

# Type 150 Axial Leaded Metallized Polyester

## Flame Retardant Wrap and Fill Axial Leaded Capacitors

The Type 150 series axial lead metallized polyester non inductive capacitors are available in bulk or on tape and reel for automatic insertion. Type 150 is a general purpose capacitor for use in blocking, bypass, decoupling, smoothing and some timing applications.



### Highlights

- Available on tape and reel or bulk
- Epoxy end fill meets UL94V-0
- Non inductively wound
- Flame retardant outer wrap meets UL510
- Non polar

### Specifications

### RoHS Compliant

**Capacitance Range:** 0.001  $\mu\text{F}$  to 10.0  $\mu\text{F}$

**Voltage Range:** 63 to 1000 Vdc (40 to 250 Vac @ 60 Hz)

**Capacitance Tolerance:**  $\pm 5\%$ ,  $\pm 10\%$ ,  $\pm 20\%$

**Operating Temperature Range:**  $-55\text{ }^\circ\text{C}$  to  $+125\text{ }^\circ\text{C}$  (derate linearly to 50% rated voltage at  $125\text{ }^\circ\text{C}$ )

**Dielectric Withstand Voltage:** 1.6 x rated voltage for 2 s @  $+25\text{ }^\circ\text{C} \pm 5\text{ }^\circ\text{C}$

**Dissipation Factor (DF):**  $\text{tg}\delta \times 10^{-4}$  at  $+25\text{ }^\circ\text{C} \pm 5\text{ }^\circ\text{C}$

kHz	C $\leq 0.1\ \mu\text{F}$	0.1 $\mu\text{F}$ < C $\leq 1\ \mu\text{F}$	C > 1 $\mu\text{F}$
1	80	80	100
10	150	150	—
100	250	—	—

**Insulation Resistance:** 10,000  $\text{M}\Omega \times \mu\text{F}$ , 30,000  $\text{M}\Omega$  Min.

**Self Inductance:** 1 nH max. per 1 mm lead and body length

**Life Test:** 1000 hrs @  $85\text{ }^\circ\text{C}$  1.25 x Vn

**Damp Heat Test:** 95% RH @  $+45\text{ }^\circ\text{C}$  for 21 days

**Soldering:**  $260\text{ }^\circ\text{C} \pm 5\text{ }^\circ\text{C}$  for 10 s  $\pm 1$  s

**Long Term Storage Stability:**  $\Delta\text{C}/\text{C} \leq \pm 3\%$  after 2 years

**Maximum Pulse Rise Time dv/dt and Pulse Characteristic (Wo):**

V/n	L Max				dV/dt (V/ $\mu\text{sec}$ ) Wo (V <sup>2</sup> / $\mu\text{sec}$ )
	16.5	19 - 20.5	26.5 - 5.28	31.5 - 33	
50 - 63	4	2	1.5	1	
	504	252	189	126	
100	5	3	2	1	
	1,000	600	400	300	
250	10	7	4	2.5	
	5,000	3,500	2,000	1,250	
400	13.5	10	6.5	4	
	10,800	8,000	5,200	3,200	
630	20	15	10	6	
	25,200	18,900	12,600	7,500	

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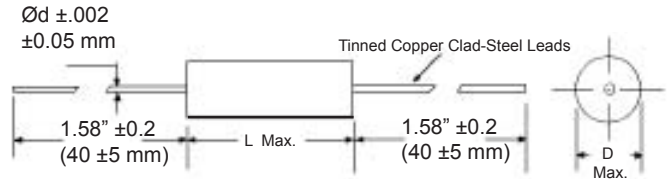
## Tape and Reel Specifications

## Outline Drawing

L Max (Body Length)		Lead Spacing		Distance Between Reel Flanges		Class
Inches	mm	Inches	mm	Inches	mm	
≤.433	≤11	2.06	52.4	3	75	1
.551 - .808	14 - 20.5	2.5	63.6	3.4	86	2
≥1.03	≥26	2.87	73	3.7	95	3

^Add class number (1, 2, or 3) to catalog number to indicate tape and reel

Diameter		Quantity per Reel
Inches	mm	
0.197	5	3,000
.236 thru .256	6.0 thru 6.5	1,200
0.276	7	1,100
.315 thru .346	8 thru 8.5	800
.354 thru .413	9 thru 10.5	500
.433 thru .512	11 thru 13	300
.551 thru .571	14 thru 14.5	200
>.571	>14.5	Not available



## Ratings

## RoHS Compliant

Catalog Part Number	Cap (µF)	Inches Max			Millimeters Max		
		D	L	Ød	D	L	Ød
<b>63 Vdc/40 Vac</b>							
150154*63AA^	0.1500	0.197	0.433	0.024	5.0	11.0	0.6
150184*63AA^	0.1800	0.197	0.433	0.024	5.0	11.0	0.6
150224*63BB^	0.2200	0.236	0.650	0.024	6.0	16.5	0.6
150274*63BB^	0.2700	0.236	0.650	0.024	6.0	16.5	0.6
150334*63BB^	0.3300	0.236	0.650	0.024	6.0	16.5	0.6
150394*63CB^	0.3900	0.256	0.650	0.024	6.5	16.5	0.6
150474*63DB^	0.4700	0.276	0.650	0.024	7.0	16.5	0.6
150564*63DB^	0.5600	0.276	0.650	0.024	7.0	16.5	0.6
150684*63DC^	0.6800	0.276	0.807	0.024	7.0	20.5	0.6
150824*63EC^	0.8200	0.315	0.807	0.031	8.0	20.5	0.8
150105*63EC^	1.0000	0.315	0.807	0.031	8.0	20.5	0.8
150155*63HC^	1.5000	0.374	0.807	0.031	9.5	20.5	0.8
150225*63HE^	2.2000	0.374	1.102	0.031	9.5	28.0	0.8
150335*63KE^	3.3000	0.433	1.102	0.031	11.0	28.0	0.8
150475*63ME^	4.7000	0.492	1.102	0.031	12.5	28.0	0.8
150685*63QF^	6.8000	0.571	1.299	0.031	14.5	33.0	0.8
150106*63TF^	10.0000	0.610	1.299	0.031	15.5	33.0	0.8
<b>100 Vdc/63 Vac</b>							
150683*100AA^	0.0680	0.197	0.433	0.024	5.0	11.0	0.6
150823*100AA^	0.0820	0.197	0.433	0.024	5.0	11.0	0.6
150104*100AA^	0.1000	0.197	0.433	0.024	5.0	11.0	0.6
150124*100BB^	0.1200	0.236	0.650	0.024	6.0	16.5	0.6
150154*100BB^	0.1500	0.236	0.650	0.024	6.0	16.5	0.6
150184*100CB^	0.1800	0.256	0.650	0.024	6.5	16.5	0.6
150224*100CB^	0.2200	0.256	0.650	0.024	6.5	16.5	0.6
150274*100CB^	0.2700	0.256	0.650	0.024	6.5	16.5	0.6
150334*100EB^	0.3300	0.315	0.650	0.031	8.0	16.5	0.8
150394*100EB^	0.3900	0.315	0.650	0.031	8.0	16.5	0.8
150474*100DC^	0.4700	0.276	0.807	0.031	7.0	20.5	0.8
150564*100EC^	0.5600	0.315	0.807	0.031	8.0	20.5	0.8
150684*100FC^	0.6800	0.335	0.807	0.031	8.5	20.5	0.8
150824*100HC^	0.8200	0.374	0.807	0.031	9.5	20.5	0.8
150105*100IC^	1.0000	0.394	0.807	0.031	10.0	20.5	0.8

Catalog Part Number	Cap (µF)	Inches Max			Millimeters Max		
		D	L	Ød	D	L	Ød
<b>100 Vdc/63 Vac</b>							
150155*100IE^	1.5000	0.394	1.102	0.031	10.0	28.0	0.8
150225*100LE^	2.2000	0.453	1.102	0.031	11.5	28.0	0.8
150335*100PE^	3.3000	0.531	1.102	0.031	13.5	28.0	0.8
150475*100RF^	4.7000	0.591	1.299	0.031	15.0	33.0	0.8
150685*100WF^	6.8000	0.689	1.299	0.031	17.5	33.0	0.8
150106*100YF^	10.0000	0.807	1.299	0.031	20.5	33.0	0.8
<b>250 Vdc/160 Vac</b>							
150123*250AA^	0.0120	0.197	0.433	0.024	5.0	11.0	0.6
150153*250AA^	0.0150	0.197	0.433	0.024	5.0	11.0	0.6
150183*250AA^	0.0180	0.197	0.433	0.024	5.0	11.0	0.6
150223*250AA^	0.0220	0.197	0.433	0.024	5.0	11.0	0.6
150273*250AA^	0.0270	0.197	0.433	0.024	5.0	11.0	0.6
150333*250AA^	0.0330	0.197	0.433	0.024	5.0	11.0	0.6
150393*250AA^	0.0390	0.197	0.433	0.024	5.0	11.0	0.6
150473*250AA^	0.0470	0.197	0.433	0.024	5.0	11.0	0.6
150563*250AA^	0.0560	0.197	0.433	0.024	5.0	11.0	0.6
150683*250BB^	0.0680	0.236	0.650	0.024	6.0	16.5	0.6
150823*250BB^	0.0820	0.236	0.650	0.024	6.0	16.5	0.6
150104*250CB^	0.1000	0.256	0.650	0.024	6.5	16.5	0.6
150124*250DB^	0.1200	0.276	0.650	0.024	7.0	16.5	0.6
150154*250EB^	0.1500	0.315	0.650	0.031	8.0	16.5	0.8
150184*250EB^	0.1800	0.315	0.650	0.031	8.0	16.5	0.8
150224*250FB^	0.2200	0.335	0.650	0.031	8.5	16.5	0.8
150274*250EC^	0.2700	0.315	0.807	0.031	8.0	20.5	0.8
150334*250FC^	0.3300	0.335	0.807	0.031	8.5	20.5	0.8
150394*250GC^	0.3900	0.354	0.807	0.031	9.0	20.5	0.8
150474*250HC^	0.4700	0.374	0.807	0.031	9.5	20.5	0.8

\*Indicates capacitance tolerance

J = ±5%

K = ±10%

M = ±20%

^If ordering Tape and Reel, insert 1, 2 or 3

See Tape & Reel Specification to determine which class applies

# Type 150 Axial Leaded Metallized Polyester

RoHS Compliant

Catalog Part Number	Cap (μF)	Inches Max			Millimeters Max		
		D	L	Ød	D	L	Ød
<b>250 Vdc/160 Vac</b>							
150564*250IC <sup>^</sup>	0.5600	0.394	0.807	0.031	10.0	20.5	0.8
150684*250GE <sup>^</sup>	0.6800	0.354	1.102	0.031	9.0	28.0	0.8
150824*250HE <sup>^</sup>	0.8200	0.374	1.102	0.031	9.5	28.0	0.8
150105*250JE <sup>^</sup>	1.0000	0.413	1.102	0.031	10.5	28.0	0.8
150155*250ME <sup>^</sup>	1.5000	0.492	1.102	0.031	12.5	28.0	0.8
150225*250PF <sup>^</sup>	2.2000	0.531	1.299	0.031	13.5	33.0	0.8
150335*250TF <sup>^</sup>	3.3000	0.610	1.299	0.031	15.5	33.0	0.8
150475*250XF <sup>^</sup>	4.7000	0.728	1.299	0.031	18.5	33.0	0.8
150685*250ZF <sup>^</sup>	6.8000	0.845	1.299	0.031	21.5	33.0	0.8
<b>400 Vdc/200 Vac</b>							
150822*400AA <sup>^</sup>	0.0082	0.197	0.433	0.024	5.0	11.0	0.6
150103*400AA <sup>^</sup>	0.0100	0.197	0.433	0.024	5.0	11.0	0.6
150123*400AA <sup>^</sup>	0.0120	0.197	0.433	0.024	5.0	11.0	0.6
150153*400BB <sup>^</sup>	0.0150	0.236	0.650	0.024	6.0	16.5	0.6
150183*400BB <sup>^</sup>	0.0180	0.236	0.650	0.024	6.0	16.5	0.6
150223*400BB <sup>^</sup>	0.0220	0.236	0.650	0.024	6.0	16.5	0.6
150273*400BB <sup>^</sup>	0.0270	0.236	0.650	0.024	6.0	16.5	0.6
150333*400BB <sup>^</sup>	0.0330	0.236	0.650	0.024	6.0	16.5	0.6
150393*400CB <sup>^</sup>	0.0390	0.256	0.650	0.024	6.5	16.5	0.6
150473*400DB <sup>^</sup>	0.0470	0.276	0.650	0.024	7.0	16.5	0.6
150563*400EB <sup>^</sup>	0.0560	0.315	0.650	0.024	8.0	16.5	0.6
150683*400DC <sup>^</sup>	0.0680	0.276	0.807	0.024	7.0	20.5	0.6
150823*400EC <sup>^</sup>	0.0820	0.315	0.807	0.031	8.0	20.5	0.8
150104*400EC <sup>^</sup>	0.1000	0.315	0.807	0.031	8.0	20.5	0.8
150124*400EC <sup>^</sup>	0.1200	0.315	0.807	0.031	8.0	20.5	0.8
150154*400GC <sup>^</sup>	0.1500	0.354	0.807	0.031	9.0	20.5	0.8
150184*400EE <sup>^</sup>	0.1800	0.315	1.102	0.031	8.0	28.0	0.8
150224*400FE <sup>^</sup>	0.2200	0.335	1.102	0.031	8.5	28.0	0.8
150274*400GE <sup>^</sup>	0.2700	0.354	1.102	0.031	9.0	28.0	0.8
150334*400IE <sup>^</sup>	0.3300	0.394	1.102	0.031	10.0	28.0	0.8
150394*400JE <sup>^</sup>	0.3900	0.413	1.102	0.031	10.5	28.0	0.8
150474*400LF <sup>^</sup>	0.4700	0.453	1.299	0.031	11.5	33.0	0.8
150564*400LF <sup>^</sup>	0.5600	0.453	1.299	0.031	11.5	33.0	0.8
150684*400MF <sup>^</sup>	0.6800	0.492	1.299	0.031	12.5	33.0	0.8
150824*400PF <sup>^</sup>	0.8200	0.531	1.299	0.031	13.5	33.0	0.8
150105*400QF <sup>^</sup>	1.0000	0.571	1.299	0.031	14.5	33.0	0.8
150155*400WF <sup>^</sup>	1.5000	0.689	1.299	0.031	17.5	33.0	0.8
150225*400YF <sup>^</sup>	2.2000	0.807	1.299	0.031	20.5	33.0	0.8
<b>630 Vdc/220 Vac</b>							
150102*630AA <sup>^</sup>	0.0010	0.197	0.433	0.024	5.0	11.0	0.6
150122*630AA <sup>^</sup>	0.0012	0.197	0.433	0.024	5.0	11.0	0.6
150152*630AA <sup>^</sup>	0.0015	0.197	0.433	0.024	5.0	11.0	0.6
150182*630AA <sup>^</sup>	0.0018	0.197	0.433	0.024	5.0	11.0	0.6
150222*630AA <sup>^</sup>	0.0022	0.197	0.433	0.024	5.0	11.0	0.6
150272*630AA <sup>^</sup>	0.0027	0.197	0.433	0.024	5.0	11.0	0.6
150332*630AA <sup>^</sup>	0.0033	0.197	0.433	0.024	5.0	11.0	0.6
150392*630AA <sup>^</sup>	0.0039	0.197	0.433	0.024	5.0	11.0	0.6
150472*630AA <sup>^</sup>	0.0047	0.197	0.433	0.024	5.0	11.0	0.6
150562*630AA <sup>^</sup>	0.0056	0.197	0.433	0.024	5.0	11.0	0.6

Catalog Part Number	Cap (μF)	Inches Max			Millimeters Max		
		D	L	Ød	D	L	Ød
<b>630 Vdc/220 Vac</b>							
150682*630AA <sup>^</sup>	0.0068	0.197	0.433	0.024	5.0	11.0	0.6
150822*630BB <sup>^</sup>	0.0082	0.236	0.650	0.024	6.0	16.5	0.6
150103*630BB <sup>^</sup>	0.0100	0.236	0.650	0.024	6.0	16.5	0.6
150123*630BB <sup>^</sup>	0.0120	0.236	0.650	0.024	6.0	16.5	0.6
150153*630BB <sup>^</sup>	0.0150	0.236	0.650	0.024	6.0	16.5	0.6
150183*630CB <sup>^</sup>	0.0180	0.256	0.650	0.024	6.5	16.5	0.6
150223*630DB <sup>^</sup>	0.0220	0.276	0.650	0.024	7.0	16.5	0.6
150273*630CC <sup>^</sup>	0.0270	0.256	0.807	0.024	6.5	20.5	0.6
150333*630EC <sup>^</sup>	0.0330	0.315	0.807	0.031	8.0	20.5	0.8
150393*630EC <sup>^</sup>	0.0390	0.315	0.807	0.031	8.0	20.5	0.8
150473*630EC <sup>^</sup>	0.0470	0.315	0.807	0.031	8.0	20.5	0.8
150563*630FC <sup>^</sup>	0.0560	0.335	0.807	0.031	8.5	20.5	0.8
150683*630GC <sup>^</sup>	0.0680	0.354	0.807	0.031	9.0	20.5	0.8
150823*630HC <sup>^</sup>	0.0820	0.374	0.807	0.031	9.5	20.5	0.8
150104*630FE <sup>^</sup>	0.1000	0.335	1.102	0.031	8.5	28.0	0.8
150124*630GE <sup>^</sup>	0.1200	0.354	1.102	0.031	9.0	28.0	0.8
150154*630IE <sup>^</sup>	0.1500	0.394	1.102	0.031	10.0	28.0	0.8
150184*630JE <sup>^</sup>	0.1800	0.413	1.102	0.031	10.5	28.0	0.8
150224*630LE <sup>^</sup>	0.2200	0.453	1.102	0.031	11.5	28.0	0.8
150274*630ME <sup>^</sup>	0.2700	0.492	1.102	0.031	12.5	28.0	0.8
150334*630NF <sup>^</sup>	0.3300	0.512	1.299	0.031	13.0	33.0	0.8
150394*630QF <sup>^</sup>	0.3900	0.571	1.299	0.031	14.5	33.0	0.8
150474*630RF <sup>^</sup>	0.4700	0.591	1.299	0.031	15.0	33.0	0.8
150564*630TF <sup>^</sup>	0.5600	0.610	1.299	0.031	15.5	33.0	0.8
150684*630WF <sup>^</sup>	0.6800	0.689	1.299	0.031	17.5	33.0	0.8
150824*630XF <sup>^</sup>	0.8200	0.728	1.299	0.031	18.5	33.0	0.8
150105*630YF <sup>^</sup>	1.0000	0.807	1.299	0.031	20.5	33.0	0.8
<b>1000 Vdc/250 Vac</b>							
150102*1000CB <sup>^</sup>	0.0010	0.256	0.650	0.031	6.5	16.5	0.8
150152*1000CB <sup>^</sup>	0.0015	0.256	0.650	0.031	6.5	16.5	0.8
150222*1000CB <sup>^</sup>	0.0022	0.256	0.650	0.031	6.5	16.5	0.8
150332*1000CB <sup>^</sup>	0.0033	0.256	0.650	0.031	6.5	16.5	0.8
150472*1000DB <sup>^</sup>	0.0047	0.276	0.650	0.031	7.0	16.5	0.8
150682*1000EB <sup>^</sup>	0.0068	0.315	0.650	0.031	8.0	16.5	0.8
150103*1000DC <sup>^</sup>	0.0100	0.276	0.807	0.031	7.0	20.5	0.8
150153*1000FC <sup>^</sup>	0.0150	0.335	0.807	0.031	8.5	20.5	0.8
150223*1000HC <sup>^</sup>	0.0220	0.374	0.807	0.031	9.5	20.5	0.8
150333*1000FE <sup>^</sup>	0.0330	0.335	1.102	0.031	8.5	28	0.8
150473*1000HE <sup>^</sup>	0.0470	0.374	1.102	0.031	9.5	28	0.8
150683*1000KE <sup>^</sup>	0.0680	0.433	1.102	0.031	11.0	28	0.8
150104*1000NE <sup>^</sup>	0.1000	0.512	1.102	0.031	13.0	28	0.8
150154*1000OF <sup>^</sup>	0.1500	0.551	1.299	0.031	14.0	33	0.8
150224*1000WF <sup>^</sup>	0.2200	0.689	1.299	0.031	17.5	33	0.8
150334*1000YF <sup>^</sup>	0.3300	0.807	1.299	0.031	20.5	33	0.8
150474*1000ZF <sup>^</sup>	0.4700	0.945	1.299	0.031	24.0	33	0.8

\*Indicates capacitance tolerance

J = ±5%

K = ±10%

M = ±20%

<sup>^</sup>If ordering Tape and Reel, insert 1, 2 or 3  
See Tape & Reel Specification to determine  
which class applies