



**Aluminium Electrolytic Capacitors**

**\* UTW Series is general purpose product.**

**(1) Operating Temperature Range**

6.3~100VDC    -40~+105°C  
160~450VDC    -25~+105°C

**(2) Rated Voltage and Surge Voltage**

WV: Working Voltage (VDC)

SV: Surge Voltage (V)

WV	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
SV	8	13	20	32	44	63	79	125	200	250	300	400	450	500

**(3) Leakage Current**

The maximum leakage current is specified in the following formula after DC working voltage applied .

6.3~100WV     $I=0.01CV + 3 (\mu A)$  whichever is greater for 2 minutes

160~450WV     $I=0.03CV + 10 (\mu A)$  for 3 minutes

where I: Leakage Current ( $\mu A$ )

C: Nominal Capacitance ( $\mu F$ )

V: Rated Voltage (V)

**(4) Capacitance Tolerance**

Capacitance tolerance should be within the range of  $\pm 20\%$  which is measured at 120Hz/20°C

**(5) Dissipation Factor\**

Dissipation Factor at 120Hz/ 20°C shall not exceed the values given in the table below.

WV	6.3	10	16	25	35	50	63~100	160~250	350~450
DF(%)	26	22	18	16	14	12	10	15	20

Note: Above DF specifications shall be 2% added for every 1000uF capacitor exceeding 1000uF.

**(6) Low Temperature Characteristics**

The ratio of impedance at -25°C/+20°C and -40°C/+20°C of the capacitor shall be less than the following value at 120Hz.

Z(120Hz)\WV	6.3	10	16	25~100	160~250	350~450
Z(-25°C)/Z(+20°C)	4	3	2	2	4	4
Z(-40°C)/Z(+20°C)	8	6	4	3	6	8

**(7) Multiplier for Ripple Current**

Frequency coefficient

Frequency(HZ)	120	300	1K	10K
6.3~100V Below 68uF	1.00	1.30	1.57	2.00
6.3~100V 100~470uF	1.00	1.23	1.34	1.50
6.3~100V 471~22000uF	1.00	1.10	1.13	1.15
160~450V ALL Cap(Uf)	1.00	1.25	1.40	1.60



**(8)Lead Pull Test**

Capacitors shall be with stand the pull test shown in the following table.

Lead diameter (mm)	Load (Kg)	Test time (sec)
$d \leq 0.5$	0.5	30 <sup>+5</sup> -0
$0.5 < d \leq 0.8$	1.0	30 <sup>+5</sup> -0
$0.8 < d \leq 1.2$	2.5	30 <sup>+5</sup> -0

**(9)Load Life**

To put capacitors into the oven which is staying at  $105 \pm 2^{\circ}\text{C}$ , then to add rated voltage in the capacitors. This experiment will be lasted for  $2000 + 12 / - 0$  hours. We will examine the electric characteristics after getting them cooled down to room temperature. The values must not be over those on following table.

Capacitance Change	Within $\pm 20\%$ of initial value
Dissipation Factor	200% or less of initial specified value
Leakage Current	initial specified value or less

**(10)Shelf Life**

The following specifications shall be satisfied when the capacitors are restored to  $20^{\circ}\text{C}$  after exposing them at  $105 \pm 2^{\circ}\text{C}$  for  $1000 + 12 / - 0$  hours without voltage applied.

Capacitance Change	Within $\pm 20\%$ of initial value
Dissipation Factor	200% or less of initial specified value
Leakage Current	initial specified value or less

**( 11 ) Solderability Test**

The following specifications shall be satisfied when the lead wires are tested in solder bath at  $235 \pm 5^{\circ}\text{C}$  for  $2 \pm 0.5$  seconds, more than 95% of the terminal surface shall be covered with new solder.

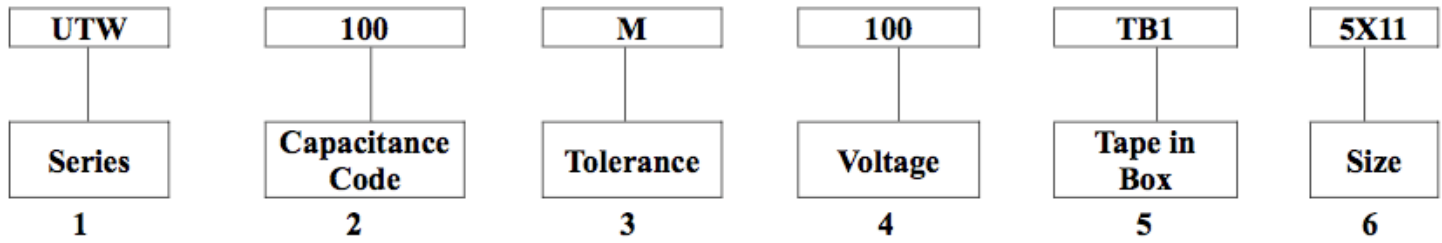
**(12) Solder Heat Resistance Test**

The following specifications shall be satisfied when the lead wires are tested in solder bath at  $260 \pm 5^{\circ}\text{C}$  for  $10 \pm 1$  seconds.

Capacitance Change	$\leq \pm 5\%$ of the initial value
Dissipation factor	$\leq$ Initial specified value
Leakage Current	$\leq$ Initial specified value



### (13) Part Numbering System



#### 1. Series

#### 2. Capacitance represented by capacitance code, ie

100 = 10uF

102 = 1000uF

The decimal point is represented by the letter "R". .22 = R22uF

#### 3. Tolerance: M=20%

#### 4. Voltage: represented by the actual voltage rating the decimal point is represented by the letter "R"

6.3 = 6R3 VoHS

#### 5. Lead forming:

TB1 = Tape & Box 2.5mm lead space

TB2 = Tape & Box 5mm lead space

TR1 = Tape & Reel 2.5mm lead space

TR2 = Tape & Reel 5mm lead space

#### 6. Size = measured in mm of the capacitor

### (14) Mounting

The paper separators and the electrolytic-conductive electrolytes in a non-solid aluminum electrolytic capacitor are flammable.

Leaking electrolyte on a PC board can gradually erode the copper traces, possibly causing smoke or burning by short-circuiting the copper traces.

Verify the following points when designing a PC board.

- (1) Provide the appropriate hole spacing on the PC board to match the terminal spacing of the capacitor.



(2) Make the following open space over the vent so that the vent can operate correctly.

<u>Case diameter</u>	<u>Clearance</u>
$\phi$ 6.3 to $\phi$ 13 mm	2 mm minimum
$\phi$ 16 to $\phi$ 35 mm	3 mm minimum
$\phi$ 40 mm and up	5 mm minimum

(3) Do not place any wires or copper traces over the vent of the capacitor.

(4) Installing a capacitor with the vent facing the PC board needs an appropriate ventilation hole in PC board.

(5) Do not pass any copper traces beneath the seal side of a capacitor.  
The trace must pass 1 or 2 mm to the side of the capacitor.

(6) Avoid placing any heat-generating objects adjacent to a capacitor or even on the reverse side of the PC board.

(7) Do not pass any via holes or underneath a capacitor.

(8) In designing double-sided PC boards, do not locate any copper trace under the seal side of a capacitor.

### **(15) Storage Condition**

(1) Aluminium Electrolytic Capacitors should not be stored in high temperatures or where there is a high level of humidity. The suitable storage condition is 5~35°C and less than 75% in relative humidity.

(2) Aluminium Electrolytic Capacitors should not be stored in damp conditions such as water, saltwater spray or oil spray.

(3) Do not store Aluminium Electrolytic Capacitors in an environment full of hazardous gas (hydrogen sulfide , sulfurous acid gas, nitrous acid, chlorine gas, ammonium, etc...).

(4) Aluminium Electrolytic Capacitors should not be stored under exposure to ozone, ultraviolet rays or radiation

(5) If a capacitor has been stored for more than one year under normal temperature (shorter if high temperature) and it shows increased leakage current, then a treatment by voltage application is recommended.



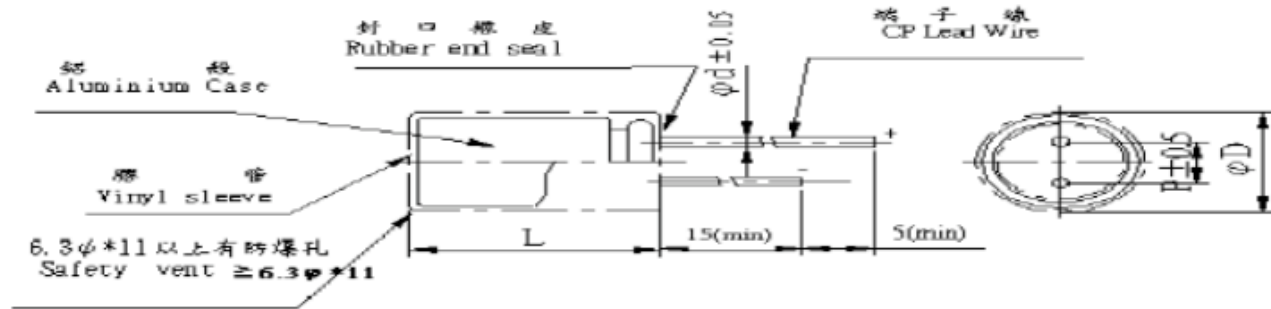


**(16) Others**

- (1) All capacitors comply to RoHS(Restriction of Hazardous Substances) requirements where Chromium VI(Cr+6),Cadmium(Cd) , Mercury(Hg), Lead(pb), Polybrominated biphenyls(PBBs)and Polybrominated biphenyl/diphenyl ethers (PBBEs/PBDEs) have not been detected [lower than MDL (Method Detection Limit)] per SGS certification test report..
- (2)Satisfied characteristic JIS C 5101.
- (3)Aluminum Electrolytic Capacitors may be damaged by corrosion which is caused by any halogenated hydrocarbon solvents.

Please let us know in advance the solvent name and conditions for your PCB cleaning

**Dimensions (mm) Code: S1**



$D \leq 10 \quad L+1 \text{ max} \quad \phi D: D+0.5 \text{ max}$   
 $D \geq 13 \quad L+2 \text{ max}$

Diameter(D)	5	6.3	8	10	12	13	16	18	22
Lead space(P)	2.0	2.5	3.5	5.0	5.0	5.0	7.5	10.0	
Lead diameter(d)	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.8	1.0
a	1.0	1.0	1.0	1.0	2.0	2.0	2.0		2.0

( ) : L ≥ 40

**(17) Sleeve Color**

The colors of PVC sleeve series are shown:

Code	Color	Code	Color
0	Opal blue	5	Smoke black
1	Royal blue	6	Black
2	Green	7	Limpid
3	Orange	8	Yellow
4	Smoke gray	9	Others



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WV	Cap ( $\mu$ F)	Size (mm) $\phi$ DxL	Tol (%)	DF (%) (max) 120Hz, 20 $^{\circ}$ C	LC ( $\mu$ A) (max) 20 $^{\circ}$ C	RC (mArms) (max) 120Hz, 105 $^{\circ}$ C
6.3	100	5x11	$\pm$ 20	26	9.30	100
	150	5x11	$\pm$ 20	26	12.45	120
	220	6.3x11	$\pm$ 20	26	16.86	165
	330	8x11	$\pm$ 20	26	23.79	200
	470	8x11	$\pm$ 20	26	32.61	280
	680	10X12.5	$\pm$ 20	26	45.84	320
	1000	10x12.5	$\pm$ 20	26	66	470
	1500	10x16	$\pm$ 20	28	97.5	600
	2200	13x20	$\pm$ 20	30	141.6	930
	3300	13x20	$\pm$ 20	32	210.9	1100
	4700	16x25	$\pm$ 20	34	299.1	1320
	6800	16x25	$\pm$ 20	38	431.4	1490
	10000	16x32	$\pm$ 20	46	633	1830
	15000	18x36	$\pm$ 20	56	948	2280
10	47	5x11	$\pm$ 20	22	7.7	75
	68	5x11	$\pm$ 20	22	9.8	80
	100	5x11	$\pm$ 20	22	13	110
	150	6.3x11	$\pm$ 20	22	18	130
	220	6.3x11	$\pm$ 20	22	25	180
	330	8x11	$\pm$ 20	22	36	255
	470	8x11	$\pm$ 20	22	50	305
	680	10x12.5	$\pm$ 20	22	71	420
	1000	10*12.5	$\pm$ 20	22	103	490
	1000	10x16	$\pm$ 20	22	103	570
	1500	10x20	$\pm$ 20	24	153	750
	2200	10x20	$\pm$ 20	26	223	800
	2200	13x20	$\pm$ 20	26	223	1010
	3300	13x25	$\pm$ 20	28	333	1220
	4700	16x25	$\pm$ 20	30	473	1410
	6800	16x32	$\pm$ 20	34	683	1610
10000	18x36	$\pm$ 20	42	1003	1980	
16	33	5x11	$\pm$ 20	18	8.3	70
	47	5x11	$\pm$ 20	18	10.5	85
	68	5x11	$\pm$ 20	18	13.9	100
	100	6.3x11	$\pm$ 20	18	19.0	135
	150	8x11	$\pm$ 20	18	27.0	180
	220	6.3x11	$\pm$ 20	18	38.2	180
	220	8x11	$\pm$ 20	18	38.2	235
	330	10x12.5	$\pm$ 20	18	55.8	285
	470	8x11	$\pm$ 20	18	78.2	315
	470	10x12.5	$\pm$ 20	18	78.2	395
	680	10x16	$\pm$ 20	18	111.8	530
	1000	10x20	$\pm$ 20	18	163	700
	1500	13x20	$\pm$ 20	20	243	860
	2200	13x25	$\pm$ 20	22	355	1150
	3300	16x25	$\pm$ 20	24	531	1350
	4700	16x25	$\pm$ 20	26	755	1330
	4700	16x32	$\pm$ 20	26	755	1560
6800	16x36	$\pm$ 20	30	1091	1790	



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WV	Cap ( $\mu$ F)	Size (mm) $\phi$ DxL	Tol (%)	DF (%) (max) 120Hz, 20°C	LC ( $\mu$ A) (max) 20°C	RC (mArms) (max) 120Hz, 105°C
25	22	5x11	$\pm$ 20	16	8.5	60
	33	5x11	$\pm$ 20	16	11.25	75
	47	5x11	$\pm$ 20	16	14.8	90
	68	6.3x11	$\pm$ 20	16	20	125
	100	6.3x11	$\pm$ 20	16	28	145
	150	8x11	$\pm$ 20	16	41	200
	220	10x12.5	$\pm$ 20	16	58	250
	330	10x12.5	$\pm$ 20	16	85.5	355
	470	10x16	$\pm$ 20	16	120.5	470
	680	10x20	$\pm$ 20	16	173	650
	1000	13x20	$\pm$ 20	16	253	855
	1500	13x25	$\pm$ 20	18	378	1020
	2200	16x25	$\pm$ 20	20	553	1230
	3300	16x32	$\pm$ 20	22	828	1450
4700	18x36	$\pm$ 20	24	1178	1690	
35	10	5x11	$\pm$ 20	14	6.5	44
	15	5x11	$\pm$ 20	14	8.3	50
	22	5x11	$\pm$ 20	14	10.7	65
	33	5x11	$\pm$ 20	14	14.6	85
	47	6.3x11	$\pm$ 20	14	19.5	115
	68	8x11	$\pm$ 20	14	26.8	130
	100	8x11	$\pm$ 20	14	38	190
	150	10x12.5	$\pm$ 20	14	56	240
	220	10x12.5	$\pm$ 20	14	80	315
	330	10x16	$\pm$ 20	14	118.5	440
	470	10x20	$\pm$ 20	14	167.5	460
	470	13x20	$\pm$ 20	14	167.5	580
	680	13x20	$\pm$ 20	14	241	730
	1000	13x25	$\pm$ 20	14	353	995
1500	16x25	$\pm$ 20	16	528	1110	
2200	16x32	$\pm$ 20	18	773	1450	
3300	18x36	$\pm$ 20	20	1158	1660	
50	0.47	5x11	$\pm$ 20	12	3	7
	1	5x11	$\pm$ 20	12	3.5	12
	2.2	5x11	$\pm$ 20	12	4.1	18
	3.3	5x11	$\pm$ 20	12	4.7	25
	4.7	5x11	$\pm$ 20	12	5.4	30
	6.8	5x11	$\pm$ 20	12	6.4	30
	10	5x11	$\pm$ 20	12	8	50
	15	5x11	$\pm$ 20	12	11	50
	22	5x11	$\pm$ 20	12	14	75
	33	6.3x11	$\pm$ 20	12	19.5	105
	47	8x11	$\pm$ 20	12	26.5	125
	68	8x11	$\pm$ 20	12	37	159
	100	10x12.5	$\pm$ 20	12	53	210
	150	10x12.5	$\pm$ 20	12	78	289
	220	10x16	$\pm$ 20	12	113	400
	330	10x20	$\pm$ 20	12	168	535
	470	13x20	$\pm$ 20	12	238	730
	680	13x25	$\pm$ 20	12	343	860
1000	16x25	$\pm$ 20	12	503	1110	
1500	16x32	$\pm$ 20	14	753	1350	
2200	18x36	$\pm$ 20	16	1103	1530	



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WV	Cap ( $\mu$ F)	Size (mm) $\phi$ DxL	Tol (%)	DF (%) (max) 120Hz, 20°C	LC ( $\mu$ A) (max) 20°C	RC (mArms) (max) 120Hz, 105°C
63	0.47	5x11	$\pm$ 20	10	3.3	8
	1.0	5x11	$\pm$ 20	10	3.63	12
	2.2	5x11	$\pm$ 20	10	4.386	20
	3.3	5x11	$\pm$ 20	10	5.079	27
	4.7	5x11	$\pm$ 20	10	5.961	34
	6.8	5x11	$\pm$ 20	10	7.284	37
	10	5x11	$\pm$ 20	10	9.3	55
	15	5x11	$\pm$ 20	10	12.45	65
	22	6.3x11	$\pm$ 20	10	16.86	90
	33	8x11	$\pm$ 20	10	23.79	110
	47	8x11	$\pm$ 20	10	32.61	155
	68	10x12.5	$\pm$ 20	10	45.84	198
	100	10x12.5	$\pm$ 20	10	66	260
	150	10x16	$\pm$ 20	10	97.5	330
	220	10x20	$\pm$ 20	10	141.6	465
	330	13x20	$\pm$ 20	10	210.9	650
470	13x25	$\pm$ 20	10	299.1	800	
680	16x25	$\pm$ 20	10	431.4	1000	
1000	16x32	$\pm$ 20	10	633	1200	
1500	16x36	$\pm$ 20	12	948	1450	
100	0.47	5x11	$\pm$ 20	10	3.47	10
	1	5x11	$\pm$ 20	10	4.0	15
	2.2	5x11	$\pm$ 20	10	5.2	22
	3.3	5x11	$\pm$ 20	10	6.3	29
	4.7	5x11	$\pm$ 20	10	7.7	37
	6.8	5x11	$\pm$ 20	10	10	46
	10	6.3x11	$\pm$ 20	10	13	65
	15	8x11	$\pm$ 20	10	18	82
	22	8x11	$\pm$ 20	10	25	115
	33	10x12.5	$\pm$ 20	10	36	160
	47	10x16	$\pm$ 20	10	50	210
	68	10x20	$\pm$ 20	10	71	241
	100	10x20	$\pm$ 20	10	103	305
	100	13x20	$\pm$ 20	10	103	385
	150	13x25	$\pm$ 20	10	153	414
	220	13x25	$\pm$ 20	10	223	495
220	16x25	$\pm$ 20	10	223	590	
330	16x25	$\pm$ 20	10	333	720	
470	16x32	$\pm$ 20	10	473	875	
680	16x36	$\pm$ 20	10	683	1200	
160	0.47	5x11	$\pm$ 20	15	12.3	12
	1	5x11	$\pm$ 20	15	14.8	17
	2.2	6.3x11	$\pm$ 20	15	20.6	25
	3.3	8x11	$\pm$ 20	15	25.8	36
	4.7	8x11	$\pm$ 20	15	32.6	43
	6.8	10x12.5	$\pm$ 20	15	42.6	54
	10	10x12.5	$\pm$ 20	15	58	70
	15	10x16	$\pm$ 20	15	82	90
	22	10x20	$\pm$ 20	15	115.6	130
	33	13x20	$\pm$ 20	15	168.4	180
	47	13x25	$\pm$ 20	15	235.6	250
	68	13x25	$\pm$ 20	15	336.4	270
	100	16x25	$\pm$ 20	15	490	390
	150	16x32	$\pm$ 20	15	730	435
220	16x36	$\pm$ 20	15	1066	700	
330	18x40	$\pm$ 20	15	1594	850	
470	22x40	$\pm$ 20	15	2266	980	





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WV	Cap ( $\mu$ F)	Size (mm) $\phi$ DxL	Tol (%)	DF (%) (max) 120Hz, 20°C	LC ( $\mu$ A) (max) 20°C	RC (mArms) (max) 120Hz, 105°C
200	0.47	5x11	$\pm$ 20	15	12.82	12
	1	6.3x11	$\pm$ 20	15	16	17
	2.2	6.3x11	$\pm$ 20	15	23.2	25
	3.3	8x11	$\pm$ 20	15	29.8	36
	4.7	10x12.5	$\pm$ 20	15	38.2	50
	6.8	10x12.5	$\pm$ 20	15	50.8	60
	10	10x16	$\pm$ 20	15	70	80
	15	10x20	$\pm$ 20	15	100	110
	22	10x16	$\pm$ 20	15	142	140
	33	13x20	$\pm$ 20	15	208	160
	33	13x25	$\pm$ 20	15	208	190
	47	13x20	$\pm$ 20	15	292	220
	47	13x25	$\pm$ 20	15	292	260
	68	16x25	$\pm$ 20	15	418	280
	100	16x32	$\pm$ 20	15	610	400
	150	16x36	$\pm$ 20	15	910	450
	220	18x36	$\pm$ 20	15	1330	675
	220	18x40	$\pm$ 20	15	1330	750
330	18x40	$\pm$ 20	15	1990	780	
330	22x40	$\pm$ 20	15	1990	920	
250	0.47	5x11	$\pm$ 20	15	13.53	12
	1	6.3x11	$\pm$ 20	15	17.50	17
	2.2	8x11	$\pm$ 20	15	26.50	29
	3.3	10x12.5	$\pm$ 20	15	34.75	42
	4.7	10x12.5	$\pm$ 20	15	45.25	52
	6.8	10x12.5	$\pm$ 20	15	61.00	62
	10	10x16	$\pm$ 20	15	85.00	75
	10	10x20	$\pm$ 20	15	85.00	88
	15	13x20	$\pm$ 20	15	122.50	120
	22	13x20	$\pm$ 20	15	175.00	130
	22	13x25	$\pm$ 20	15	175.00	155
	33	13x25	$\pm$ 20	15	257.50	200
	47	16x25	$\pm$ 20	15	362.50	270
	68	16x32	$\pm$ 20	15	520.00	300
	100	18x36	$\pm$ 20	15	760.00	440
	150	18x40	$\pm$ 20	15	1135	600
	220	22x40	$\pm$ 20	15	1660	800
	350	0.47	6.3x11	$\pm$ 20	20	14.94
1		8x11	$\pm$ 20	20	20.5	20
2.2		10x12.5	$\pm$ 20	20	33.1	35
3.3		10x16	$\pm$ 20	20	44.65	47
4.7		10x16	$\pm$ 20	20	59.35	55
6.8		10x20	$\pm$ 20	20	81.4	65
10		13x20	$\pm$ 20	20	115	95
15		13x20	$\pm$ 20	20	167.5	140
22		16x25	$\pm$ 20	20	241	165
33		16x32	$\pm$ 20	20	356.5	195
47		16x36	$\pm$ 20	20	503.5	210
47		18x36	$\pm$ 20	20	503.5	240
68		18x36	$\pm$ 20	20	724	320
100		18x40	$\pm$ 20	20	1060	300
100		22x40	$\pm$ 20	20	1060	360
150	22x40	$\pm$ 20	20	1585	480	



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WV	Cap ( $\mu$ F)	Size (mm) $\phi$ DxL	Tol (%)	DF (%) (max)	LC ( $\mu$ A) (max)	RC (mArms) (max)
				120Hz, 20°C	20°C	120Hz, 105°C
400	0.47	6.3x11	$\pm$ 20	20	15.64	14
	1	8x11	$\pm$ 20	20	22	20
	2.2	10x12.5	$\pm$ 20	20	36.4	35
	3.3	10x12.5	$\pm$ 20	20	49.6	42
	3.3	10x16	$\pm$ 20	20	49.6	49
	4.7	10x16	$\pm$ 20	20	66.4	57
	6.8	10x16	$\pm$ 20	20	91.6	67
	10	10x20	$\pm$ 20	20	130	75
	10	13x20	$\pm$ 20	20	130	97
	15	13x25	$\pm$ 20	20	190	145
	22	13x20	$\pm$ 20	20	274	120
	22	13x25	$\pm$ 20	20	274	140
	22	16x25	$\pm$ 20	20	274	170
	33	16x25	$\pm$ 20	20	406	190
	33	16x32	$\pm$ 20	20	406	230
	47	16x25	$\pm$ 20	20	574	200
	47	16x32	$\pm$ 21	20	574	250
	47	18x36	$\pm$ 20	20	574	300
	68	18x36	$\pm$ 20	20	826	325
	100	18x36	$\pm$ 20	20	1210	290
100	22x40	$\pm$ 20	20	1210	365	
120	18x36	$\pm$ 20	20	1450	320	
120	18x40	$\pm$ 20	20	1450	350	
150	22x40	$\pm$ 20	20	1810	465	
450	0.47	6.3x11	$\pm$ 20	20	16.35	16
	1	8x11	$\pm$ 20	20	23.5	22
	2.2	10x12.5	$\pm$ 20	20	39.7	37
	3.3	10x16	$\pm$ 20	20	54.55	51
	4.7	10x16	$\pm$ 20	20	73.45	59
	6.8	13x20	$\pm$ 20	20	101.8	69
	10	13x25	$\pm$ 20	20	145	99
	15	16x25	$\pm$ 20	20	212.5	150
	22	16x25	$\pm$ 20	20	307	145
	22	16x32	$\pm$ 20	20	307	175
	33	18x36	$\pm$ 20	20	455.5	250
	47	18x40	$\pm$ 20	20	644.5	350
	68	22x40	$\pm$ 20	20	928	380



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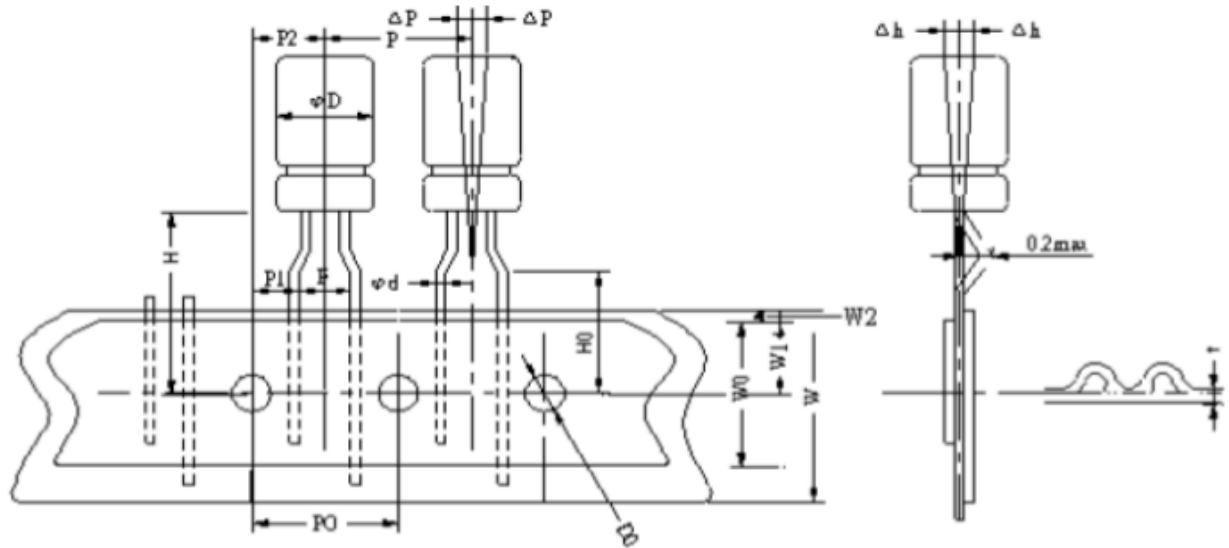
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Ammo Tape

(4 $\phi$ ~6.3 $\phi$ )

code:T1



$\Phi D$ (mm)	$L\pm 5$ (mm)	$W+5$ -0 (mm)	$H+5$ -0 (mm)	Quantity (pcs)
4	340	275	50	3000
5	340	230	50	2000
6.3	340	275	50	2000

尺寸表(mm)

Symbol	Case Size			Tolerance
	4x5~7	5x5~11	6.3x5~11	
$\Phi d$	0.45	0.45 or 0.5		$\pm 0.05$
P	12.7			$\pm 1.0$
P0	12.7			$\pm 0.3$
P1	3.85			$\pm 0.5$
P2	6.35			$\pm 1.0$
F	5.0			$\pm 0.2$
W	18.0			$\pm 0.5$
W0	12.0min			—
W1	9.0			$\pm 0.5$
W2	2.0max			—
H	18.5			$\pm 0.75$
H0	16.0			$\pm 0.5$
D0	4.0			$\pm 0.3$
$\Delta P$	0.2max			—
$\Delta h$	0.2max			—
t	0.6			$\pm 0.3$

$\Phi D$ (mm)	$L\pm 5$ (mm)	$W\pm 5$ (mm)	$H\pm 5$ (mm)	Quantity (pcs)
4	355	297	290	15000
5	355	252	290	10000
6.3	355	297	290	10000



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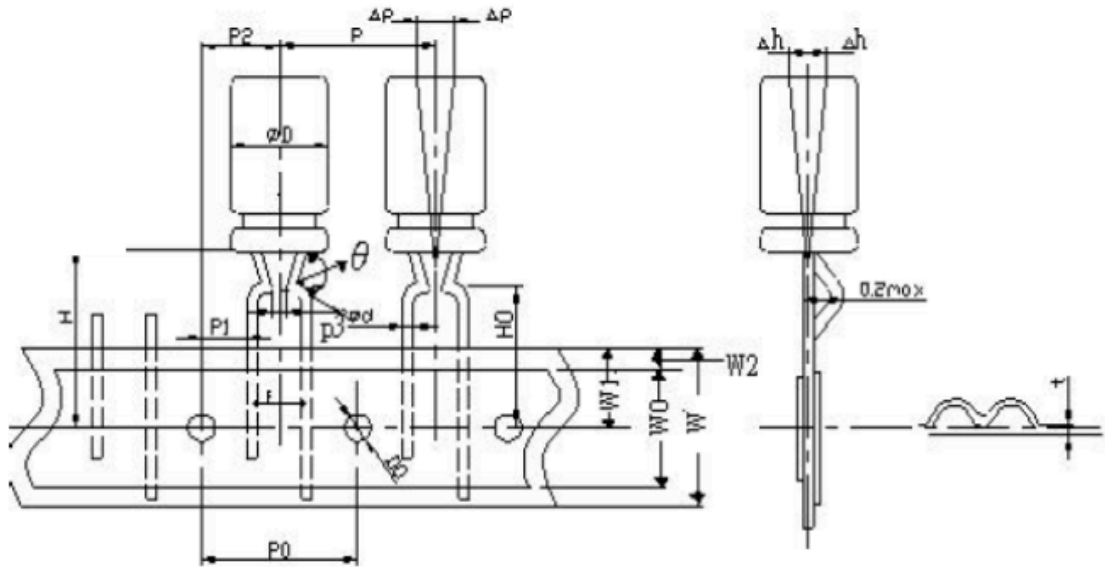
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Ammo Tape

(8  $\phi$ )

code:T1



$\Phi D$ (mm)	$L \pm 5$ (mm)	$W + 5$ -0 (mm)	$H + 5$ -0 (mm)	Quantity (pcs)
8×5-16	340	250	50	1000
8×20	340	230	58	1000

尺寸表(mm)

Symbol	Case Size	Tolerance
	8×5~20	
$\phi d$	0.6	$\pm 0.05$
P	12.7	$\pm 1.0$
P0	12.7	$\pm 0.3$
P1	3.85	$\pm 0.7$
P2	6.35	$\pm 1.0$
P3	2.5	+0.2 / -0.5
$\theta$	110°	$\pm 15^\circ$
F	5.0	$\pm 0.2$
W	18.0	$\pm 0.5$
W0	12.0min	-
W1	9.0	$\pm 0.5$
W2	2.0max	-
H	18.5	$\pm 0.75$
H0	16.0	$\pm 0.5$
D0	4.0	$\pm 0.3$
$\Delta p$	0.2max	-
$\Delta h$	0.2max	-
t	0.6	$\pm 0.3$

$\Phi D$ (mm)	$L \pm 5$ (mm)	$W \pm 5$ (mm)	$H \pm 5$ (mm)	Quantity (pcs)
8×5-16	355	252	290	5000
8×20	355	252	315	5000

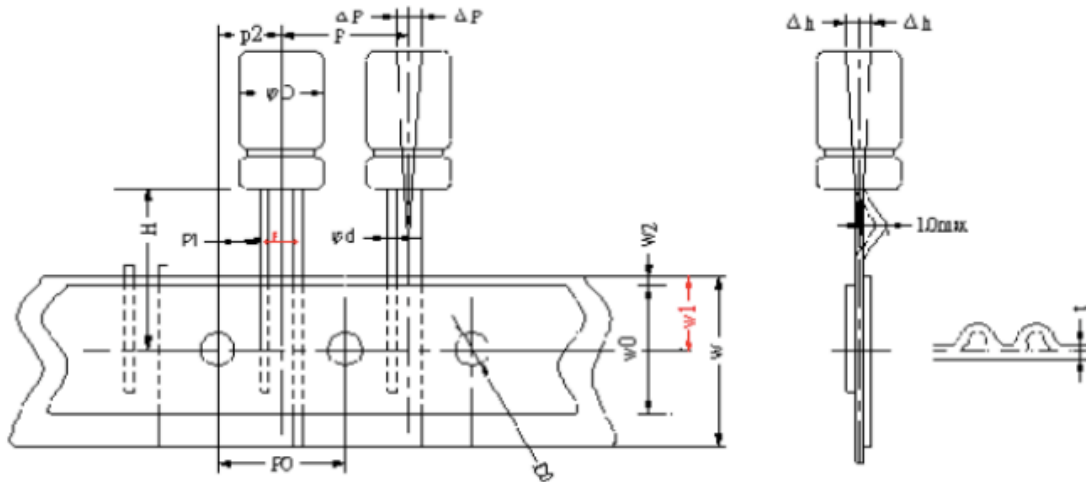


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Ammo Tape  
( $\phi 10 \sim \phi 13$ )  
Code:T1



$\phi D$ (mm)	$L \pm 5$ (mm)	$W + 5$ -0 (mm)	$H + 5$ -0 (mm)	Quantity (pcs)
10×12~17	340	230	50	600
10×20~25	340	230	58	600
10×30	340	230	65	600
13×13~32	315	275	65	400
13×36~	315	275	74	400

尺寸表(mm)

Symbol	Case Size		Tolerance	
	10×12-30	13×13-40	10×12-30	13×13-40
$\phi d$	0.6		$\pm 0.05$	
P	12.7	15.0	$\pm 1.0$	
P0	12.7	15.0	$\pm 0.3$	
P1	3.85	5.0	$\pm 0.5$	$\pm 0.7$
P2	6.35	7.5	$\pm 1.0$	$\pm 1.3$
F	5.0		$\pm 0.2$	
W	18.0		$\pm 0.5$	
W0	12.0min		-	
W1	9.0		$\pm 0.5$	
W2	2.0max		-	
H	18.5		$\pm 0.75$	
D0	4.0		$\pm 0.3$	
$\Delta P$	0.2max		-	
$\Delta h$	0.2max		-	
t	0.7		$\pm 0.2$	$\pm 0.3$

$\phi D$ (mm)	$L \pm 5$ (mm)	$W \pm 5$ (mm)	$H \pm 5$ (mm)	Quantity (pcs)
10×12~17	355	252	290	3000
10×20~25	355	252	315	3000
10×30	355	252	290	2400
13×13~32	355	297	290	1600
13×36~	355	297	337	1600



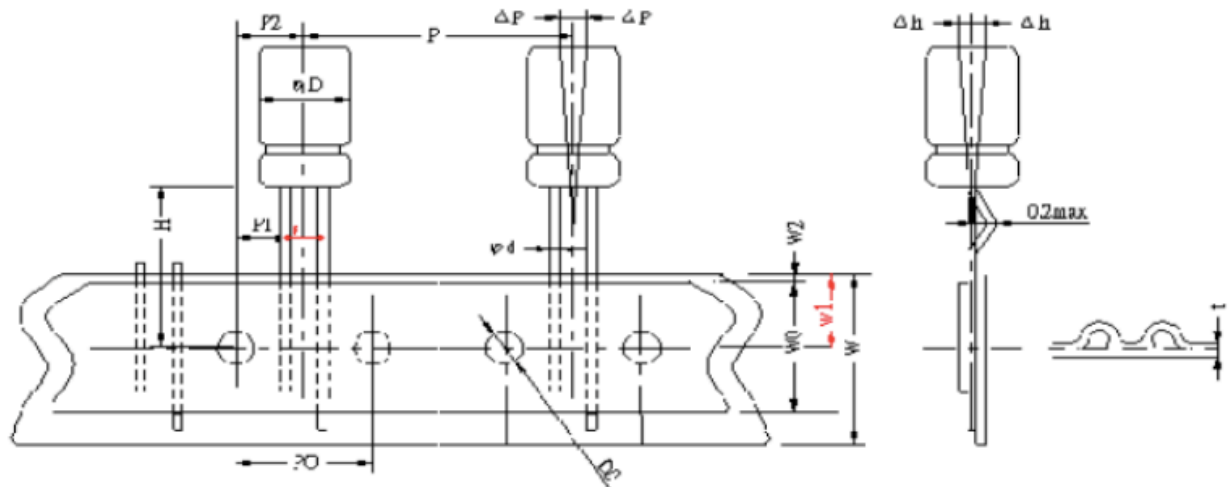


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Ammo Tape  
( $\phi 16$ )  
Code:T1



$\Phi D$ (mm)	$L \pm 5$ (mm)	$W + 5$ -0 (mm)	$H + 5$ -0 (mm)	Quantity (pcs)
16x16~32	315	275	65	300
16x36~40	315	275	74	300

$\Phi D$ (mm)	$L \pm 5$ (mm)	$W \pm 5$ (mm)	$H \pm 5$ (mm)	Quantity (pcs)
16x16~32	355	297	290	1200
16x36~40	355	297	337	1200

尺寸表(mm)

Symbol	Case Size	Tolerance
	16x16~40	
$\phi d$	0.8	$\pm 0.05$
P	30.0	$\pm 1.0$
$P_0$	15.0	$\pm 0.3$
$P_1$	3.75	$\pm 0.7$
$P_2$	7.5	$\pm 1.3$
F	7.5	$\pm 0.2$
W	18.0	$\pm 0.5$
$W_0$	12.0 min	-
$W_1$	9.0	$\pm 0.5$
$W_2$	2.0 max	-
H	18.5	$\pm 0.75$
$D_0$	4.0	$\pm 0.3$
$\Delta P$	0.2 max	-
$\Delta h$	0.2max	-
t	0.7	$\pm 0.3$