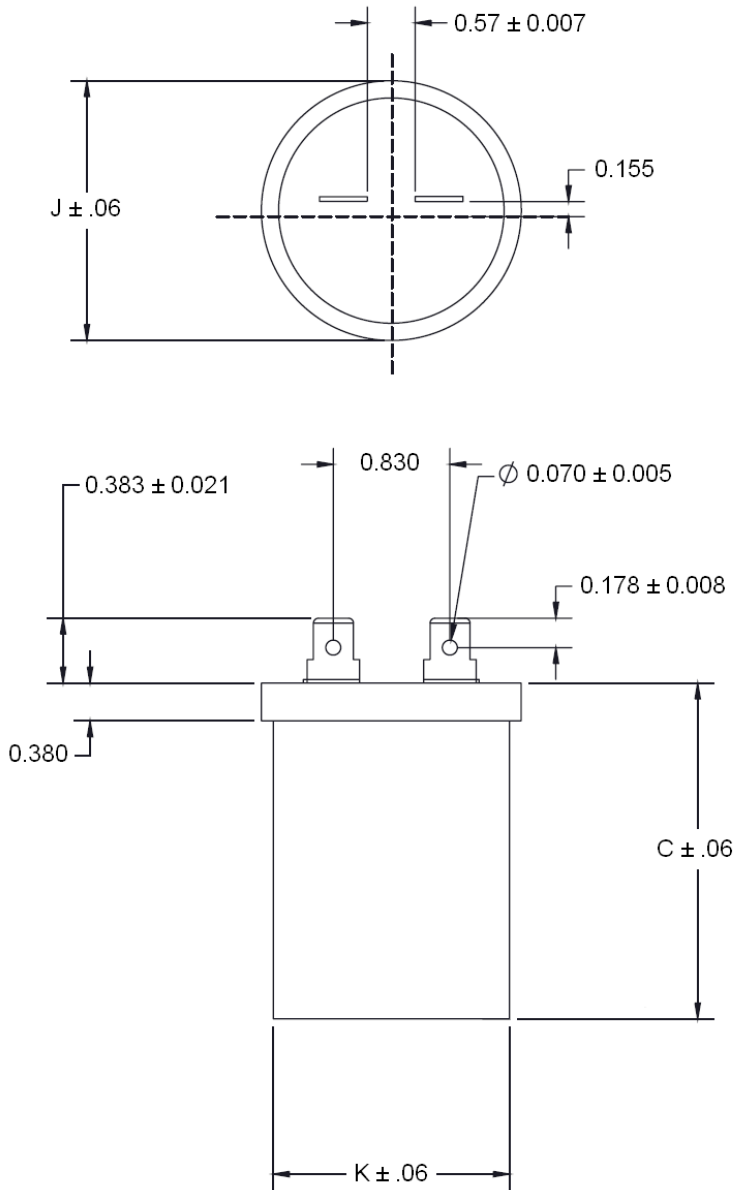


% CAPACITANCE vs. TEMPERATURE

CHART L-3

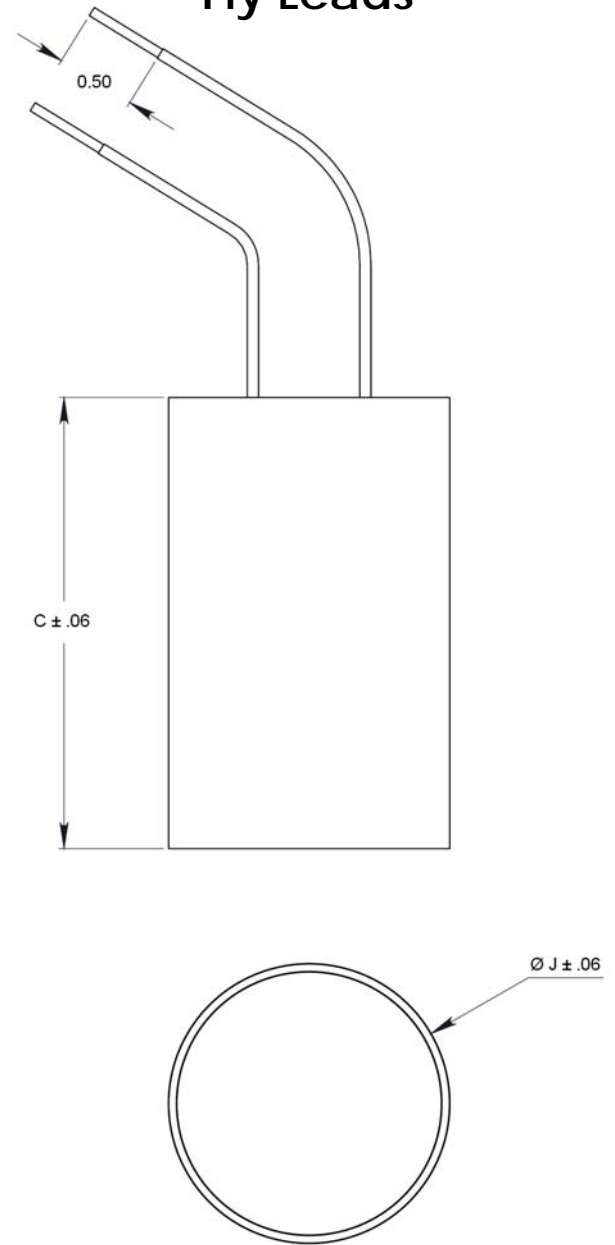


Motor Run Quick Connects

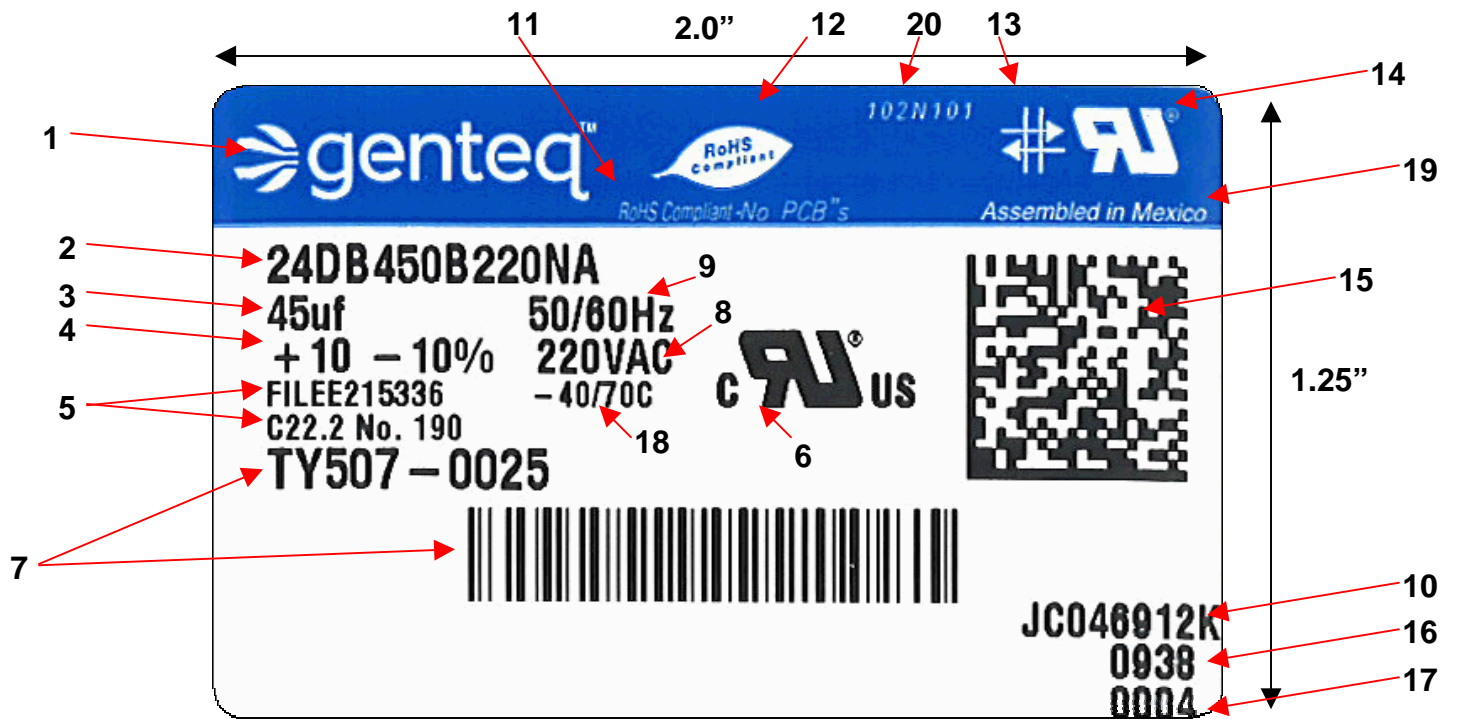


Case Style	K	J
L	1.375	1.375
N	1.57	1.695
P	1.75	1.875

HID Lighting Fly Leads

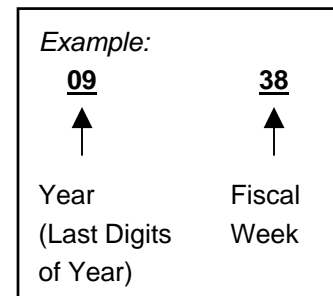


Case Style	K	J
M	1.25	1.25
N	1.57	1.570
P	1.75	1.750
S	2.00	2.00



- 1. Product / Brand
- 2. Genteq Catalog Model Number
- 3. Capacitance in Micro-Farads
- 4. Tolerance
- 5. UL and CSA File Number
- 6. Canadian UL Approved Logo
- 7. Customer Part Number and Bar Code
- 8. AC Voltage Rating
- 9. Frequency
- 10. Manufacturing WIP Job Number
- 11. RoHS Compliant / No PCBs Statement
- 12. RoHS Compliant Logo
- 13. Self-Healing Symbol
- 14. UL Approved Logo

- 15. Data Matrix Bar Code
- 16. Manufacturing Date Code



- 17. Label Sequence Number
- 18. Operating Temperature
- 19. Country of Origin
- 20. Label Part Number (Internal)

AVAILABLE REGAL-BELOIT COMPONENT CAPACITOR PUBLICATIONS		
Publication	Description	Replaces
GTC-001	AC Capacitors for Motor Run Applications	CPD-510
GTC-002	AC Capacitors for HID Lighting Applications	CPD-511
GTC-003	Capacitors for AC and DC General Purpose Applications	CPD-512
GTC-004	Screw Terminal Electrolytic Capacitors	CPD-517
GTC-005	Snubber, High Current DC, and Switching Capacitors	CPD-518, 519, 520
GTC-006	Dry Capacitors	New Pub.
GTC-007	Snap-In Electrolytic Capacitors	New Pub.
PLC-001	PROLINE Capacitors	New Pub.

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

Call or write directly to:

Genteq Capacitors
1946 West Cook Road
Fort Wayne, Indiana 46818 USA

Phone: (260) 416-5400
Fax: (260) 416-5460
Email: capacitors@regalbeloit.com



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