



AC & PULSE METALLISED POLYPROPYLENE FILM CAPACITORS (DIP/BOX TYPE - MPP/MPP SERIES - DC 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 384-16

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

CAPACITANCE TOLERANCE: ± 5%, ± 10%, ± 20%

VOLTAGE PROOF

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

INSULATION RESISTANCE

Between leads for $C_R \leq 1\mu f$ $\geq 100,000 M\Omega$

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

TAN δ (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 δ (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 (Loading at elevated temperature)

Loaded at 1.25 times of rated DC voltage at 85°C or 1.25 times of category voltage at 100°C for 2000 hours. Category voltage is 80% of the rated voltage at 100°C.

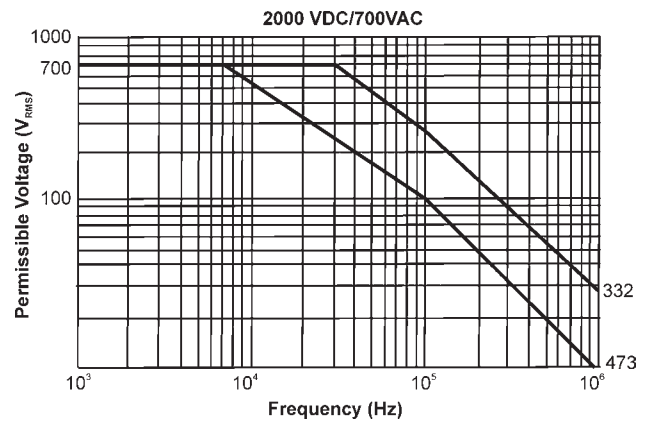
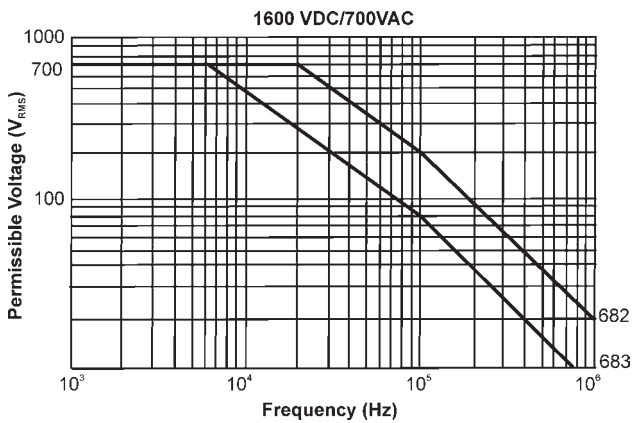
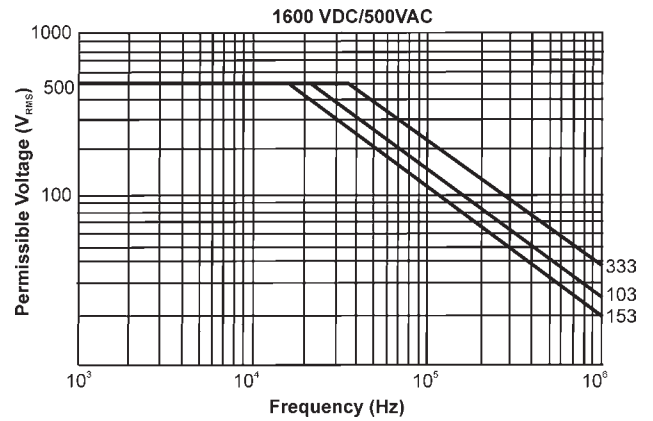
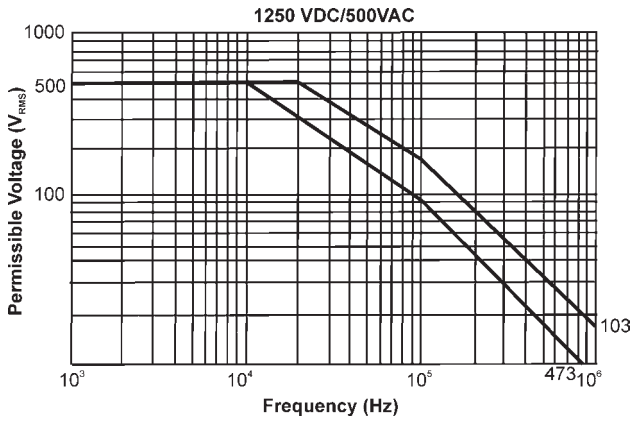
AFTER THE TEST

$\Delta c/c$: ≤ 3% of initial value.

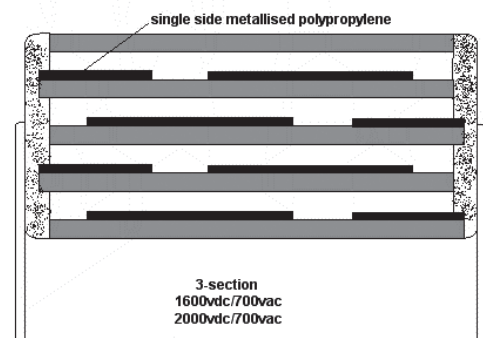
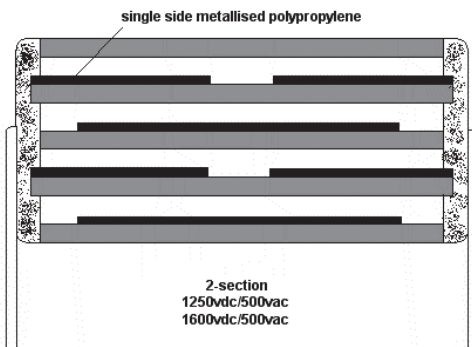
Increase of Tan δ : ≤ 0.001.

Insulation resistance: ≥ 50% of the value mentioned in IR chart.

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



Construction



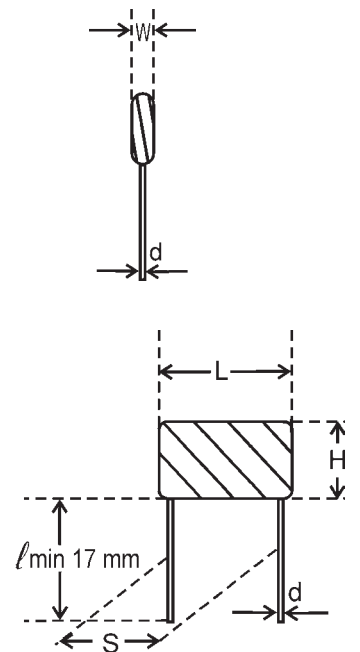
Ordering Code and Packing Units: AC & Pulse Metallised Polypropylene Film Capacitors (MPP/MPP Series) - DC Applications

Rated Voltage	Rated Cap. (µf)	Maximum Dimensions (mm)						Dv/Dt V/µs	Wt g	Ordering code	Packing units	
		W	H	L	d	S	F				Ammo	Bulk
		±0.05 ±0.5 +0.8/-0.2										
1250V DC	0.0082	5.5	11.5	19	0.8	15.0	15.0	3300	1.4	18 822 +3B**	1100	1000
500V AC	0.01	5.5	11.5	19	0.8	15.0	15.0	3300	1.4	18 103 +3B**	1100	1000
	0.012	6.5	12.5	19	0.8	15.0	15.0	3300	1.5	18 123 +3B**	1100	1000
	0.015	6.5	12.5	19	0.8	15.0	15.0	3300	1.6	18 153 +3B**	1100	1000
	0.018	8.0	14.0	19	0.8	15.0	15.0	3300	2.0	18 183 +3B**	900	1000
	0.022	8.0	14.0	19	0.8	15.0	15.0	3300	2.0	18 223 +3B**	900	1000
	0.027	9.0	15.0	19	0.8	15.0	15.0	3300	2.4	18 273 +3B**	700	1000
	0.033	10.5	16.5	19	0.8	15.0	15.0	3300	2.6	18 333 +3B**	700	1000
	0.039	10.5	16.5	19	0.8	15.0	15.0	3300	2.6	18 393 +3B**	700	1000
	0.047	10.5	17.0	19	0.8	15.0	15.0	3300	2.6	18 473 +3B**	700	1000
	0.033	6.5	15.5	27	0.8	22.5	22.5	2100	2.5	18 333 +3B**	-	400
	0.039	6.5	15.5	27	0.8	22.5	22.5	2100	2.5	18 393 +3B**	-	400
	0.047	7.5	16.5	27	0.8	22.5	22.5	2100	3.2	18 473 +3B**	-	400
	0.056	7.5	16.5	27	0.8	22.5	22.5	2100	3.2	18 563 +3B**	-	400
	0.068	8.5	17.5	27	0.8	22.5	22.5	2100	4.1	18 683 +3B**	-	400
	0.082	10.5	19.0	27	0.8	22.5	22.5	2100	5.0	18 823 +3B**	-	400
	0.1	10.5	19.0	27	0.8	22.5	22.5	2100	5.0	18 104 +3B**	-	400
	0.12	11.0	20.0	27	0.8	22.5	22.5	2100	5.0	18 124 +3B**	-	400
	0.15	13.0	21.0	27	0.8	22.5	22.5	2100	5.2	18 154 +3B**	-	400
1600V DC	0.0022	5.5	11.5	19	0.8	15.0	15.0	4500	1.1	18 222 +3C1A	1100	1000
500V AC	0.0033	5.5	11.5	19	0.8	15.0	15.0	4500	1.1	18 332 +3C1A	1100	1000
	0.0039	6.5	12.5	19	0.8	15.0	15.0	4500	1.5	18 392 +3C1A	1100	1000
	0.0047	6.5	12.5	19	0.8	15.0	15.0	4500	1.5	18 472 +3C1A	1100	1000
	0.0056	6.5	12.5	19	0.8	15.0	15.0	4500	1.5	18 562 +3C1A	1100	1000
	0.0068	6.5	12.5	19	0.8	15.0	15.0	4500	1.5	18 682 +3C1A	1100	1000
	0.0082	8.0	14.0	19	0.8	15.0	15.0	4500	2.0	18 822 +3C1A	1100	1000
	0.01	8.0	14.0	19	0.8	15.0	15.0	4500	2.0	18 103 +3C1A	900	1000
	0.015	9.0	15.0	19	0.8	15.0	15.0	4500	2.6	18 153 +3C1A	700	1000
	0.022	10.5	16.5	19	0.8	15.0	15.0	4500	2.8	18 223 +3C1A	700	1000
1600V DC	0.0056	5.5	11.5	19	0.8	15.0	15.0	6000	1.1	18 562 +3C1B	1100	1000
700V AC	0.0068	5.5	11.5	19	0.8	15.0	15.0	6000	1.1	18 682 +3C1B	1100	1000
	0.0082	6.5	12.5	19	0.8	15.0	15.0	6000	1.5	18 822 +3C1B	1100	1000
	0.01	6.5	12.5	19	0.8	15.0	15.0	6000	1.5	18 103 +3C1B	1100	1000
	0.012	8.0	14.0	19	0.8	15.0	15.0	6000	2.0	18 123 +3C1B	900	1000
	0.015	8.0	14.0	19	0.8	15.0	15.0	6000	2.0	18 153 +3C1B	900	1000
	0.018	8.5	15	19	0.8	15.0	15.0	6000	2.4	18 183 +3C1B	700	1000
	0.022	10.5	16.5	19	0.8	15.0	15.0	6000	2.6	18 223 +3C1B	700	1000
	0.027	10.5	16.5	19	0.8	15.0	15.0	6000	2.6	18 273 +3C1B	700	1000
	0.033	11.0	18.0	19	0.8	15.0	15.0	6000	2.6	18 333 +3C1B	700	1000
	0.027	6.5	15.5	27	0.8	22.5	22.5	3000	2.6	18 273 +3C1B	-	400
	0.033	7.5	16.5	27	0.8	22.5	22.5	3000	3.2	18 333 +3C1B	-	400
	0.039	7.5	16.5	27	0.8	22.5	22.5	3000	3.2	18 393 +3C1B	-	400
	0.047	9.0	17.5	27	0.8	22.5	22.5	3000	4.1	18 473 +3C1B	-	400
	0.056	10.5	19.0	27	0.8	22.5	22.5	3000	5.0	18 563 +3C1B	-	400
	0.068	10.5	19.0	27	0.8	22.5	22.5	3000	5.0	18 683 +3C1B	-	400
	0.082	11.0	19.0	27	0.8	22.5	22.5	3000	5.0	18 823 +3C1B	-	400
	0.1	12.0	21.0	27	0.8	22.5	22.5	3000	5.2	18 104 +3C1B	-	400
	0.12	13.0	22.0	27	0.8	22.5	22.5	3000	5.2	18 124 +3C1B	-	400
2000V DC	0.001	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 102 +3D**	1100	1000
700V AC	0.0012	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 122 +3D**	1100	1000
	0.0015	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 152 +3D**	1100	1000
	0.0018	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 182 +3D**	1100	1000
	0.0022	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 222 +3D**	1100	1000
	0.0027	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 272 +3D**	1100	1000
	0.0033	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 332 +3D**	1100	1000
	0.0039	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 392 +3D**	1100	1000
	0.0047	5.5	11.5	19	0.8	15.0	15.0	9500	1.1	18 472 +3D**	1100	1000
	0.0056	6.5	12.5	19	0.8	15.0	15.0	9500	1.5	18 562 +3D**	900	1000
	0.0068	6.5	12.5	19	0.8	15.0	15.0	9500	1.5	18 682 +3D**	900	1000
	0.0082	8.0	14.0	19	0.8	15.0	15.0	9500	2.0	18 822 +3D**	900	1000
	0.01	8.0	14.0	19	0.8	15.0	15.0	9500	2.0	18 103 +3D**	900	1000
	0.012	9.0	15.0	19	0.8	15.0	15.0	9500	2.4	18 123 +3D**	700	1000
	0.015	9.0	15.0	19	0.8	15.0	15.0	9500	2.4	18 153 +3D**	700	1000
	0.018	10.5	16.5	19	0.8	15.0	15.0	9500	2.4	18 183 +3D**	700	1000
	0.022	10.5	19.0	19	0.8	15.0	15.0	9500	2.6	18 223 +3D**	-	1000
	0.027	11.0	20.0	19	0.8	15.0	15.0	9500	2.6	18 273 +3D**	-	1000
	0.0047	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 472 +3D**	-	400
	0.0056	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 562 +3D**	-	400
	0.0068	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 682 +3D**	-	400
	0.0082	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 822 +3D**	-	400
	0.01	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 103 +3D**	-	400
	0.012	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 123 +3D**	-	400
	0.015	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 153 +3D**	-	400
	0.018	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 183 +3D**	-	400
	0.022	6.5	15.5	27	0.8	22.5	22.5	3500	2.6	18 223 +3D**	-	400
	0.027	7.5	16.5	27	0.8	22.5	22.5	3500	3.2	18 273 +3D**	-	400
	0.033	9.0	17.5	27	0.8	22.5	22.5	3500	4.1	18 333 +3D**	-	400
	0.039	10.5	19.0	27	0.8	22.5	22.5	3500	5.0	18 393 +3D**	-	400
	0.047	10.5	19.0	27	0.8	22.5	22.5	3500	5.0	18 473 +3D**	-	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.



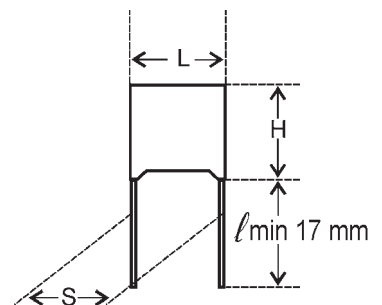
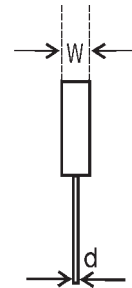
Ordering Code and Packing Units: AC & Pulse Metallised Polypropylene Film Capacitors (MPP/MPP Series) - DC Applications

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
1250V DC	0.0082	5.0	10.8	18.0	0.8	15.0	15.0	3300	1.1	30 822 +3B**	1100	500
500V AC	0.01	5.0	10.8	18.0	0.8	15.0	15.0	3300	1.1	30 103 +3B**	1100	500
	0.012	6.0	11.9	18.0	0.8	15.0	15.0	3300	1.5	30 123 +3B**	1100	500
	0.015	6.0	11.9	18.0	0.8	15.0	15.0	3300	1.5	30 153 +3B**	1100	500
	0.018	7.5	13.5	18.0	0.8	15.0	15.0	3300	2.0	30 183 +3B**	900	500
	0.022	7.5	13.5	18.0	0.8	15.0	15.0	3300	2.0	30 223 +3B**	900	500
	0.027	8.5	14.5	18.0	0.8	15.0	15.0	3300	2.6	30 273 +3B**	700	500
	0.033	10.0	16.0	18.0	0.8	15.0	15.0	3300	2.8	30 333 +3B**	700	500
	0.039	10.0	16.0	18.0	0.8	15.0	15.0	3300	2.8	30 393 +3B**	700	500
	0.033	6.0	15.0	26.5	0.8	22.5	22.5	2100	2.8	30 333 +3B**	-	400
	0.039	6.0	15.0	26.5	0.8	22.5	22.5	2100	2.8	30 393 +3B**	-	400
	0.047	7.0	16.0	26.5	0.8	22.5	22.5	2100	3.5	30 473 +3B**	-	400
	0.056	7.0	16.0	26.5	0.8	22.5	22.5	2100	3.5	30 563 +3B**	-	400
	0.068	8.5	17.0	26.5	0.8	22.5	22.5	2100	4.5	30 683 +3B**	-	400
	0.082	10.0	18.5	26.5	0.8	22.5	22.5	2100	5.4	30 823 +3B**	-	400
	0.1	10.0	18.5	26.5	0.8	22.5	22.5	2100	5.4	30 104 +3B**	-	400
1600V DC	0.0022	5.0	10.8	18.0	0.8	15.0	15.0	4500	1.1	30 222 +3C1A	1100	500
500V AC	0.0033	5.0	10.8	18.0	0.8	15.0	15.0	4500	1.1	30 332 +3C1A	1100	500
	0.0039	6.0	11.9	18.0	0.8	15.0	15.0	4500	1.5	30 392 +3C1A	1100	500
	0.0047	6.0	11.9	18.0	0.8	15.0	15.0	4500	1.5	30 473 +3C1A	1100	500
	0.0056	6.0	11.9	18.0	0.8	15.0	15.0	4500	1.5	30 563 +3C1A	1100	500
	0.0068	6.0	11.9	18.0	0.8	15.0	15.0	4500	1.5	30 683 +3C1A	1100	500
	0.0082	7.5	13.5	18.0	0.8	15.0	15.0	4500	2.0	30 823 +3C1A	900	500
	0.01	7.5	13.5	18.0	0.8	15.0	15.0	4500	2.0	30 103 +3C1A	900	500
	0.015	8.5	14.5	18.0	0.8	15.0	15.0	4500	2.6	30 153 +3C1A	700	500
	0.022	10.0	16.0	18.0	0.8	15.0	15.0	4500	2.8	30 223 +3C1A	700	500
1600V DC	0.0056	5.0	10.8	18.0	0.8	15.0	15.0	6000	1.1	30 562 +3C1B	1100	500
700V AC	0.0068	5.0	10.8	18.0	0.8	15.0	15.0	6000	1.1	30 682 +3C1B	1100	500
	0.0082	6.0	11.9	18.0	0.8	15.0	15.0	6000	1.5	30 822 +3C1B	1100	500
	0.01	6.0	11.9	18.0	0.8	15.0	15.0	6000	1.5	30 103 +3C1B	1100	500
	0.012	7.5	13.5	18.0	0.8	15.0	15.0	6000	2.0	30 123 +3C1B	900	500
	0.015	7.5	13.5	18.0	0.8	15.0	15.0	6000	2.0	30 153 +3C1B	900	500
	0.018	8.5	14.5	18.0	0.8	15.0	15.0	6000	2.6	30 183 +3C1B	700	500
	0.022	10.0	16.0	18.0	0.8	15.0	15.0	6000	2.8	30 223 +3C1B	700	500
	0.027	10.0	16.0	18.0	0.8	15.0	15.0	6000	2.8	30 273 +3C1B	700	500
	0.027	6.0	15.0	26.5	0.8	22.5	22.5	3000	2.8	30 153 +3C1B	-	400
	0.033	7.0	16.0	26.5	0.8	22.5	22.5	3000	3.5	30 333 +3C1B	-	400
	0.039	7.0	16.0	26.5	0.8	22.5	22.5	3000	3.5	30 393 +3C1B	-	400
	0.047	8.5	17.0	26.5	0.8	22.5	22.5	3000	4.5	30 473 +3C1B	-	400
	0.056	10.0	18.5	26.5	0.8	22.5	22.5	3000	5.4	30 563 +3C1B	-	400
	0.068	10.0	18.5	26.5	0.8	22.5	22.5	3000	5.4	30 683 +3C1B	-	400
2000V DC	0.001	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 102 +3D**	1100	500
700V AC	0.0012	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 122 +3D**	1100	500
	0.0015	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 152 +3D**	1100	500
	0.0018	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 182 +3D**	1100	500
	0.0022	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 222 +3D**	1100	500
	0.0027	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 272 +3D**	1100	500
	0.0033	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 332 +3D**	1100	500
	0.0039	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 392 +3D**	1100	500
	0.0047	5.0	10.8	18.0	0.8	15.0	15.0	9500	1.1	30 472 +3D**	1100	500
	0.0056	6.0	11.9	18.0	0.8	15.0	15.0	9500	1.5	30 562 +3D**	1100	500
	0.0068	6.0	11.9	18.0	0.8	15.0	15.0	9500	1.5	30 682 +3D**	1100	500
	0.0082	7.5	13.5	18.0	0.8	15.0	15.0	9500	2.0	30 822 +3D**	1100	500
	0.01	7.5	13.5	18.0	0.8	15.0	15.0	9500	2.0	30 103 +3D**	900	500
	0.012	8.5	14.5	18.0	0.8	15.0	15.0	9500	2.6	30 123 +3D**	700	500
	0.015	8.5	14.5	18.0	0.8	15.0	15.0	9500	2.6	30 153 +3D**	700	500
	0.018	10.0	16.0	18.0	0.8	15.0	15.0	9500	2.8	30 183 +3D**	700	500
	0.0047	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 472 +3D**	-	400
	0.0056	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 562 +3D**	-	400
	0.0068	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 682 +3D**	-	400
	0.0082	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 822 +3D**	-	400
	0.01	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 103 +3D**	-	400
	0.012	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 123 +3D**	-	400
	0.015	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 153 +3D**	-	400
	0.018	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 183 +3D**	-	400
	0.022	6.0	15.0	26.5	0.8	22.5	22.5	3500	2.8	30 223 +3D**	-	400
	0.027	7.0	16.0	26.5	0.8	22.5	22.5	3500	3.5	30 273 +3D**	-	400
	0.033	8.5	17.0	26.5	0.8	22.5	22.5	3500	4.5	30 333 +3D**	-	400
	0.039	10.0	18.5	26.5	0.8	22.5	22.5	3500	5.4	30 393 +3D**	-	400
	0.047	10.0	18.5	26.5	0.8	22.5	22.5	3500	5.4	30 473 +3D**	-	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