

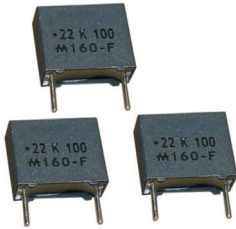


**THE DATASHEET OF**  
**160223J630E-F**



# Type 160 Metallized Polyester Radial Lead Capacitors

## Radial Box Metallized Polyester Capacitors



The Type 160 series radial lead metallized polyester box capacitors are constructed in rugged rectangular plastic cases with lead spacings that are standard in the electronics industry. All Type 160 capacitors are available in bulk with a .217" ±.039" lead length, and they are good for general purpose applications such as bypass, decoupling, energy storage/discharge and arc suppression.

### Highlights

- RoHS compliant
- Rugged plastic case
- Case and epoxy fill meets UL94V0
- 10 mm through 27.5 mm lead spacings
- Non-inductively wound
- Non-polar
- Wire lead material, tinned copper clad steel

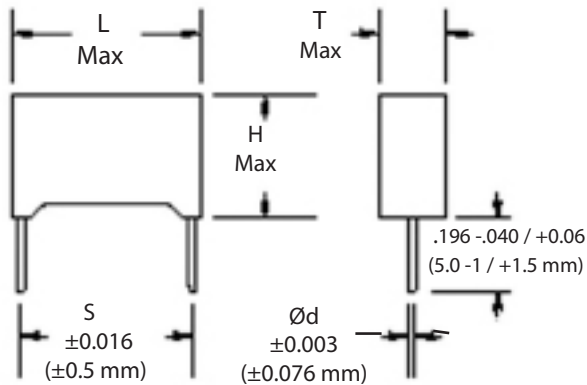
### Specifications

Capacitance Range	0.0022 µF to 10.0 µF																																										
Capacitance Tolerance	±5%, ±10%, ±20%																																										
Rated Voltage	63 to 1000 Vdc																																										
Operating Temperature Range	-55 °C to +125 °C (derating voltage to 1.25% per °C above 85 °C)																																										
Maximum DC Leakage Current	After 2 minutes, with rated voltage at +20 °C 6.3 to 100 Vdc $I = .01CV$ or 3 µA Max (whichever is greater) ≥ 160 Vdc after 3 min, with rated voltage at +20 °C $I = .03CV$ or 10 µA Max (whichever is greater) C = Capacitance in (µF) V = Rated voltage I = Leakage current in µA																																										
Dielectric Withstand Voltage	1.6 x rated voltage for 2 s @ +25 °C ±5 °C																																										
Dissipation Factor	tan δ x 10 <sup>-4</sup> at 25 °C ±5 °C <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>kHz</th> <th>C ≤ 1 µF</th> <th>C &gt; 1 µF</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>≤100</td> <td>≤100</td> </tr> <tr> <td>10</td> <td>≤150</td> <td></td> </tr> </tbody> </table>				kHz	C ≤ 1 µF	C > 1 µF	1	≤100	≤100	10	≤150																															
kHz	C ≤ 1 µF	C > 1 µF																																									
1	≤100	≤100																																									
10	≤150																																										
Total Self Inductance (L)	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Pitch (mm)</th> <th>10</th> <th>15</th> <th>22.5</th> <th>27.5</th> </tr> </thead> <tbody> <tr> <td>L (nH) ≈</td> <td>9</td> <td>10</td> <td>18</td> <td>18</td> </tr> </tbody> </table>				Pitch (mm)	10	15	22.5	27.5	L (nH) ≈	9	10	18	18																													
Pitch (mm)	10	15	22.5	27.5																																							
L (nH) ≈	9	10	18	18																																							
Long Term Stability (after two years)	Capacitance change $\Delta C/C \leq \pm 3\%$ under standard environmental conditions																																										
Corona (Partial Discharge Inception Voltage)y	200 Vac for 100 Vdc, 200 Vdc 250 Vac for 400 Vdc, 630 Vdc 300 Vac for 1000 Vdc																																										
Maximum Pulse Rise Time dv/dt	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th rowspan="2">Vn</th> <th colspan="4">Pitch (mm)</th> </tr> <tr> <th>10</th> <th>15</th> <th>22.5</th> <th>27.5</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>3</td> <td>1.5</td> <td>1</td> <td>1</td> </tr> <tr> <td>100/160</td> <td>6/8</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>250</td> <td>11</td> <td>7</td> <td>4</td> <td>3</td> </tr> <tr> <td>400</td> <td>20</td> <td>10</td> <td>5.5</td> <td>5</td> </tr> <tr> <td>630</td> <td>30</td> <td>15</td> <td>8</td> <td>7</td> </tr> <tr> <td>1000</td> <td>60</td> <td>25</td> <td>15</td> <td>10</td> </tr> </tbody> </table> <p>If the working voltage (V) is less than the nominal voltage (Vn), the capacitor can work at higher dv/dt. In this case, the maximum value allowed is obtained by multiplying the above value with the ratio Vn/V.</p>				Vn	Pitch (mm)				10	15	22.5	27.5	63	3	1.5	1	1	100/160	6/8	3	2	1	250	11	7	4	3	400	20	10	5.5	5	630	30	15	8	7	1000	60	25	15	10
Vn	Pitch (mm)																																										
	10	15	22.5	27.5																																							
63	3	1.5	1	1																																							
100/160	6/8	3	2	1																																							
250	11	7	4	3																																							
400	20	10	5.5	5																																							
630	30	15	8	7																																							
1000	60	25	15	10																																							
<b>Regulatory Information</b>																																											

# Type 160 Metallized Polyester Radial Lead Capacitors

## Capacitor Outline Drawing

## Test Method and Performance



**Note:** The lead diameter is a maximum dimension for lead spacing  $\leq 15$  mm and a nominal for lead spacing  $> 15$  mm

Insulation Resistance	
<b>Test Conditions</b>	
Temperature	25 °C $\pm 5$ °C
Voltage Charge Time	1 minute
Voltage Charge	50 Vdc for $V_n < 100$ Vdc 100 Vdc for $V_n \geq 100$ Vdc
<b>Performance</b>	
For $V_n > 100$ Vdc	$\geq 30,000$ M $\Omega$ for $\leq 0.33\mu\text{F}$ $\geq 10,000$ M $\Omega \times \mu\text{F}$ for $C > 0.33\mu\text{F}$
For $V_n \leq 100$ Vdc	$\geq 10,000$ M $\Omega$ for $C \leq 0.1\mu\text{F}$ $\geq 1,000$ M $\Omega \times \mu\text{F}$ for $> 0.1\mu\text{F}$
Damp Heat Test	
<b>Test Conditions</b>	
Temperature	+40 °C
Relative Humidity	95%
Test Duration	21 days
<b>Performance</b>	
Capacitance Change $\Delta C/C$	$\leq \pm 5\%$
DF Change $\Delta \text{tg}\delta$	$\leq 50 \times 10^{-4}$ at 1 kHz
Insulation Resistance	$\geq 50\%$ of limit value
Life Test	
<b>Test Conditions</b>	
Temperature	+85 °C
Test Duration	1000 hrs
Voltage Applied	1.25 x $V_n$
<b>Performance</b>	
Capacitance Change $\Delta C/C$	$\leq \pm 5\%$
DF Change $\Delta \text{tg}\delta$	$\leq 30 \times 10^{-4}$ at 10 kHz for $C \leq 1.0 \mu\text{F}$ $\leq 20 \times 10^{-4}$ at 1 kHz for $C > 1.0 \mu\text{F}$
Insulation Resistance	$\geq 50\%$ of limit value

Soldering	
<b>Test Conditions</b>	
Soldering Temperature	260 °C $\pm 5$ °C
Soldering Duration	10 sec $\pm 1$ sec
<b>Performance</b>	
Capacitance Change $\Delta C/C$	$\leq \pm 2\%$
DF Change $\Delta \text{tg}\delta$	$\leq 30 \times 10^{-4}$ at 10 kHz for $C \leq 1.0 \mu\text{F}$ $\leq 20 \times 10^{-4}$ at 1 kHz for $C > 1.0 \mu\text{F}$

## Ratings

## RoHS Compliant

Cap ( $\mu\text{F}$ )	Catalog Part Number	Inches					Millimeters				
		L	T	H	S	$\varnothing d$	L	T	H	S	$\varnothing d$
<b>63 Vdc</b>											
.22	160224*63D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.27	160274*63D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.33	160334*63E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.39	160394*63E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.47	160474*63E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.56	160564*63D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.68	160684*63D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.68	160684*63G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.82	160824*63E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.82	160824*63H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
1.0	160105*63H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
1.5	160155*63G-F	0.709	0.236	0.492	0.591	0.031	18.0	6.0	12.5	15.0	0.8
2.2	160225*63H-F	0.709	0.295	0.551	0.591	0.031	18.0	7.5	14.0	15.0	0.8
3.3	160335*63M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
4.7	160475*63N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
6.8	160685*63O-F	1.043	0.394	0.748	0.886	0.031	26.5	10.0	19.0	22.5	0.8
10.0	160106*63P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8

\* Indicates capacitance tolerance: J =  $\pm 5\%$ , K =  $\pm 10\%$ , M =  $\pm 20\%$

# Type 160 Metallized Polyester Radial Lead Capacitors

**RoHS Compliant**

Cap ( $\mu$ F)	Catalog Part Number	Inches					Millimeters				
		L	T	H	S	$\varnothing$ d	L	T	H	S	$\varnothing$ d
<b>100 Vdc</b>											
.10	160104*100C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.12	160124*100C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.15	160154*100C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.18	160184*100C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.22	160224*100D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.27	160274*100D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.33	160334*100E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.33	160334*100F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.39	160394*100E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.39	160394*100F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.47	160474*100E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.47	160474*100F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.56	160564*100G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.68	160684*100G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.82	160824*100H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
1.0	160105*100H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
1.5	160155*100M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
2.2	160225*100N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
3.3	160335*100O-F	1.043	0.394	0.748	0.886	0.031	26.5	10.0	19.0	22.5	0.8
4.7	160475*100P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
6.8	160685*100Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
10.0	160106*100S-F	1.260	0.709	1.299	1.083	0.031	32.0	18.0	33.0	27.5	0.8
<b>160 Vdc</b>											
.10	160104*160C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
<b>250 Vdc</b>											
.033	160333*250C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.039	160393*250C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.047	160473*250C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.056	160563*250C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.068	160683*250C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.082	160823*250D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.10	160104*250D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.10	160104*250F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.12	160124*250D-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.12	160124*250F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.15	160154*250E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.15	160154*250F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.18	160184*250E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.18	160184*250F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.22	160224*250F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.27	160274*250G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.33	160334*250G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.39	160394*250H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
.47	160474*250H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
.47	160474*250L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.56	160564*250I-F	0.709	0.335	0.571	0.591	0.031	18.0	8.5	14.5	15.0	0.8
.56	160564*250M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.68	160684*250I-F	0.709	0.335	0.571	0.591	0.031	18.0	8.5	14.5	15.0	0.8
.68	160684*250M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.82	160824*250N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8

\* Indicates capacitance tolerance: J =  $\pm 5\%$ , K =  $\pm 10\%$ , M =  $\pm 20\%$

# Type 160 Metallized Polyester Radial Lead Capacitors

**RoHS Compliant**

Cap ( $\mu$ F)	Catalog Part Number	Inches					Millimeters				
		L	T	H	S	$\varnothing$ d	L	T	H	S	$\varnothing$ d
<b>250Vdc</b>											
1.0	160105*250N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
1.5	160155*250O-F	1.043	0.394	0.748	0.886	0.031	26.5	10.0	19.0	22.5	0.8
2.2	160225*250P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
3.3	160335*250Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
4.7	160475*250R-F	1.260	0.591	1.181	1.083	0.031	32.0	15.0	30.0	27.5	0.8
6.8	160685*250S-F	1.260	0.709	1.299	1.083	0.031	32.0	18.0	33.0	27.5	0.8
<b>400Vdc</b>											
.012	160123*400C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.015	160153*400C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.018	160183*400C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.022	160223*400C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.027	160273*400C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.033	160333*400D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.039	160393*400D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.047	160473*400E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.047	160473*400F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.056	160563*400F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.068	160683*400F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.082	160823*400F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.10	160104*400G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.12	160124*400G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.15	160154*400H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
.15	160154*400L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.18	160184*400L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.22	160224*400L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.27	160274*400M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.33	160334*400M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.39	160394*400N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.47	160474*400N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.56	160564*400O-F	1.043	0.394	0.748	0.886	0.031	26.5	10.0	19.0	22.5	0.8
.68	160684*400P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
.82	160824*400P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
1.0	160105*400P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
1.0	160105*400Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
<b>630Vdc</b>											
.0039	160392*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0047	160472*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0056	160562*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0068	160682*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0082	160822*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.010	160103*630C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.012	160123*630D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.015	160153*630D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.018	160183*630D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.022	160223*630E-F	0.512	0.236	0.472	0.394	0.031	13.0	6.0	12.0	10.0	0.8
.027	160273*630F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.033	160333*630F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.039	160393*630G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.047	160473*630G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.056	160563*630G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8

\* Indicates capacitance tolerance: J =  $\pm 5\%$ , K =  $\pm 10\%$ , M =  $\pm 20\%$

# Type 160 Metallized Polyester Radial Lead Capacitors

**RoHS Compliant**

Cap ( $\mu$ F)	Catalog Part Number	Inches					Millimeters				
		L	T	H	S	$\emptyset$ d	L	T	H	S	$\emptyset$ d
<b>630 Vdc</b>											
.068	160683*630H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
.068	160683*630L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.082	160823*630L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.10	160104*630L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.12	160124*630M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.15	160154*630M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.18	160184*630N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.22	160224*630N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.27	160274*630Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
.33	160334*630P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
.39	160394*630P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
.47	160474*630Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
<b>1000 Vdc</b>											
.0022	160222*1000C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0027	160272*1000C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0033	160332*1000C-F	0.512	0.157	0.374	0.394	0.031	13.0	4.0	9.5	10.0	0.8
.0039	160392*1000D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.0047	160472*1000D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.0056	160562*1000D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.0068	160682*1000D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.0082	160822*1000D-F	0.512	0.197	0.433	0.394	0.031	13.0	5.0	11.0	10.0	0.8
.010	160103*1000F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.012	160123*1000F-F	0.709	0.197	0.433	0.591	0.031	18.0	5.0	11.0	15.0	0.8
.015	160153*1000F-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.018	160183*1000G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.022	160223*1000G-F	0.709	0.236	0.472	0.591	0.031	18.0	6.0	12.0	15.0	0.8
.027	160273*1000H-F	0.709	0.295	0.531	0.591	0.031	18.0	7.5	13.5	15.0	0.8
.033	160333*1000L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.039	160393*1000L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.047	160473*1000L-F	1.043	0.236	0.591	0.886	0.031	26.5	6.0	15.0	22.5	0.8
.056	160563*1000M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.068	160683*1000M-F	1.043	0.276	0.650	0.886	0.031	26.5	7.0	16.5	22.5	0.8
.082	160823*1000N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.10	160104*1000N-F	1.043	0.335	0.669	0.886	0.031	26.5	8.5	17.0	22.5	0.8
.12	160124*1000O-F	1.043	0.394	0.748	0.886	0.031	26.5	10.0	19.0	22.5	0.8
.15	160154*1000P-F	1.260	0.433	0.787	1.083	0.031	32.0	11.0	20.0	27.5	0.8
.18	160184*1000Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8
.22	160224*1000Q-F	1.260	0.512	0.886	1.083	0.031	32.0	13.0	22.5	27.5	0.8

\* Indicates capacitance tolerance: J =  $\pm$ 5%, K =  $\pm$ 10%, M =  $\pm$ 20%

## Part Numbering System

<b>160</b>	<b>104</b>	<b>K</b>	<b>100</b>	<b>C</b>	<b>-F</b>
<b>Series</b>	<b>Capacitance</b>	<b>Tolerance</b>	<b>Voltage</b>	<b>Case Code</b>	<b>ROHS Compliant</b>
160	392 = .0039 $\mu$ F	J = $\pm$ 5%	100 = 100 Vdc	C	
	103 = .01 $\mu$ F	K = $\pm$ 10%	250 = 250 Vdc	D	
	104 = .1 $\mu$ F	M = $\pm$ 20%	630 = 630 Vdc	E	
	105 = 1.0 $\mu$ F		1000 = 1000 Vdc	F	
				etc.	

## Type 160 Metallized Polyester Radial Lead Capacitors

---

**Notice and Disclaimer:** All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View 160223J630E-F on WIN SOURCE](#)

 [Manufacturer Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management