



# AC & PULSE METALLISED POLYPROPYLENE FILM CAPACITORS (DIP/BOX TYPE - MPP/MPP SERIES - AC APPLICATIONS)

**MAIN APPLICATION:** SMPS, motor control circuits, deflection circuit in TV sets (fly back) and monitors, electronic ballast, snubber and SCR commutating circuits and applications with high voltage and high current.

**CONSTRUCTION (DIP/BOX TYPE):** Series constructed, low inductive wound cell of metallised polypropylene film as electrodes coated with flame retardant epoxy resin (or, encased in flame retardant box).

**CLIMATIC CATEGORY:** 40/100/56

**APPLICABLE SPECIFICATION:** IEC 384-17

**CAPACITANCE VALUE, RATED VOLTAGE (AC/DC):** Refer dimension chart.

**CAPACITANCE TOLERANCE:**  $\pm 5\%$ ,  $\pm 10\%$

**RATED TEMP. (AC), MAX. APPLICATION TEMP:** 85°C, 100°C

**VOLTAGE PROOF**

Between terminals: 1.6 times of rated voltage for 2 seconds.

**INSULATION RESISTANCE**

Between leads for  $C_R \leq 0.33\mu f$   $\geq 100,000 M\Omega$

Between connected terminals and case  $>100,000M\Omega$

**TAN  $\delta$  (Dip type)**

Frequency (kHz)	$C_R < 0.1\mu f$	$0.1\mu f < C_R \leq 1\mu f$
At 1	0.04%	0.05%
At 10	0.06%	0.08%
At 100	0.25%	

**TAN  $\delta$  (Box type)**

Frequency (kHz)	$C_R < 0.1\mu f$	$0.1\mu f < C_R \leq 1\mu f$
At 1	0.04%	0.05%
At 10	0.06%	0.08%
At 100	0.25%	

**LIFE TEST CONDITIONS**

Loaded at 1.25 times of rated AC voltage at 85° C for 1000 hours.

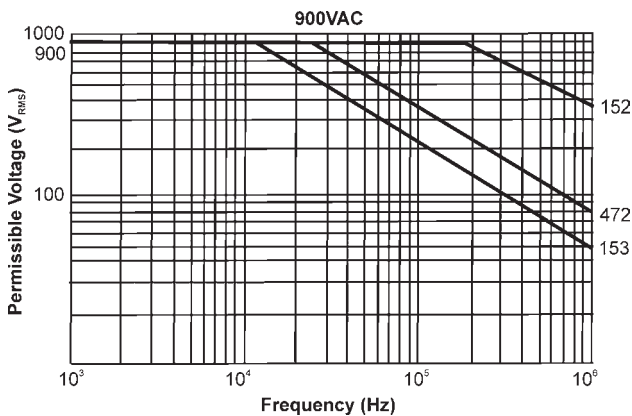
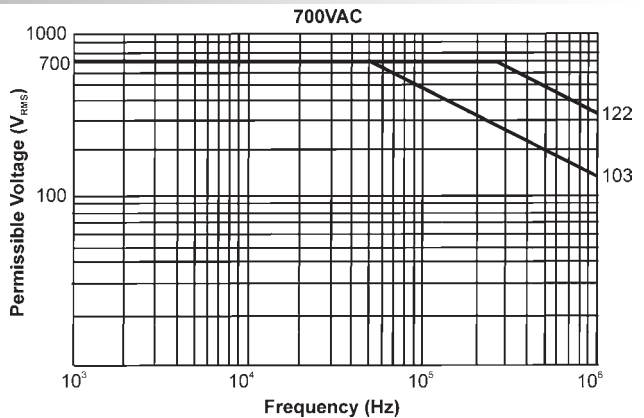
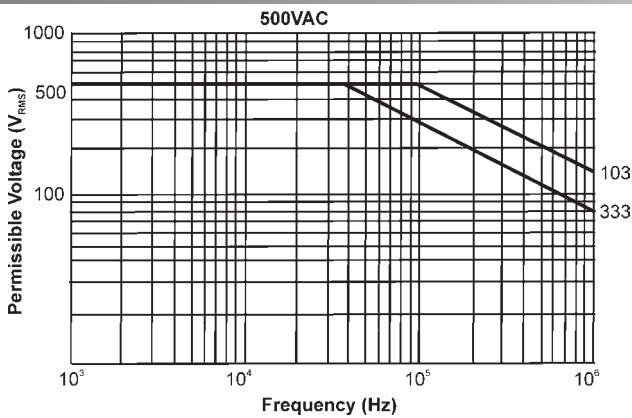
**AFTER THE TEST**

$\Delta c/c$ :  $\leq 3\%$  of initial value.

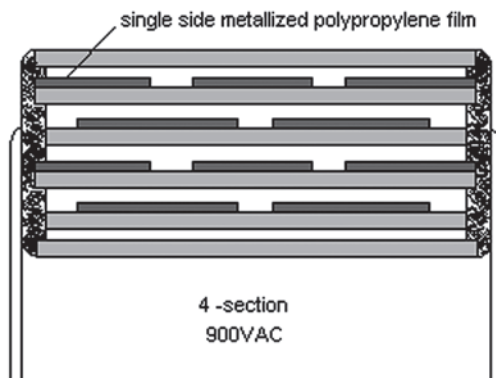
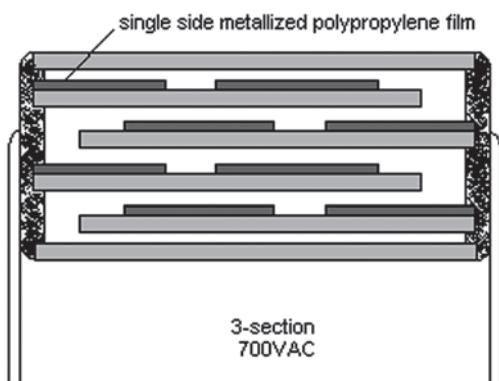
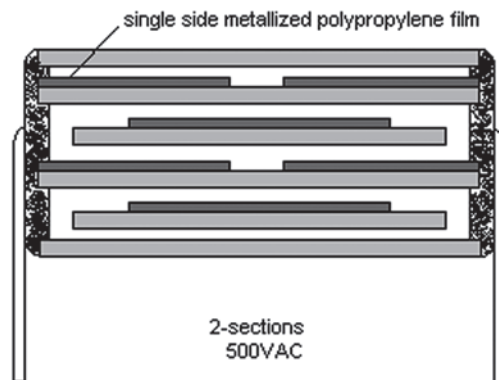
Increase of Tan  $\delta$ :  $\leq 0.001$ .

Insulation resistance:  $\geq 50\%$  of the value mentioned in IR chart.

Permissible AC Voltage  $V_{RMS}$  vs. Frequency F at Ambient Temperature 25° C



**Construction**



Ordering Code and Packing Units: AC & Pulse Metallised Polypropylene Film Capacitors (MPP/MPP Series) - AC Applications

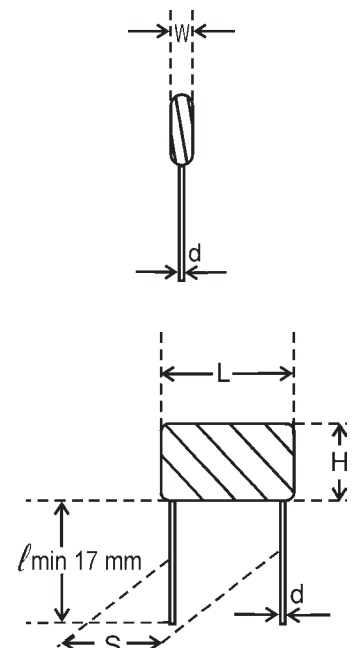
Rated Voltage	Rated Cap. (µf)	Maximum Dimensions (mm)						Dv/Dt V/µs	Wt g	Ordering code	Packing units	
		W	H	L	d ±0.05	S ±0.5	F ±0.8/-0.2				Ammo	Bulk
500V AC	0.001	4.5	9.5	14	0.6	10.0	10.0	4000	0.5	62 102 +07 <sup>AA</sup>	1100	2000
1600V DC	0.0012	4.5	9.5	14	0.6	10.0	10.0	4000	0.6	62 122 +07 <sup>AA</sup>	1100	2000
	0.0015	4.5	9.5	14	0.6	10.0	10.0	4000	0.6	62 152 +07 <sup>AA</sup>	1100	2000
	0.0018	4.5	9.5	14	0.6	10.0	10.0	4000	0.6	62 182 +07 <sup>AA</sup>	1100	2000
	0.0022	5.5	11.5	14	0.6	10.0	10.0	4000	0.6	62 222 +07 <sup>AA</sup>	1100	2000
	0.0027	5.5	11.5	14	0.6	10.0	10.0	4000	0.9	62 272 +07 <sup>AA</sup>	1100	2000
	0.0033	6.5	12.5	14	0.6	10.0	10.0	4000	0.9	62 332 +07 <sup>AA</sup>	1100	2000
	0.0039	6.5	12.5	14	0.6	10.0	10.0	4000	0.9	62 392 +07 <sup>AA</sup>	1100	2000
	0.0047	6.5	12.5	14	0.6	10.0	10.0	4000	0.9	62 472 +07 <sup>AA</sup>	1100	2000
	0.0015	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 152 +07 <sup>AA</sup>	1000	1000
	0.0018	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 182 +07 <sup>AA</sup>	1000	1000
	0.0022	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 222 +07 <sup>AA</sup>	1000	1000
	0.0027	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 272 +07 <sup>AA</sup>	1000	1000
	0.0033	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 332 +07 <sup>AA</sup>	1000	1000
	0.0039	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 392 +07 <sup>AA</sup>	1000	1000
	0.0047	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 472 +07 <sup>AA</sup>	1000	1000
	0.0056	5.5	11.5	19	0.8	15.0	15.0	2500	1.1	62 562 +07 <sup>AA</sup>	1000	1000
	0.0068	6.5	12.5	19	0.8	15.0	15.0	2500	1.5	62 682 +07 <sup>AA</sup>	1000	1000
	0.0082	6.5	12.5	19	0.8	15.0	15.0	2500	1.5	62 822 +07 <sup>AA</sup>	1000	1000
	0.01	6.5	12.5	19	0.8	15.0	15.0	2500	1.5	62 103 +07 <sup>AA</sup>	1000	1000
	0.012	8.0	14.0	19	0.8	15.0	15.0	2500	2.0	62 123 +07 <sup>AA</sup>	1000	900
	0.015	8.0	14.0	19	0.8	15.0	15.0	2500	2.0	62 153 +07 <sup>AA</sup>	1000	1000
	0.018	9.0	15.0	19	0.8	15.0	15.0	2500	2.6	62 183 +07 <sup>AA</sup>	1000	1000
	0.022	10.5	16.5	19	0.8	15.0	15.0	2500	2.8	62 223 +07 <sup>AA</sup>	1000	1000
	0.027	10.5	16.5	19	0.8	15.0	15.0	2500	2.8	62 273 +07 <sup>AA</sup>	1000	1000
	0.018	6.5	15.5	27	0.8	22.5	22.5	1200	2.8	62 183 +07 <sup>AA</sup>	-	400
	0.022	6.5	15.5	27	0.8	22.5	22.5	1200	2.8	62 223 +07 <sup>AA</sup>	-	400
	0.027	7.5	16.5	27	0.8	22.5	22.5	1200	3.5	62 273 +07 <sup>AA</sup>	-	400
	0.033	7.5	16.5	27	0.8	22.5	22.5	1200	3.5	62 333 +07 <sup>AA</sup>	-	400
	0.039	9.0	17.5	27	0.8	22.5	22.5	1200	4.5	62 393 +07 <sup>AA</sup>	-	400
	0.047	10.5	19.0	27	0.8	22.5	22.5	1200	5.4	62 473 +07 <sup>AA</sup>	-	400
	0.056	10.5	19.0	27	0.8	22.5	22.5	1200	5.4	62 563 +07 <sup>AA</sup>	-	400
700V AC	0.001	5.5	11.5	19	0.8	15.0	15.0	5000	0.9	62 102 +09 <sup>AA</sup>	1000	1000
2000V DC	0.0012	5.5	11.5	19	0.8	15.0	15.0	5000	0.9	62 122 +09 <sup>AA</sup>	1000	1000
	0.0015	5.5	11.5	19	0.8	15.0	15.0	5000	0.9	62 152 +09 <sup>AA</sup>	1000	1000
	0.0018	5.5	11.5	19	0.8	15.0	15.0	5000	0.9	62 182 +09 <sup>AA</sup>	1000	1000
	0.0022	5.5	11.5	19	0.8	15.0	15.0	5000	0.9	62 222 +09 <sup>AA</sup>	1000	1000
	0.0027	5.5	11.5	19	0.8	15.0	15.0	5000	1.1	62 272 +09 <sup>AA</sup>	1000	1000
	0.0033	5.5	11.5	19	0.8	15.0	15.0	5000	1.1	62 332 +09 <sup>AA</sup>	1000	1000
	0.0039	6.5	12.5	19	0.8	15.0	15.0	5000	1.5	62 392 +09 <sup>AA</sup>	1000	1000
	0.0047	6.5	12.5	19	0.8	15.0	15.0	5000	1.5	62 472 +09 <sup>AA</sup>	1000	1000
	0.0056	6.5	12.5	19	0.8	15.0	15.0	5000	1.5	62 562 +09 <sup>AA</sup>	1000	1000
	0.0068	8.0	14.0	19	0.8	15.0	15.0	5000	2.0	62 682 +09 <sup>AA</sup>	1000	1000
	0.0082	8.0	14.0	19	0.8	15.0	15.0	5000	2.0	62 822 +09 <sup>AA</sup>	1000	1000
	0.01	9.0	15.0	19	0.8	15.0	15.0	5000	2.6	62 103 +09 <sup>AA</sup>	1000	1000
	0.012	10.5	16.5	19	0.8	15.0	15.0	5000	2.8	62 123 +09 <sup>AA</sup>	1000	1000
	0.015	10.5	16.5	19	0.8	15.0	15.0	5000	2.8	62 153 +09 <sup>AA</sup>	1000	1000
	0.0082	6.5	15.5	27	0.8	22.5	22.5	3000	2.8	62 822 +09 <sup>AA</sup>	-	400
	0.01	6.5	15.5	27	0.8	22.5	22.5	3000	2.8	62 103 +09 <sup>AA</sup>	-	400
	0.012	6.5	15.5	27	0.8	22.5	22.5	3000	2.8	62 123 +09 <sup>AA</sup>	-	400
	0.015	6.5	15.5	27	0.8	22.5	22.5	3000	2.8	62 153 +09 <sup>AA</sup>	-	400
	0.018	7.5	16.5	27	0.8	22.5	22.5	3000	3.5	62 183 +09 <sup>AA</sup>	-	400
	0.022	9.0	17.5	27	0.8	22.5	22.5	3000	4.5	62 223 +09 <sup>AA</sup>	-	400
	0.027	9.0	17.5	27	0.8	22.5	22.5	3000	4.5	62 273 +09 <sup>AA</sup>	-	400
	0.033	10.5	19.0	27	0.8	22.5	22.5	3000	5.4	62 333 +09 <sup>AA</sup>	-	400
	0.039	10.5	19.0	27	0.8	22.5	22.5	3000	5.4	62 393 +09 <sup>AA</sup>	-	400
900V AC	0.001	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 102 +11 <sup>AA</sup>	-	400
2200V DC	0.0012	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 122 +11 <sup>AA</sup>	-	400
	0.0015	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 152 +11 <sup>AA</sup>	-	400
	0.0018	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 182 +11 <sup>AA</sup>	-	400
	0.0022	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 222 +11 <sup>AA</sup>	-	400
	0.0027	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 272 +11 <sup>AA</sup>	-	400
	0.0033	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 332 +11 <sup>AA</sup>	-	400
	0.0039	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 392 +11 <sup>AA</sup>	-	400
	0.0047	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 472 +11 <sup>AA</sup>	-	400
	0.0056	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 562 +11 <sup>AA</sup>	-	400
	0.0068	6.5	15.5	27	0.8	22.5	22.5	2500	2.8	62 682 +11 <sup>AA</sup>	-	400
	0.0082	7.5	16.5	27	0.8	22.5	22.5	2500	3.5	62 822 +11 <sup>AA</sup>	-	400
	0.01	7.5	16.5	27	0.8	22.5	22.5	2500	3.5	62 103 +11 <sup>AA</sup>	-	400
	0.012	9.0	17.5	27	0.8	22.5	22.5	2500	4.5	62 123 +11 <sup>AA</sup>	-	400
	0.015	10.5	19.0	27	0.8	22.5	22.5	2500	5.4	62 153 +11 <sup>AA</sup>	-	400
	0.018	10.5	19.0	27	0.8	22.5	22.5	2500	5.4	62 183 +11 <sup>AA</sup>	-	400

Dip type

NOTE

- Replace the + by the code letter for the required tolerance.  
F:±1%, G:±2%, H:±2.5%, J:±5%, K:±10%, M:±20%
- Replace \* by the code letter for packing type.  
1 : Bulk Packing  
2 : Bulk Packing (After forming & cutting)  
3 : Ammo Packing (F&T)  
4 : Bulk Packing (forming in original pitch)  
5 : Bulk Packing (formed & without cut)  
6 : Ammo Packing (Straight Lead)  
7 : Bulk Packing (Straight Lead cut)
- Replace ^ by the code letter indicated drawing reference.  
A : As per the catalogue  
B-Z : customer drawing reference
- These are the most popular values. Other values in the range are available on request.  
For dimensions, please refer to the closest higher value.

The dv/dt test is carried out for 2 times above value



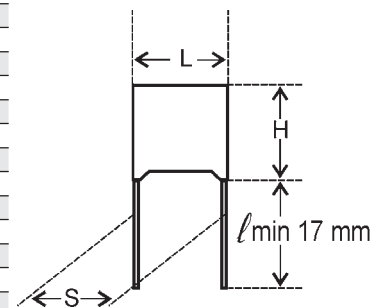
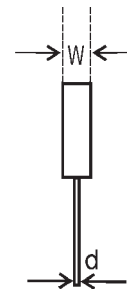
## Ordering Code and Packing Units: AC & Pulse Metallised Polypropylene Film Capacitors (MPP/MPP Series) - AC Applications

Rated Voltage	Rated Cap. (µf)	Dimensions (mm)						Dv/Dt V/µs	Wt g	Ordering code	Packing units	
		W ±0.2	H ±0.2	L ±0.2	d ±0.05	S ±0.5	F +0.8/-0.2				Ammo	Bulk
500V AC	0.001	4.0	9.0	13.0	0.6	10.0	10.0	4000	0.5	67 102 +07 <sup>RA</sup>	1100	500
1600V DC	0.0012	4.0	9.0	13.0	0.6	10.0	10.0	4000	0.6	67 122 +07 <sup>RA</sup>	1100	500
	0.0015	4.0	9.0	13.0	0.6	10.0	10.0	4000	0.6	67 152 +07 <sup>RA</sup>	1100	500
	0.0018	4.0	9.0	13.0	0.6	10.0	10.0	4000	0.6	67 182 +07 <sup>RA</sup>	1100	500
	0.0022	5.0	11.0	13.0	0.6	10.0	10.0	4000	0.6	67 222 +07 <sup>RA</sup>	1100	500
	0.0027	5.0	11.0	13.0	0.6	10.0	10.0	4000	0.9	67 272 +07 <sup>RA</sup>	1100	500
	0.0033	6.0	12.0	13.0	0.6	10.0	10.0	4000	0.9	67 332 +07 <sup>RA</sup>	1100	500
	0.0039	6.0	12.0	13.0	0.6	10.0	10.0	4000	0.9	67 392 +07 <sup>RA</sup>	1100	500
	0.0047	6.0	12.0	13.0	0.6	10.0	10.0	4000	0.9	67 472 +07 <sup>RA</sup>	1100	500
	0.0015	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 152 +07 <sup>RA</sup>	1000	500
	0.0018	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 182 +07 <sup>RA</sup>	1000	500
	0.0022	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 222 +07 <sup>RA</sup>	1000	500
	0.0027	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 272 +07 <sup>RA</sup>	1000	500
	0.0033	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 332 +07 <sup>RA</sup>	1000	500
	0.0039	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 392 +07 <sup>RA</sup>	1000	500
	0.0047	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 472 +07 <sup>RA</sup>	1000	500
	0.0056	5.0	10.8	18.0	0.8	15.0	15.0	2500	1.1	67 562 +07 <sup>RA</sup>	1000	500
	0.0068	6.0	11.9	18.0	0.8	15.0	15.0	2500	1.5	67 682 +07 <sup>RA</sup>	1000	500
	0.0082	6.0	11.9	18.0	0.8	15.0	15.0	2500	1.5	67 822 +07 <sup>RA</sup>	1000	500
	0.01	6.0	11.9	18.0	0.8	15.0	15.0	2500	1.5	67 103 +07 <sup>RA</sup>	1000	500
	0.012	7.5	13.5	18.0	0.8	15.0	15.0	2500	2.0	67 123 +07 <sup>RA</sup>	1000	500
	0.015	7.5	13.5	18.0	0.8	15.0	15.0	2500	2.0	67 153 +07 <sup>RA</sup>	1000	500
	0.018	8.5	14.5	18.0	0.8	15.0	15.0	2500	2.6	67 183 +07 <sup>RA</sup>	1000	500
	0.022	10.0	16.0	18.0	0.8	15.0	15.0	2500	2.8	67 223 +07 <sup>RA</sup>	1000	500
	0.027	10.0	16.0	18.0	0.8	15.0	15.0	2500	2.8	67 273 +07 <sup>RA</sup>	1000	500
	0.018	6.0	15.0	26.5	0.8	22.5	22.5	1200	2.8	67 183 +07 <sup>RA</sup>	-	400
	0.022	6.0	15.0	26.5	0.8	22.5	22.5	1200	2.8	67 223 +07 <sup>RA</sup>	-	400
	0.027	7.0	16.0	26.5	0.8	22.5	22.5	1200	3.5	67 273 +07 <sup>RA</sup>	-	400
	0.033	7.0	16.0	26.5	0.8	22.5	22.5	1200	3.5	67 333 +07 <sup>RA</sup>	-	400
	0.039	8.5	17.0	26.5	0.8	22.5	22.5	1200	4.5	67 393 +07 <sup>RA</sup>	-	400
	0.047	10.0	18.5	26.5	0.8	22.5	22.5	1200	5.4	67 473 +07 <sup>RA</sup>	-	400
	0.056	10.0	18.5	26.5	0.8	22.5	22.5	1200	5.4	67 563 +07 <sup>RA</sup>	-	400
700V AC	0.001	5.0	10.8	18.0	0.8	15.0	15.0	5000	0.9	67 102 +09 <sup>RA</sup>	1000	500
2000V DC	0.0012	5.0	10.8	18.0	0.8	15.0	15.0	5000	0.9	67 122 +09 <sup>RA</sup>	1000	500
	0.0015	5.0	10.8	18.0	0.8	15.0	15.0	5000	0.9	67 152 +09 <sup>RA</sup>	1000	500
	0.0018	5.0	10.8	18.0	0.8	15.0	15.0	5000	0.9	67 182 +09 <sup>RA</sup>	1000	500
	0.0022	5.0	10.8	18.0	0.8	15.0	15.0	5000	0.9	67 222 +09 <sup>RA</sup>	1000	500
	0.0027	5.0	10.8	18.0	0.8	15.0	15.0	5000	1.1	67 272 +09 <sup>RA</sup>	1000	500
	0.0033	5.0	10.8	18.0	0.8	15.0	15.0	5000	1.1	67 332 +09 <sup>RA</sup>	1000	500
	0.0039	6.0	11.9	18.0	0.8	15.0	15.0	5000	1.5	67 392 +09 <sup>RA</sup>	1000	500
	0.0047	6.0	11.9	18.0	0.8	15.0	15.0	5000	1.5	67 472 +09 <sup>RA</sup>	1000	500
	0.0056	6.0	11.9	18.0	0.8	15.0	15.0	5000	1.5	67 562 +09 <sup>RA</sup>	1000	500
	0.0068	7.5	13.5	18.0	0.8	15.0	15.0	5000	2.0	67 682 +09 <sup>RA</sup>	1000	500
	0.0082	7.5	13.5	18.0	0.8	15.0	15.0	5000	2.0	67 822 +09 <sup>RA</sup>	1000	500
	0.01	8.5	14.5	18.0	0.8	15.0	15.0	5000	2.6	67 103 +09 <sup>RA</sup>	1000	500
	0.012	10.0	16.0	18.0	0.8	15.0	15.0	5000	2.8	67 123 +09 <sup>RA</sup>	1000	500
	0.015	10.0	16.0	18.0	0.8	15.0	15.0	5000	2.8	67 153 +09 <sup>RA</sup>	1000	500
	0.0082	6.0	15.0	26.5	0.8	22.5	22.5	3000	2.8	67 822 +09 <sup>RA</sup>	-	400
	0.01	6.0	15.0	26.5	0.8	22.5	22.5	3000	2.8	67 103 +09 <sup>RA</sup>	-	400
	0.012	6.0	15.0	26.5	0.8	22.5	22.5	3000	2.8	67 123 +09 <sup>RA</sup>	-	400
	0.015	6.0	15.0	26.5	0.8	22.5	22.5	3000	2.8	67 153 +09 <sup>RA</sup>	-	400
	0.018	7.0	16.0	26.5	0.8	22.5	22.5	3000	3.5	67 183 +09 <sup>RA</sup>	-	400
	0.022	8.5	17.0	26.5	0.8	22.5	22.5	3000	4.5	67 223 +09 <sup>RA</sup>	-	400
	0.027	8.5	17.0	26.5	0.8	22.5	22.5	3000	4.5	67 273 +09 <sup>RA</sup>	-	400
	0.033	10.0	18.5	26.5	0.8	22.5	22.5	3000	5.4	67 333 +09 <sup>RA</sup>	-	400
	0.039	10.0	18.5	26.5	0.8	22.5	22.5	3000	5.4	67 393 +09 <sup>RA</sup>	-	400
900V AC	0.001	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 102 +11 <sup>RA</sup>	-	400
2200V DC	0.0012	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 122 +11 <sup>RA</sup>	-	400
	0.0015	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 152 +11 <sup>RA</sup>	-	400
	0.0018	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 182 +11 <sup>RA</sup>	-	400
	0.0022	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 222 +11 <sup>RA</sup>	-	400
	0.0027	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 272 +11 <sup>RA</sup>	-	400
	0.0033	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 332 +11 <sup>RA</sup>	-	400
	0.0039	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 392 +11 <sup>RA</sup>	-	400
	0.0047	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 472 +11 <sup>RA</sup>	-	400
	0.0056	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 562 +11 <sup>RA</sup>	-	400
	0.0068	6.0	15.0	26.5	0.8	22.5	22.5	2500	2.8	67 682 +11 <sup>RA</sup>	-	400
	0.0082	7.0	16.0	26.5	0.8	22.5	22.5	2500	3.5	67 822 +11 <sup>RA</sup>	-	400
	0.01	7.0	16.0	26.5	0.8	22.5	22.5	2500	3.5	67 103 +11 <sup>RA</sup>	-	400
	0.012	8.5	17.0	26.5	0.8	22.5	22.5	2500	4.5	67 123 +11 <sup>RA</sup>	-	400
	0.015	10.0	18.5	26.5	0.8	22.5	22.5	2500	5.4	67 153 +11 <sup>RA</sup>	-	400
	0.018	10.0	18.5	26.5	0.8	22.5	22.5	2500	5.4	67 183 +11 <sup>RA</sup>	-	400

### Box type

#### NOTE

- Replace the + by the code letter for the required tolerance.  
F:±1%, G:±2%, H:±2.5%, J:±5%, K:±10%, M:±20%
- Replace \* by the code letter for packing type.  
1 : Bulk Packing  
2 : Bulk Packing (After forming & cutting)  
3 : Ammo Packing (F&T)  
4 : Bulk Packing (forming in original pitch)  
5 : Bulk Packing (formed & without cut)  
6 : Ammo Packing (Straight Lead)  
7 : Bulk Packing (Straight Lead cut)
- Replace ^ by the code letter indicated drawing reference.  
A : As per the catalogue  
B-Z : customer drawing reference
- These are the most popular values. Other values in the range are available on request.  
For dimensions, please refer to the closest higher value.



The dv/dt test is carried out for 2 times above value