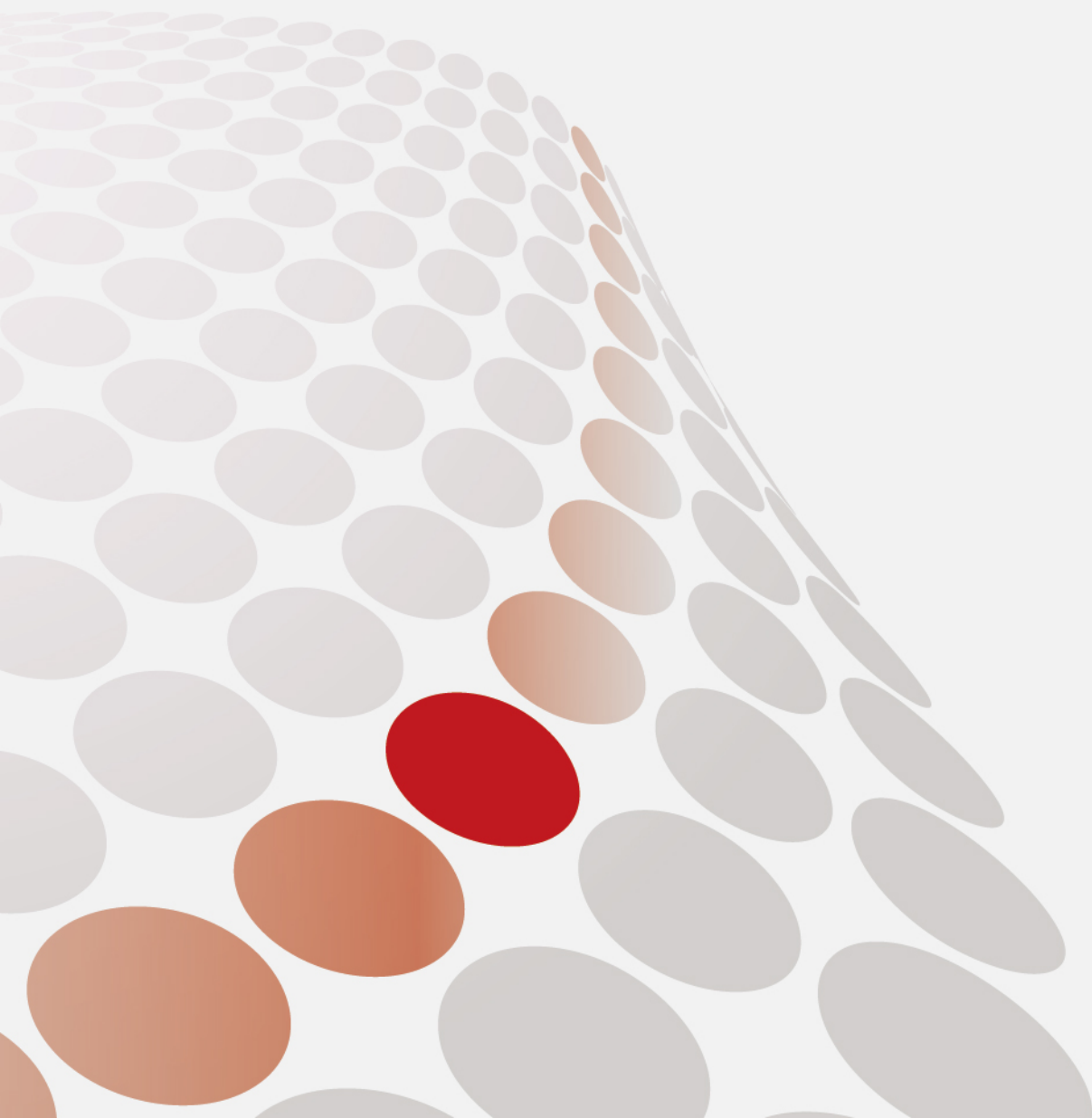


PSA PASSIVE SYSTEM ALLIANCE
WALSIN TECHNOLOGY CORPORATION

Disc Capacitors

www.passivecomponent.com



Product Portfolio



IEC-63 Nominal Resistance/ Capacitance

E1	100																							
E3	100				220				470															
E6	100	150	220	330	470	680																		
E12	100	120	150	180	220	270	330	390	470	560	680	820												
E24	100	110	120	130	150	160	180	200	220	240	270	300	330	360	390	430	470	510	560	620	680	750	820	910
E96	100	102	121	124	147	150	178	182	215	221	261	267	316	324	383	392	464	475	562	576	681	698	825	845
	105	107	127	130	154	158	187	191	226	232	274	280	332	340	402	412	487	499	590	604	715	732	866	887
	110	113	133	137	162	165	196	200	237	243	287	294	348	357	422	432	511	523	619	634	750	768	909	931
	115	118	140	143	169	174	205	210	249	255	301	309	365	374	442	453	536	549	649	665	787	806	953	976

E6: $\sqrt[6]{10} \approx 1.46$ E12: $\sqrt[12]{10} \approx 1.21$
 E1 series resistance: 1Ω, 10Ω, 100Ω, 1000Ω, 10000Ω, 100000Ω

INDEX

<u>Subject</u>	<u>Page</u>
<u>CERAMIC CAPACITOR</u>	
SAP PART NUMBER EXPLANATION	1
CLASS I 50V, 100V, 500V, 1KV, 2KV, 3KV, 6KV TEMPERATURE COMPENSATION TYPE	2~4
CLASS II 50V, 100V, 500V, 1KV, 2KV, 3KV HI-K TYPE	5~9
1KV, 2KV LOW DISSPATION LN TYPE	10~11
<u>SAFETY STANDARD CERAMIC CAPACITOR</u>	
SAP PART NUMBER EXPLANATION	12
AH AND AS TYPE-CLASS X1/Y1, AC TYPE-CLASS X1/Y2	13~14
SAFETY STANDARD CERAMIC CAPACITOR DETAIL SPECIFICATION	15~17
TAPING SPECIFICATION AND DIMENSION, MARKING	18~22
<u>SMD TYPE SAFETY STANDARD CERAMIC CAPACITOR</u>	
SAP PART NUMBER EXPLANATION AND MARKING	23
SYW TYPE-CLASS X1/Y AND SYL TYPE-CLASS X1/Y2	24
<u>RADIAL LEADED MULTILAYER CERAMIC CAPACITOR</u>	
PART NUMBER EXPLANATION	25
RADIAL LEADED CAPACITOR FEATURES DIMENSION.....	26
RADIAL LEADED CAPACITANCE RANGE AND MARKING.....	27~29
<u>PACKING</u>	
MPQ (Min Packing Quantity).....	30

*The specifications are subject to change or products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.

*This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.



CERAMIC CAPACITOR PART NUMBER EXPLANATION

To order, please also specify Pan Overseas Part No. as the following example for SAP system :

YP	102	102	K	060	B	20	C	5	H
Dielectric Code	Voltage Code	Capacitance Code	Tolerance Code	Diameter Code	Lead Style	Length or Packing	Length Tolerance	Pitch	Coating
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Dielectric Code

CLASS I:		CLASS II:	
CODE	T.C. (ppm/°C)	CODE	T.C. (ΔC%)
SL	SL (-1000 ~ +350) (+20°C to +85°C)	YP	Y5P (±10%)
		ZU	Z5U (+22 ~ -56%)
		ZV	Z5V (+22 ~ -82%)
		YU	Y5U (+22 ~ -56%)
		YV	Y5V (+22 ~ -82%)

② Voltage Code

CODE	WV
500	50 VDC
501	500 VDC
102	1KVDC
202	2KVDC
302	3KVDC
602	6KVDC

③ Capacitance Code

CODE	Capacitance
100	10 pF
101	100 pF
102	1000 pF
472	4700 pF
103	0.01uF

⑤ Diameter Code

CODE	Diameter max
040	Refer to the product diameter D max
050	
060	
070	
080	
090	
100	
110	
120	
130	
140	

⑥ Lead Style-Reference Lead Style

⑦ Packing / Pitch / Lead Length

Taping(ex)	
CODE	Packing & Pitch
AF	Ammo Box & Pitch 15.0 mm
AN	Ammo Box & Pitch 12.7 mm
AM	Ammo Box & Pitch 25.4 mm
Bulk (ex)	
CODE	Length
3E	3.5mm
04	4.0mm
4E	4.5mm
05	5.0mm
20	20.0mm

④ Tolerance Code

CODE	Tolerance
J	± 5%
K	± 10%
M	± 20%
Z	-20 ~ +80 %

⑧ Length Tolerance

CODE	Length Tolerance
A	± 0.5 mm (Only for short kink lead type)
B	± 1.0 mm
C	Min.
D	Tapping & Special Purpose

⑨ Pitch

CODE	Length Pitch
2	2.5±0.8mm
5	5.0±0.8mm (for Bulk)
	5.0+0.8-0.2mm (for Taping)
7	7.5 ± 1mm
0	10.0 ± 1mm

⑩ Coating Type

CODE	Coating
A	Phenolic resin Halogen free and Pb free
H	Epoxy resin Halogen free and Pb free

CERAMIC DISC CAPACITOR:

CLASS I 50V, 100V, 500V, 1KV, 2KV, 3KV, 6KV TEMPERATURE COMPENSATION TYPE

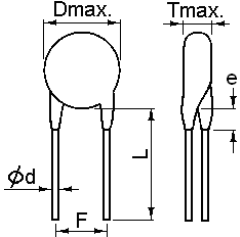
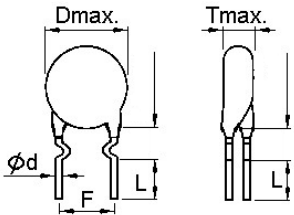
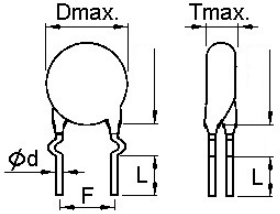
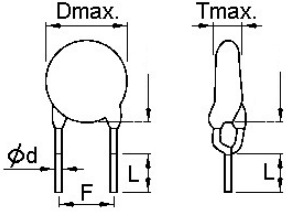
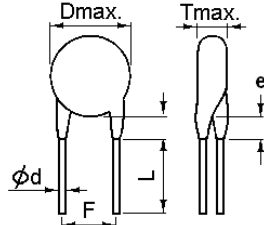
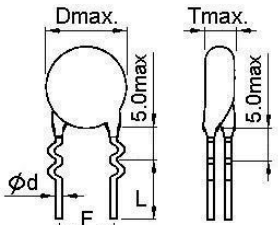
Features

- Capacitance has linear temperature coefficient
- Capacitance high stability
- Epoxy Coating for 1KV, 2KV, 3KV, 6KV parts (equivalent to UL94V-0 standards)
- RoHS Compliance
- Halogen free products are available
- Low lost at wide range of frequency

General specification

Capacitance Range	See page 3 to page 4
Capacitance Tolerance	±5%
Rated Voltage	50,100, 500, 1000, 2000, 3000 ,6000 VDC
Q Factor @ 1MHz, 1±0.2 Vrms, 25°C	C ≥ 30 pF.....Q ≥ 1,000, C < 30 pF.....Q ≥ 400+20°C
Insulation Resistance (IR) @ 25°C	10,000 MΩ Minimum
Dielectric Strength	50~500VDC:3 times the rated WVDC ; 1K, 2K, 3KVDC:2 times the rated WVDC; 6KVDC:1.5 times the rated WVDC.
Testing Parameters	1MHz ±20%, 1.0Vrms±0.2Vrms

Lead style

Lead type	Lead Code	Lead configuration	Lead type	Lead Code	Lead configuration
Type 1 Straight long lead	B	lead style : B 	Type 4 Inside kink lead	H	lead style : H 
Type 2 Outside kink lead	X	lead style : X 	Type 5 Vertical kink short lead	D	lead style : D 
Type 3 Straight short lead	L	lead style : L 	Type 6 Double outside kink lead	M	lead style : M 

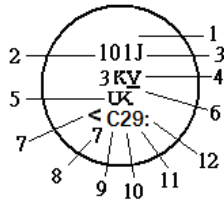
Manufacturing product range
Cap. Value v.s. Rate voltage, Product diameter & Type

T.C	SL (CLASS I, Temperature:+20°C~+85°C, T.C.C.: -1000 ~ +350ppm/°C)																			
	Rate voltage	50V(SL500);100V(SL101)						500V(SL501)					1KV(SL102)				2KV(SL202)			
Dφ(Code)	040	050	060	070	080	090	100	050	060	070	080	100	050	060	070	080	060	070	080	
D max. (mm)	5.0	6.0	7.0	8.0	9.0	10.0	11.0	6.0	7.0	8.0	9.0	11.0	6.0	7.0	8.0	9.0	7.5	8.5	9.5	
T max. (mm)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
15	150												150					150		
18	180							180					180					180		
20	200							200					200					200		
22	220							220					220					220		
24	240							240					240					240		
27	270							270					270					270		
30	300							300					300					300		
33	330							330					330					330		
36	360							360					360					360		
39	390							390					390					390		
47	470							470					470					470		
51	510							510					510					510		
56	560							560					560					560		
68	680							680					680					680		
75	750							750						750				750		
82	820							820						820				820		
100	101							101						101					101	
120		121							121					121						121
150		151							151						151					151
180		181								181					181					181
200			201							201						201				201
220			221							221						221				221
240			241								241									
270				271							271									
300				301							301									
330				331							331									
360				361								361								
390				391								391								
470					471															
500						501														
510						511														
560						561														
680							681													
750							751													
820							821													
φd (mm)	0.55±0.05																			
Packing	TAPING or BULK						TAPING or BULK					TAPING or BULK				TAPING or BULK				
Coating	Phenolic Resin											Phenolic or Epoxy Resin				Epoxy Resin				

Marking	1	2	3		4	5	6
	Temperature characteristic	Nominal capacitance	Rated voltage		Capacitance tolerance	Manufacturer's identification	Halogen and Pb free
	SL : No marking.	Identified by 3-figure code. Ex. 100 pF→"101"	50V/100V	Marked as underline	J:±5%	Shall be marked as "UK", but when Dφ≤060 shall be omitted.	There is a "_" marking under the code "V" as the coating is Halogen and Pb free Epoxy
			500V	No marking (is blank)			
			1000V	Marked "1kV"			
			2000V	Marked "2kV"			

Manufacturing product range
Cap. Value v.s. Rate voltage, Product diameter & Type

T.C.	SL (Temperature: +20°C~+85°C, T.C.C.: -1000 ~ +350 ppm/°C)					
	3KV(SL302)			6KV(SL602)		
Rate voltage						
Dφ(Code)	060	070	080	060	080	090
D max. (mm)	7.5	8.5	9.5	7.5	9.5	10.5
T max. (mm)	5.0	5.0	5.0	5.0	5.0	5.0
10	100			100		
12	120			120		
15	150			150		
18	180			180		
20	200			200		
22	220			220		
24	240					
27	270			270		
30	300			300		
33	330			330		
36	360					
39	390			390		
47		470			470	
51		510			510	
56		560			560	
62		620				
68		680				680
75			750			
82			820			820
100			101			101
φd (mm)	0.55±0.05					
Packing	TAPING or BULK					
Coating	Epoxy Resin					

	1	2	3	4	5	6
	Temperature characteristic	Nominal capacitance	Capacitance tolerance	Rated voltage	Manufacturer's identification	Halogen and Pb free
SL : No marking	1. Cap.≥100pF Ex. 120pF →"121" 2. Cap<100pF, Ex. 22pF→"22"	J: ±5%	3000V : Be marked "3kV" 6000V : Be marked "6kV"	Shall be marked as " UK ", but when Dφ≤ 060 shall be omitted.	When the epoxy resin is Halogn and Pb free, there is a "-"marking.	
Definition of date code marking:						
	7	8	9	10	11	12
	Supplier of Epoxy	No. of test equipment	Factory of manufacture	Year of manufacture	Month of manufacture	Week of manufacture by month
<: K-company	1~9: No.1~No.9, J: No.10, K: No.11, L: No.12	C: GZ Plant	0: 2020, 1: 2021, 2: 2022, 3: 2023,	1~9: January~ September, O: October, N: November, D: December	week 1: – week 2: • week 3: : week 4: ' week 5: ;	

CERAMIC DISC CAPACITOR
CLASS II 50V, 100V, 500V, 1KV, 2KV, 3KV HI-K TYPE

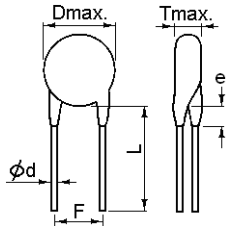
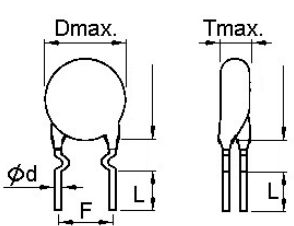
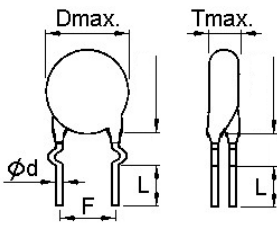
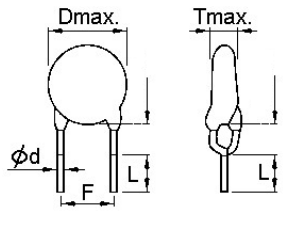
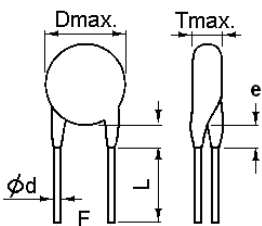
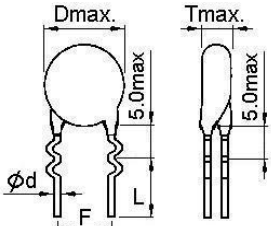
Features

- Capacitance has non-linear temperature coefficient.
- Large capacitance in small size.
- Epoxy Coating for 1KV, 2KV and 3KV parts (equivalent to UL94V-0 standards).
- RoHS Compliance.
- Halogen free products are available.
- Wide range of general purposes applications.

General specification

Capacitance Range	See page 6 to page 9
Capacitance Tolerance	±10%(for Y5P), ±20%(for Z5U), +80% -20%(for Z5U&Z5V&Y5V)
Rated Voltage	50,100, 500,1000, 2000, 3000VDC
Dissipation Factor (tan δ)	Y5P, Z5U, Y5U : tanδ≤2.5%, Z5V, Y5V : tanδ≤5.0%
Insulation Resistance (IR) @ 25°C	10,000 MΩMinimum or 200 MΩμF whichever is smaller
Dielectric Strength	50~500VDC: 2.5 times the rated WVDC; 1K, 2K, 3KVDC: 2 times the rated WVDC
Testing Parameters	1KHz ±20%, 1.0Vrms±0.2Vrms

Lead style

Lead type	Lead Code	Lead configuration	Lead type	Lead Code	Lead configuration
Type 1 straight long lead	B	lead style : B 	Type 4 Inside kink lead	H	lead style : H 
Type 2 Outside kink lead	X	lead style : X 	Type 5 Vertical kink short lead	D	lead style : D 
Type 3 straight short lead	L	lead style : L 	Type 6 Double outside kink lead	M	lead style : M 

Manufacturing product range
Cap. Value v.s. Rate voltage, product diameter & type

T.C.	Y5P (CLASS II, Temperature:-25°C~+85°C, T.C.C.:±10%)																																																
	50V(YP500) & 100V(YP101)							500V(YP501)							1KV(YP102)							2KV(YP202)																											
Rate voltage	040	050	060	070	080	090	100	040	050	060	070	080	090	100	110	130	050	060	070	080	100	120	060	080	090	100	130	140																					
D max. (mm)	4.5	5.5	6.5	7.5	8.5	9.5	11.0	4.5	5.5	6.5	7.5	9.0	10.0	11.0	12.0	14.0	6.0	7.0	8.0	9.0	11.0	13.0	7.5	9.5	10.5	11.5	14.5	15.5																					
T max. (mm)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5																					
100	101							101									101								101																								
120	121							121									121								121																								
150	151							151									151								151																								
180	181							181									181								181																								
200	201							201									201								201																								
220	221							221									221								221																								
240	241							241									241								241																								
270	271							271									271								271																								
330	331							331									331								331																								
390	391							391									391								391																								
470	471							471									471								471																								
560	561							561									561								561																								
680	681							681										681							681																								
820	821								821									821							821																								
1000	102								102									102							102																								
1200		122								122									122							122																							
1500		152								152									152							152																							
1800		182									182									182						182																							
2000		202									202									202						202																							
2200		222									222									222						222																							
2700			272									272									272						272																						
3000			302									302									302																												
3300			332										332								332						332																						
3900				392									392									392					392																						
4700				472										472								472						472																					
5000					502									502																																			
5600					562									562																																			
6800						682									682																																		
8200							822									822																																	
10000								103																																									
φd (mm)	0.55±0.05																																																
Packing	TAPING or BULK							BULK							TAPING or BULK							BULK							TAPING or BULK							TAPING or BULK							BULK						
Coating	Phenolic Resin														Phenolic or Epoxy Resin														Epoxy Resin																				

Marking	1	2	3		4	5	6
	Temperature characteristic	Nominal capacitance	Rated voltage		Capacitance tolerance	Manufacturer's identification	Halogen and Pb free
	Be marked "B".	Identified by 3-figure code. Ex. 1000pF→"102" 3300pF→"332"	50V/100V	Marked as underline	K:±10%	Shall be marked as "UK", but when Dφ ≤060 shall be omitted.	There is a "_" marking under the code "V" as the coating is Halogen and Pb free Epoxy.
			500V	No marking (is blank)			
			1000V	Marked "1kV"			
			2000V	Marked "2kV"			

Manufacturing product range
Cap. Value v.s. Rate voltage, product diameter & type

T.C.	Z5U (CLASS II, Temperature: +10°C~+85°C, T.C.C.: +22~-56%)																	
	50V(ZU500)&100V(ZU101)				500V(ZU501)				1KV(ZU102)				2KV(ZU202)					
Rate voltage	040	050	060	070	050	060	070	090	050	070	090	100	060	070	080	090	110	130
Dφ(Code)	040	050	060	070	050	060	070	090	050	070	090	100	060	070	080	090	110	130
D max. (mm)	4.5	5.5	6.5	7.5	5.5	6.5	7.5	9.5	6.0	8.0	10.0	11.0	7.5	8.5	9.5	10.5	12.5	14.5
T max. (mm)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
1000					102				102				102					
1200					122				122				122					
1500					152				152					152				
2200	222				222				222					222				
2700	272				272					272					272			
3300	332					332				332					332			
3600	362					362				362						362		
3900	392					392				392						392		
4700	472						472			472						472		
5000		502								502								
5600							562										562	
6800							682				682						682	
8200			822									822						822
10000				103				103				103						103
φd (mm)	0.55±0.05																	
Packing	TAPING or BULK																	BULK
Coating	Phenolic Resin							Phenolic or Epoxy Resin					Epoxy Resin					

T.C.	Y5U (CLASS II, Temperature: -25°C~+85°C, T.C.C.: +22~-56%)																		
	50V(YU500)&100V(YU101)			500V(YU501)					1KV(YU102)					2KV(YU202)					
Rate voltage	050	070	060	070	080	090	100	050	060	070	090	110	060	070	080	090	110	140	
Dφ(Code)	050	070	060	070	080	090	100	050	060	070	090	110	060	070	080	090	110	140	
D max. (mm)	5.5	8.5	6.5	7.5	8.5	9.5	10.5	6.0	7.0	8.0	10.0	12.0	7.5	8.5	9.5	10.5	12.5	15.5	
T max. (mm)	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
1000			102					102					102						
1200								122					122						
1500								152						152					
2000	202																		
2200	222		222						222						222				
2700	272			272						272					272				
3000	302																		
3300	332			332						332						332			
3600	362																		
3900	392			392						392						392			
4700	472				472						472					472			
5000	502																		
5600																	562		
6800						682					682								
8200		822																	
10000		103					103					103						103	
φd (mm)	0.55±0.05																		
Packing	TAPING or BULK											BULK	TAPING or BULK				BULK		
Coating	Phenolic Resin							Phenolic or Epoxy Resin					Epoxy Resin						

Marking	1	2	3		4	5	6
	Temperature characteristic	Nominal capacitance	Rated voltage		Capacitance tolerance	Manufacturer's identification	Halogen and Pb free
	Z5U/Y5U : Be marked "E"	Identified by 3-figure code. Ex. 1000pF→"102" 3300pF→"332"	50V/100V	Marked as underline	M:±20% Z:-20~+80%	Shall be marked as "UK", but when Dφ ≤ 060 shall be omitted.	There is a " " marking under the code "V" as the coating is Halogen and Pb free Epoxy.
			500V	No marking (is blank)			
			1000V	Marked "1kV"			
			2000V	Marked "2kV"			

Manufacturing product range
Cap. Value v.s. Rate voltage, product diameter & type

T.C.	Z5V (CLASS II, Temperature: +10°C~+85°C, T.C.C.: +22~82%)								
Rate voltage	50V(ZV500) & 100V(ZV101)				500V(ZV501)	1KV(ZV102)			2KV(ZV202)
Dφ (Code)	050	060	070	080	080	060	080	100	120
D max. (mm)	5.5	6.5	7.5	8.5	9.0	7.0	9.0	11.0	13.5
T max. (mm)	3.5	3.5	3.5	3.5	4.0	4.5	4.5	4.5	4.5
1000	102								
1500	152						152		
2200	222						222		
2700	272						272		
3300	332						332		
3900	392						392		
4700	472						472		
10000		103			103			103	103
20000			203						
22000				223					
φd (mm)	0.55±0.05								
Packing	TAPING or BULK								BULK
Coating	Phenolic Resin					Phenolic or Epoxy Resin			Epoxy Resin

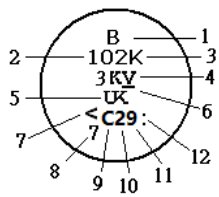
T.C.	Y5V (CLASS II, Temperature: -25°C~+85°C, T.C.C.: +22% ~82%)									
Rate voltage	50V(YV500) & 100V(YV101)				500V(YV501)			1KV(YV102)	2KV(YV202)	
Dφ(Code)	040	050	060	080	050	070	080	100	070	120
D max. (mm)	4.5	5.5	6.6	8.5	5.5	7.5	8.5	11.0	8.5	13.5
T max. (mm)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.5	5.0	5.0
1000	102								102	
2200		222			222				222	
4700		472				472				
10000			103				103	103		103
22000				223						
φd (mm)	0.55±0.05									
Packing	TAPING or BULK								BULK	
Coating	Phenolic Resin						Phenolic or Epoxy Resin		Epoxy Resin	

Marking	1	2	3		4	5	6
	Temperature characteristic	Nominal capacitance	Rated voltage		Capacitance tolerance	Manufacturer's identification	Halogen and Pb free
	Z5V, Y5V: the logo is "F", but the "F" shall be omitted.	Identified by 3-figure code. Ex. 1000pF→"102" 3300pF→"332" 4700pF→"472"	50V/100V	Marked as underline	M:±20% Z:-20~+80%	Shall be marked as "UK", but when Dφ≤060 shall be omitted	There is a "_" marking under the code "V" as the coating is Halogen and Pb free Epoxy.
			500V	No marking (is blank)			
			1000V	Marked "1kV"			
			2000V	Marked "2kV"			
			2000V	Marked "2kV"			

Manufacturing product range
Cap. Value v.s. Rate voltage, product diameter & type

T.C.	Y5P (CLASS II, Temperature: -25°C~+85°C, T.C.C.: ±10%)			Z5U CLASS II, Temperature: +10°C~+85°C, T.C.C.: +22~-56%)					Y5U (CLASS II, Temperature: -25°C~+85°C, T.C.C.: +22~-56%)				
	3KV(YP302)			3KV(ZU302)					3KV(YU302)				
Dφ (Code)	060	070	090	060	080	100	110	120	060	080	100	110	120
D max. (mm)	8.0	9.0	11.0	8.0	10.0	12.0	13.0	14.0	8.0	10.0	12.0	13.0	14.0
T max. (mm)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
100	101												
120	121												
150	151												
180	181												
220	221												
270	271												
330	331												
390		391											
470		471											
560		561											
680			681										
820			821										
1000			102	102					102				
1500					152					152			
2200					222					222			
3300						332					332		
3900							392					392	
4700								472					472
φd (mm)	0.55±0.05												
Packing	TAPING or BULK												
Coating	Epoxy Resin												

1	2	3	4	5	6
Y5P : Be marked "B" Z5U/Y5U : Be marked "E"	Identified by 3-figure code when Cap. ≥100pF Ex. 1000pF → "102"	K: ±10% (for Y5P) M: ±20% (for Z5U/Y5U)	3000V : Be marked "3kV"	Shall be marked as "UK", but when Dφ ≤ 060 shall be omitted	When the epoxy resin is Halogen and Pb free, there is a "-" marking.
Definition of date code marking:					
7	8	9	10	11	12
Supplier of Epoxy	No. of test equipment	Factory of manufacture	Year of manufacture	Month of manufacture	Week of manufacture by month
<: K-company	1~9: No.1~No.9, J: No.10, K: No.11, L: No.12	C: GZ Plant	0:2020, 1:2021, 2:2021, 3:2021,	1~9: January~September, O: October, N: November, D: December	week 1: - week 2: • week 3: : week 4: ' week 5: ;



CERAMIC DISC CAPACITOR
1KV, 2KV LOW DISSIPATION LN TYPE

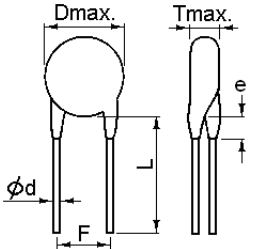
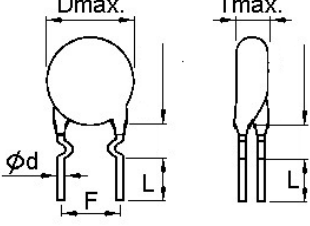
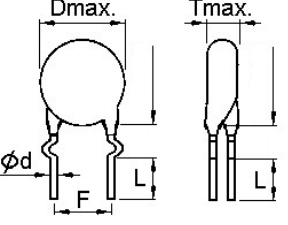
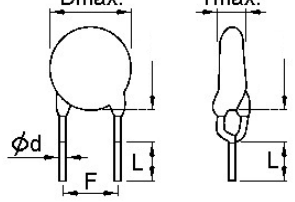
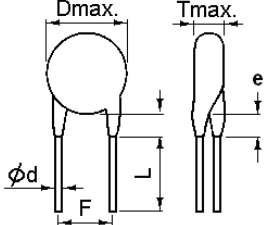
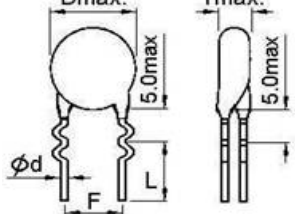
Features

- Reduced heat dissipation permitted due to small dielectric loss of the ceramic material.
- Operating temperature range is guaranteed up to 125 degree C.
- Coated with flame-retardant epoxy resin (equivalent to UL94V-0 standards).
- RoHS Compliance.
- Halogen free products are available.
- Ideal for use on high frequency pulse circuits such as a horizontal resonance circuit for CTV and snubber circuits for switching power supplies.

General specification

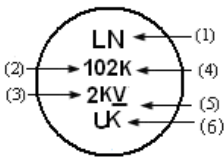
Capacitance Range	See page 11
Capacitance Tolerance	±10%,
Operating Temperature Range	-25°C~ +125°C
Rated Voltage	1K, 2K VDC
Dissipation Factor (tan δ)	0.2% Max
Cap. Change:	±15%(-25°C~+85°C)
Insulation Resistance (IR) @ 25°C	10000MΩ Minimum or 200MΩμF whichever is smaller (500VDC, 60sec)
Dielectric Strength	2 times the rated WVDC
Testing Parameters	1KHz ±20%, 1.0Vrms±0.2Vrms

Lead style

Lead type	Lead Code	Lead configuration	Lead type	Lead Code	Lead configuration
Type 1 straight long lead	B	lead style : B 	Type 4 Inside kink lead	H	lead style : H 
Type 2 Outside kink lead	X	lead style : X 	Type 5 Vertical kink short lead	D	lead style : D 
Type 3 straight short lead	L	lead style : L 	Type 6 Double outside kink lead	M	lead style : M 

LN Series:

Part Number	Rated Voltage.	Cap. in pF	Cap. Tol. (%)	Dimensions in mm	
				D max.	T Max.
LN102101K050□□□□□	1000VDC	100	±10%	6.5	4.5
LN102151K050□□□□□	1000VDC	150	±10%	6.5	4.5
LN102221K050□□□□□	1000VDC	220	±10%	6.5	4.5
LN102241K060□□□□□	1000VDC	240	±10%	7.5	4.5
LN102331K060□□□□□	1000VDC	330	±10%	7.5	4.5
LN102471K070□□□□□	1000VDC	470	±10%	8.5	4.5
LN102681K090□□□□□	1000VDC	680	±10%	10.5	4.5
LN102821K100□□□□□	1000VDC	820	±10%	11.5	4.5
LN102102K100□□□□□	1000VDC	1000	±10%	11.5	4.5
LN202101K050□□□□□	2000VDC	100	±10%	6.5	5.0
LN202151K050□□□□□	2000VDC	150	±10%	6.5	5.0
LN202221K060□□□□□	2000VDC	220	±10%	7.5	5.0
LN202331K070□□□□□	2000VDC	330	±10%	8.5	5.0
LN202471K080□□□□□	2000VDC	470	±10%	9.5	5.0
LN202681K090□□□□□	2000VDC	680	±10%	10.5	5.0
LN202821K100□□□□□	2000VDC	820	±10%	11.5	5.0
LN202102K110□□□□□	2000VDC	1000	±10%	12.5	5.0

Marking	1	2	3		4	5	6
	Temperature characteristic	Nominal capacitance	Rated voltage		Capacitance tolerance	Halogen and Pb free	Manufacturer's identification
	LN : Be marked "LN"	Identified by 3-figure code. Ex. 100pF→"101" 1000pF→"102"	1000V	Marked "1kV"	K:±10%	There is a "_" marking under the code "V" as the coating is Halogen and Pb free Epoxy.	Shall be marked as "UK", but when Dφ ≤ 060 shall be omitt
			2000V	Marked "2kV"			

SAFETY STANDARD CERAMIC CAPACITOR SAP Part Number Explanation

To order, please also specify Pan Overseas Part No. as the following example for SAP system :

YV	0AC	472	M	10	0	L	20	C	7	H
1	2	3	4	5	6	7	8	9	10	11

1. Temperature characteristic (identified code):

CODE	SL	YP (Y5P)	YU (Y5U)	YV (Y5V)
Cap. Change (%)	-1000~+350ppm/°C(+20°C~+85°C)	±10%	+20%to -55%	+30%to -80%

2. TYPE, Capacitor class and Rated voltage (identified by 3-figure code):

0AC=AC(X1-400V~/Y2-250V~); 1AC=AC(X1-440V~/Y2-300V~); 5AC = AC(X1:500V~/Y2:500V~/1500VDC)
 7AC(for Automotive)= AC(X1:440V~/Y2:300V~/1500VDC)
 0AH=AH(X1-400V~/Y1-250V~); 1AH=AH(X1-400V~/Y1-400V~); 5AH = AC(X1:500V~/Y1:500V~/1500VDC)
 0AS=AS(X1-760V~/Y1-500V~) (Only approval for VDE//ENEC/UL/CUL/CQC)

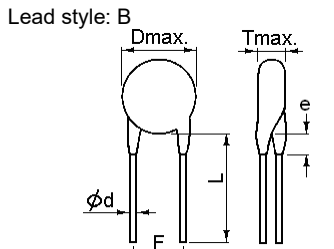
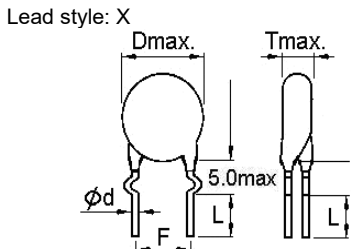
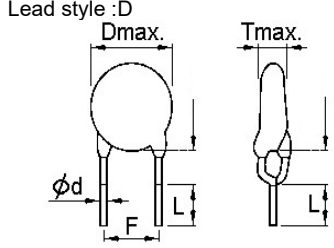
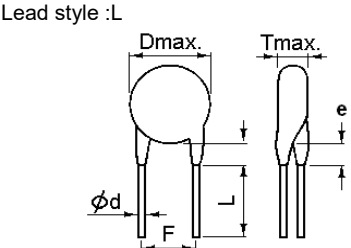
3. Capacitance (identified by 3-figure code)

4. Capacitance tolerance (identified by code)

5. Nominal body diameter dimension (identified by 2-figure code)

6. Internal control code:0—Normal, other code—Special control

7. Lead Style:

Lead type & Code	Lead Configuration	Lead type & Code	Lead Configuration
Type B Straight lead for taping	Lead style: B 	Type X Outside kink lead	Lead style: X 
Type D Vertical kink short lead	Lead style :D 	Type L Straight lead for bulk	Lead style :L 

8.Packing mode and lead length (identified by 2-figure code)

Bulk Code	Description
3E	lead length L : 3.5mm
04	lead length L : 4.0mm
4E	lead length L : 4.5mm
20	lead length L : 20mm

Taping Code	Description
AM	Box and Pitch : 25.4 mm (10.0mm)
AF	Box and Pitch : 15.0 mm (Pitch=7.5mm)
AS	Box and Pitch : 15.0 mm (Pitch=10mm)

9. Length tolerance

Code	Description
A	±0.5 mm (only for kink lead type)
B	±1.0 mm
C	MIN.
D	Taping special purpose

10. Pitch

Code	Description
7	7.5±1.0 mm
M	7.5±0.5 mm
0	10±1.0 mm
A	10±0.5 mm

11. Epoxy Resin Code

Code	Description
H	Halogen and Pb free, epoxy resin (Ag electrode)
w	Ag electrode products / Halogen and Pb free, epoxy resin. (for 85C/85% 1000HR).

Code	Description
T	Halogen and Pb free, epoxy resin (Cu electrode)

**SAFETY STANDARD CERAMIC CAPACITOR:
AH and AS Type-Class X1/Y1; AC Type-Class X1/Y2**

Introduction

Ideal for use as X/Y capacitors for AC line filters and primary-secondary coupling on switching power Supplies and AC adapters applications. Having internationally recognized safety certifications, these capacitors are well-suited for applications that require keeping potentially disruptive or damaging line transients and EMI out of susceptible equipment. They are also an ideal solution in situations where there is a need to suppress line disturbances at the power.

Features

- Compact size
- Cost effective products
- Ideal for across the line applications
- Safety Standard Recognized for AC applications
- Coated with flame-retardant epoxy resin (equivalent to UL94V-0 standards)
- RoHS Compliance
- Halogen free products are available

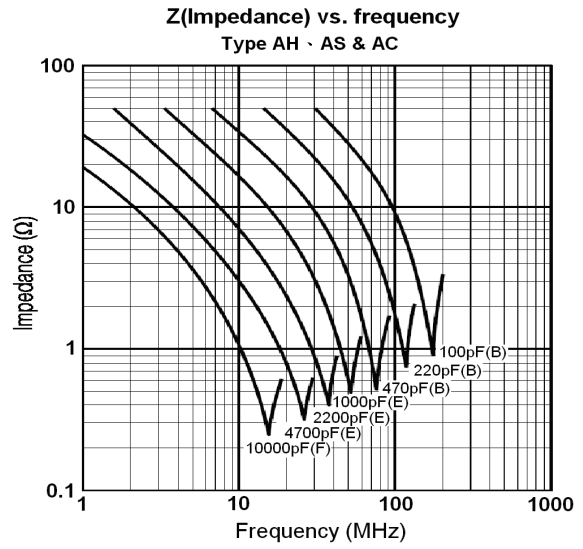
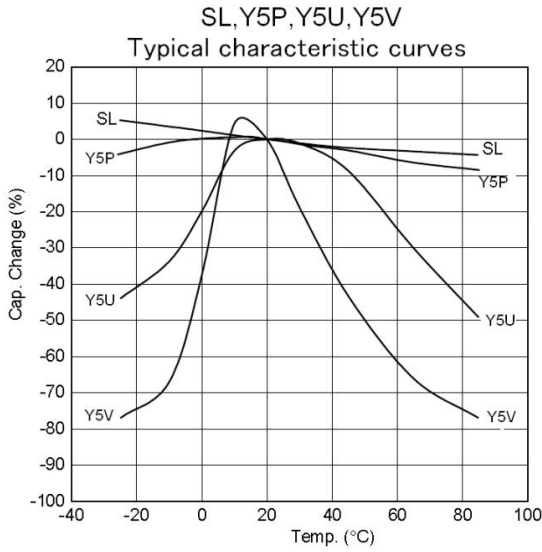
Approval standards

Agencies	Approval Mark	Capacitor class & Rated Voltage	Type, Capacitor class and Rated voltage Code
UL		X1: 400Vac /440Vac /500Vac/ 760Vac /1500Vdc Y1: 250Vac /400Vac /500Vac/ 1500 Vdc Y2: 250Vac /300Vac /500Vac/ 1500 Vdc	0AH/1AH/5AH/0AS 0AC/1AC/5AC 7AC(for Automotive)
cUL			
ENEC			
CQC			
DEMKO		X1: 400Vac /440Vac /500Vac/ 1500Vdc Y1: 250Vac /400Vac /500Vac/ 1500 Vdc Y2: 250Vac /300Vac /500Vac/ 1500 Vdc	0AH/1AH/5AH 0AC/1AC/5AC 7AC(for Automotive)
SEMKO			
NEMKO			
FIMKO			
SEV			
VDE		X1: 400Vac /440Vac / 760Vac Y1: 250Vac /400Vac /500Vac Y2: 250Vac /300Vac	0AH/1AH/0AS 0AC/1AC
CSA		X1: 400Vac /440Vac Y1: 250Vac /400Vac Y2: 250Vac /300Vac	0AH/1AH 0AC/1AC
KTL			

General specification

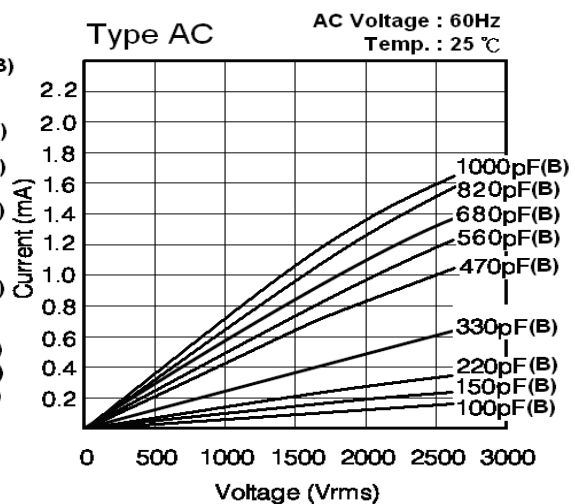
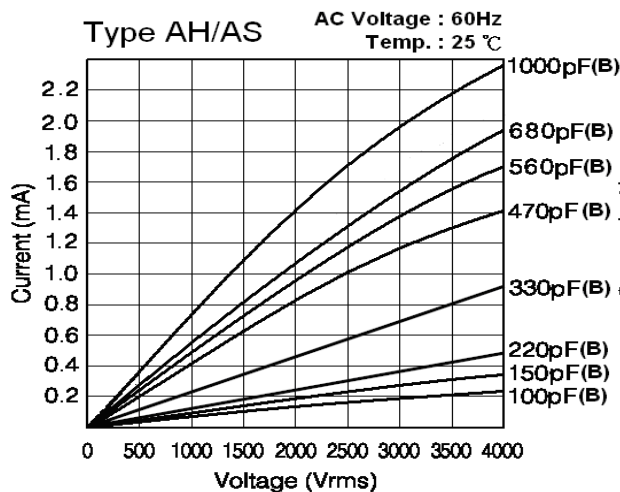
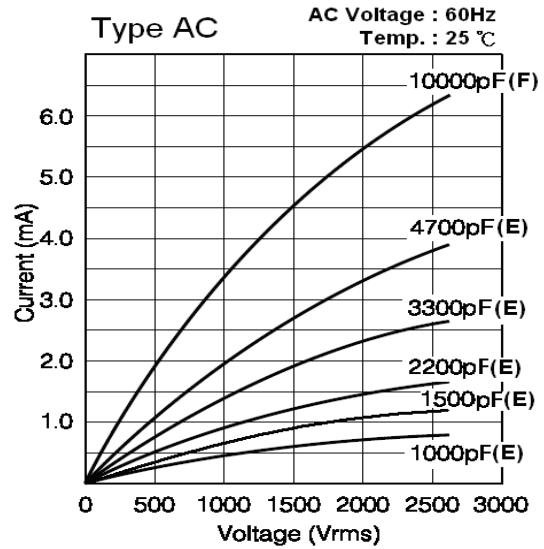
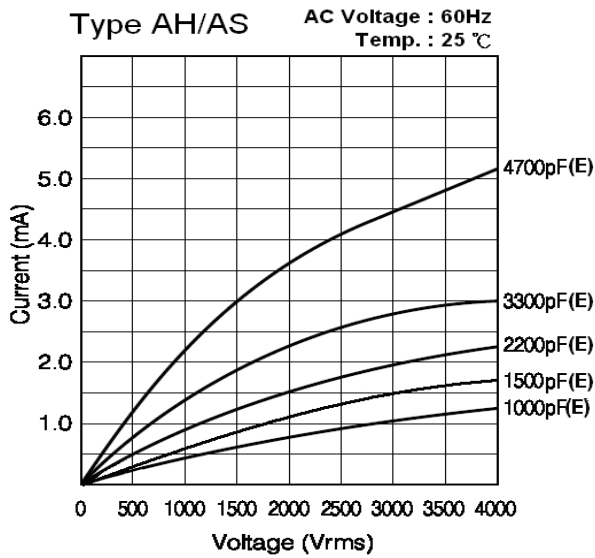
Capacitance Range	AH:10pF to 4700pF; AC:10pF to 10000pF; AS: 100pF to 4700pF
Capacitance Tolerance	±5%, ±10%, ±20%
Operating Temperature Range	-40°C~ +125°C
Temperature Coefficient (ΔC Max)	SL:-1000~+350ppm/°C, Y5P: ±10% , Y5U:+20~55% , Y5V:+30 ~80%
Rated Voltage	AH Type: X1: 400Vac /500Vac/ 1500Vdc / Y1: 250Vac /400Vac /500Vac/ 1500 Vdc ; AC Type: X1: 400Vac /440Vac /500Vac/ 1500Vdc / Y2: 250Vac /300Vac /500Vac/ 1500 Vdc ; AS Type: X1:760Vac / Y1:500Vac
Dissipation Factor(tanδ) or Q	SL: 30pF&above:Q≥1000 Below 30pF:Q≥400+20×C @20°C, 1MHz, 1±0.2Vrms Y5P: tanδ=2.5% Max. , Y5U: tanδ=2.5% Max. , Y5V: tanδ=5.0% Max. @20°C, 1KHz, 1±0.2Vrms
Insulation Resistance	10000MΩ at 500VDC for 60 Seconds
Dielectric Strength	2600VAC for 60 Seconds (AC TYPE) (For Lead Pitch=7.5 & 10 mm)
	4000VAC for 60 Seconds (AH,AS TYPE) (For Lead Pitch=10.0mm)

Typical characteristic curves & Z (Impedance) vs. frequency :



Note: Above data are just for reference not assured ones.

Leakage Current Characteristics (AH and AS: ~4000V / AC: ~2600V):



Note: Above data are just for reference not assured ones

AH Type-Class X1/Y1

Normal for standard parts (0AH/1AH/5AH):

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D Max.	T Max.	F F±1/±0.5	Wire Dia. (φd)
YP *AH101K060****H	Y5P	100	±10%	7.0	5.0	10.0.	0.55±0.05
YP *AH151K060****H		150		7.0			
YP *AH221K060****H		220		7.0			
YP *AH331K060****H		330		7.0			
YP *AH471K070****H		470		8.0			
YP *AH561K080****H		560		9.0			
YP *AH681K080****H		680		9.0			
YP *AH102K100****H		1000		11.0			
YU *AH681M060****H		Y5U		680			
YU *AH102M070****H	1000		8.0				
YU *AH152M080****H	1500		9.0				
YU *AH222M090****H	2200		10.0				
YU *AH332M110****H	3300		12.0				
YU *AH392M120****H	3900		14.0				
YU *AH472M130****H	4700		14.0				
YV *AH102M060****H	Y5V		1000	±20%	7.0	5.5	10.0
YV *AH152M070****H		1500	8.0				
YV *AH222M080****H		2200	9.0				
YV *AH332M100****H		3300	11.0				
YV *AH472M110****H		4700	12.0				
SL *AH ***J060****H	SL	10,12,15,18,20,22,24,27,30,33,36,39	±5%	7.0	5.0	10.0	0.55±0.05
SL *AH ***J070****H		47,50,51,56,62		8.0			
SL *AH ***J080****H		68,75		9.0			
SL *AH***J090****H		82,100		10.0			

Small size for standard parts (0AH/1AH):

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D Max.	T Max.	F F±1/±0.5	Wire Dia. (φd)
YP *AH101K050****T	Y5P	100	±10%	6.0	4.5	10.0.	0.55±0.05
YP *AH151K050****T		150		6.0			
YP *AH221K060****T		220		7.0			
YP *AH331K050****T		330		6.0			
YP *AH471K060****T		470		7.0			
YP *AH561K060****T		560		7.0			
YP *AH681K070****T		680		8.0			
YP *AH102K080****T		1000		9.0			
YU *AH102M060****T		Y5U		680			
YU *AH152M060****T	1500		7.0				
YU *AH222M080****T	2200		9.0				
YU *AH332M100****T	3300		11.0				
YU *AH392M110****T	3900		12.0				
YU *AH472M120****T	4700		13.0				
SL *AH ***J060****T	SL		10,12,15,18,20,22,24,27,30,33,36,39	±5%	7.0	4.5	10.0
SL *AH ***J070****T		47,50,51,56,62	8.0				
SL *AH ***J080****T		68,75	9.0				
SL *AH***J090****T		82,100	10.0				

AS Type-Class X1/Y1

Normal for standard parts:

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D Max.	T Max.	F F±1/±0.5	Wire Dia. (φd)
YP*AS101K070*****H	Y5P	100 pF	±10%	8.0	5.5	10.0.	0.55±0.05
YP*AS151K070*****H		150 pF		8.0			
YP*AS221K070*****H		220 pF		8.0			
YP*AS331K070*****H		330 pF		8.0			
YP*AS471K080*****H		470 pF		9.0			
YP*AS561K090*****H		560 pF		10.0			
YP*AS681K090*****H		680 pF		10.0			
YP*AS102K110*****H		1000 pF		12.0			
YU*AS102M080*****H	Y5U	1000 pF	±20%	9.0	5.5	10.0.	0.55±0.05
YU*AS152M090*****H		1500 pF		10.0			
YU*AS222M120*****H		2200 pF		13.0			
YU*AS332M120*****H		3300 pF		13.0			
YU*AS392M130*****H		3900 pF		14.0			
YU*AS472M140*****H		4700 pF		15.0			

AC Type-Class X1/Y2

Normal for standard parts (0AC/1AC/5AC):

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D max.	T max.	F±1/±0.5	Wire Dia. (φd)
YP *AC101K060*****H	Y5P	100	±10%	7.0	5.0	7.5, 10.0	0.55±0.05
YP *AC151K060*****H		150		7.0			
YP *AC221K060*****H		220		7.0			
YP *AC331K060*****H		330		7.0			
YP *AC471K060*****H		470		7.0			
YP *AC561K070*****H		560		8.0			
YP *AC681K070*****H		680		8.0			
YP *AC821K080*****H		820		9.0			
YP *AC102K080*****H		1000		9.0			
YU *AC102M060*****H		Y5U		1000			
YU *AC152M080*****H	1500		9.0				
YU *AC222M080*****H	2200		9.0				
YU *AC332M100*****H	3300		11.0				
YU *AC392M120*****H	3900		13.0				
YU *AC472M120*****H	4700		13.0				
YV *AC102M060*****H	Y5V	1000	±20%	7.0	5.0	7.5 10.0	0.55±0.05
YV *AC152M060*****H		1500		7.0			
YV *AC222M060*****H		2200		7.0			
YV *AC332M080*****H		3300		9.0			
YV *AC392M100*****H		3900		11.0			
YV *AC472M100*****H		4700		11.0			
YV *AC682M120*****H		6800		13.0			
YV *AC103M140*****H		10000		15.0			
SL *AC *** J060*****H	SL	10,12,15,18,20,22,24,27,30,33,36,39,47,50,51	±5%	7.0	5.0	7.5 10.0	0.55±0.05
SL *AC *** J070*****H		56,62,68,75		8.0			
SL *AC820J080*****H		82		9.0			
SL *AC101J090*****H		100		10.0			

AC Type-Class X1/Y2

Small size for standard parts (0AC/1AC):

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D max.	T max.	F±1/±0.5	Wire Dia. (φd)
YP *AC101K050*****T	Y5P	100	±10%	6.0	4.5	7.5, 10.0	0.55±0.05
YP *AC151K050*****T		150		6.0			
YP *AC221K060*****T		220		7.0			
YP *AC331K050*****T		330		6.0			
YP *AC471K060*****T		470		7.0			
YP *AC561K060*****T		560		7.0			
YP *AC681K060*****T		680		7.0			
YP *AC821K070*****T		820		8.0			
YP *AC102K070*****T		1000		8.0			
YU *AC102M050*****T		Y5U		1000			
YU *AC152M060*****T	1500		7.0				
YU *AC222M070*****T	2200		8.0				
YU *AC332M090*****T	3300		10.0				
YU *AC392M100*****T	3900		11.0				
YU *AC472M100*****T	4700		11.0				
SL *AC *** J060*****T	SL	10,12,15,18,20,22,24,27, 30,33,36,39,47,50,51	±5%	7.0	4.5	7.5 10.0	0.55±0.05
SL *AC *** J070*****T		56,62,68,75		8.0			
SL *AC820J080*****T		82		9.0			
SL *AC101J090*****T		100		10.0			

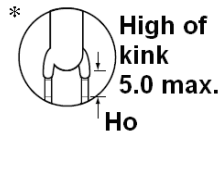
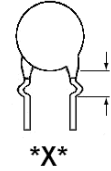
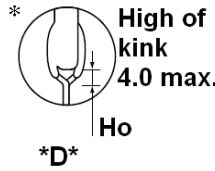
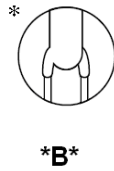
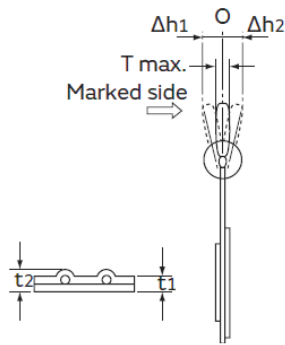
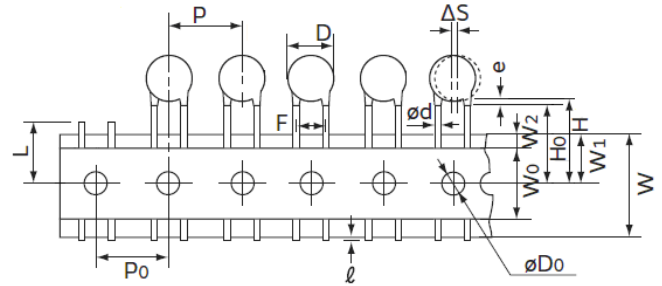
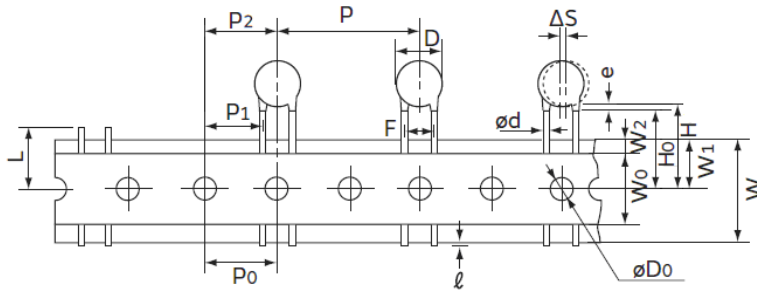
Automotive for standard parts (7AC):

Part Number	Temp. Char.	Cap.(pF)	Tol.	Dimension (mm)			
				D max.	T max.	F±1/±0.5	Wire Dia. (φd)
YP7AC101K060*****W	Y5P	100	±10%	7.0	4.0~6.0	7.5, 10.0	0.55±0.05
YP7AC151K060*****W		150		7.0			
YP7AC221K060*****W		220		7.0			
YP7AC331K060*****W		330		7.0			
YP7AC471K060*****W		470		7.0			
YP7AC561K070*****W		560		8.0			
YP7AC681K070*****W		680		8.0			
YP7AC821K080*****W		820		9.0			
YP7AC102K080*****W		1000		9.0			
YU7AC102M060*****W		Y5U		1000			
YU7AC152M080*****W	1500		9.0				
YU7AC222M080*****W	2200		9.0				
YU7AC332M100*****W	3300		11.0				
YU7AC392M120*****W	3900		13.0				
YU7AC472M120*****W	4700		13.0				
YV7AC102M060*****W	Y5V	1000	±20%	7.0	4.0~6.0	7.5 10.0	0.55±0.05
YV7AC152M060*****W		1500		7.0			
YV7AC222M060*****W		2200		7.0			
YV7AC332M080*****W		3300		9.0			
YV7AC392M100*****W		3900		11.0			
YV7AC472M100*****W		4700		11.0			
YV7AC682M120*****W		6800		13.0			
YV7AC103M140*****W		10000		15.0			

Taping Format: AH and AS X1/Y1

• 25.4mm pitch/lead spacing 10.0mm taping
Lead Code: *BAMD0 & *DAMD0 & *XAMD0

• 15mm pitch/lead spacing 10.0mm taping
Lead Code: *BASD0 & *DASD0



POE Part Number		*BAMD0 / *DAMD0 / *XAMD0	*BASD0 / *DASD0
Item	Symbol	Dimensions(mm)	
Pitch of component	P	25.4 ± 2	15.0 ± 1
Pitch of sprocket	P0	12.7 ± 0.3	15.0 ± 0.3
Lead spacing	F	10.0 ± 1.0	
Length from hole center to component center	P2	12.7 ± 1.5	--
Length from hole center to lead	P1	7.7 ± 1.5	--
Body diameter	D	Refer to Detail Spec.	
Deviation along tape, left or right	ΔS	0 ± 2.0	
Carrier tape width	W	18.0 +1/-0.5	
Position of sprocket hole	W1	9.0 ± 0.5	
Lead distance between the kink and center of sprocket hole	H0	18.0+2.0/-0 (For: *D* & *X* lead type)	
Lead distance between the bottom of body and the center of sprocket hole	H	20.0+1.5/-1.0 (For: *B* lead type)	
Protrusion length	ℓ	+0.5/-1.0 (the end of lead wire may be inside the tape.)	
Diameter of sprocket hole	D0	4.0 ± 0.2	
Lead diameter	φd	*(0)AH*H:0.55±0.05 / *5AH*H & * T: 0.55+0.1/-0.05	
Total tape thickness	t1	0.6 ± 0.3	
Total thickness, tape and lead wire	t2	1.5 max.	
Deviation across tape	Δh1 / Δh2	2.0 max.	
Portion to cut in case of defect	L	11.0 max.	
Hole-down tape width	W0	8.0 min	
Hole-down tape distortion	W2	1.5 ± 1.5	
Coating extension on leads	E	3.0 max for straight lead style; Not exceed the kink leads for kink lead.	
Body thickness	T	Refer to Detail Spec.	

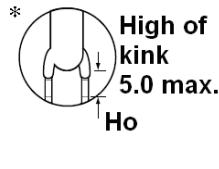
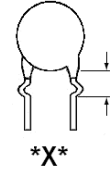
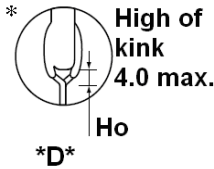
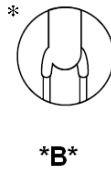
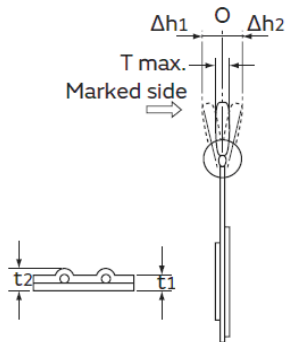
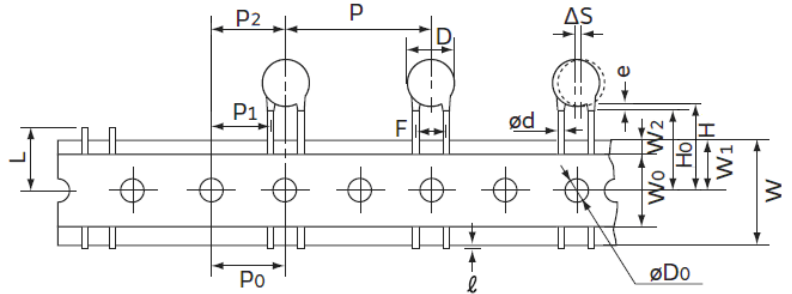
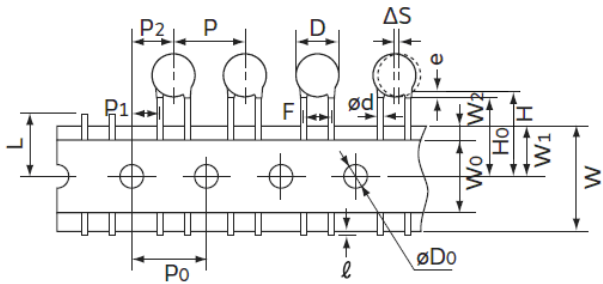
Taping Format: AC X1/Y2

- 15 mm pitch/lead spacing 7.5mm taping

Lead Code: *BAFD7 & *DAFD7 & *XAFD7 & *GAFD7

- 25.4mm pitch/lead spacing 7.5mm & 10.0mm taping

Lead Code: *BAMD* & *DAMD* & *XAMD* & *GAMD*



POE Part Number		*BAFD7	*DAFD7 *XAFD7	*BAMD7 *DAMD7 *XAMD7	*BAMD0 *DAMD0 *XAMD0
Item	Symbol	Dimensions (mm)			
Pitch of component	P	15.0	15.0	25.4	25.4
Pitch of sprocket	P0	15.0±0.3	15.0±0.3	12.7±0.3	12.7±0.3
Lead spacing	F	7.5±1.0	7.5±1.0	7.5±1.0	10.0±1.0
Length from hole center to component center	P2	7.5±1.5	7.5±1.5	12.7±1.5	12.7 ± 1.5
Length from hole center to lead	P1	3.75±1.0	3.75±1.0	8.95±1.0	7.7±1.5
Body diameter	D	Refer to Detail Spec.			
Deviation along tape, left or right	ΔS	0±2.0			
Carrier tape width	W	18.0 +1/-0.5			
Position of sprocket hole	W1	9.0±0.5			
Lead distance between the kink and center of sprocket hole	H0	18.0 +2.0/-0 (For: *D* & *X* lead type)			
Lead distance between the bottom of body and the center of sprocket hole	H	20.0+1.5/-1.0 (For: *B* lead type)			
Protrusion length	ℓ	+0.5/-1.0 (the end of lead wire may be inside the tape.)			
Diameter of sprocket hole	D0	4.0±0.2			
Lead diameter	φd	*0(1)AH*H:0.55±0.05 / *5AH*H & * T: 0.55+0.1/-0.05			
Total tape thickness	t1	0.6±0.3			
Total thickness, tape and lead wire	t2	1.5 max.			
Deviation across tape	Δh1/Δh2	2.0 max.			
Portion to cut in case of defect	L	11.0 max.			
Hole-down tape width	W0	8.0 min			
Hole-down tape distortion	W2	1.5±1.5			
Coating extension on leads	e	3.0 max for straight lead style; Not exceed the kink leads for kink lead.			
Body thickness	T	Refer to Detail Spec.			

Marking: AH type & AC type (for normal)

1. Type Designation		AH type: *0(1)AH*H AC type: *0(1)AC*H						
2. Nominal Capacitance		3-digit-system						
3. Capacitance Tolerance		J:±5%, K:±10%, M:±20%						
4. Company Trade mark		UK						
5. Products ID		<p>Abbreviation ex.:</p> <p>Manufacture year: ← 2 C 6 1234 → Last 4 digits of lot no.</p> <p>1:2021 2:2022 3:2023 : : Individual specification code</p> <p>Manufacture month: 1:January 2:February : 9:September O:October N:November D:December</p> <p>Epoxy resin code: "_" : Haglogen and Pb free epoxy resin (For the last code "H" and "B" of SAP P/N)</p> <p>Manufactory: C:Pan overseas (Guangzhou)</p>						
6. Approved monogram:								
6.1 VDE	6.2 VDE	6.3 CSA	6.4 SEMKO	6.5 NEMKO	6.6 DEMKO	6.7 FIMKO	6.8 SEV	6.9 CQC
Marking Ex.:	Type	Two sides (For SAP part number 10-11 digits≤07 products)			One side (For SAP part number 10-11 digits≥08" products)			
	0AH <u>X1:400Vac</u> <u>Y1:250Vac</u>			Special marking: YP*AH102K100*H 				
	1AH <u>X1:400Vac</u> <u>Y1:400Vac</u>							
	0AC <u>X1:400Vac</u> <u>Y2:250Vac</u>							
1AC <u>X1:440Vac</u> <u>Y2:300Vac</u>								
<p>* Marking by the laser.</p> <p>* "C": Marked with code "_" stand for Halogen and Pb free for epoxy resin coating.</p> <p>* ".": Individual specification code, it is added under the lot no.</p>								

Marking: AH type & AC type (for small size & voltage uprating & Automotive)

1. Type Designation	AH type: *0(1)AH*T & *5AH*H AC type: *0(1)AC*T & *5AC*H & *7AC*W
2. Nominal Capacitance	3-digit-system
3. Capacitance Tolerance	J:±5%, K:±10%, M:±20%
4. Company Trade mark	UK
5. Products ID	<p>Abbreviation ex.:</p> <p>Manufacture year: ← 2 C 6 1234 → Last 4 digits of lot no.</p> <p>0:2020 1:2021 2:2022 3:2023 ⋮</p> <p>Manufacture month: 1:January 2:February ⋮ 9:September O:October N:November D:December</p> <p>Individual specification code C:Pan overseas (Guangzhou)</p>

Marking Ex.:

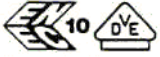


AH Type	Two sides marking	AC Type	Two sides marking
0AH <u>X1:400Vac</u> <u>Y1:250Vac</u>		0AC <u>X1:400Vac</u> <u>Y2:250Vac</u>	
0AH <u>X1:400Vac</u> <u>Y1:250Vac</u>		1AC <u>X1:440Vac</u> <u>Y2:300Vac</u>	
5AH (voltage uprating) <u>X1:500Vac</u> <u>Y1:500Vac</u> 1500Vdc		5AC (voltage uprating) <u>X1:500Vac</u> <u>Y2:500Vac</u> 1500Vdc	
7AC (Automotive) <u>X1:440Vac</u> <u>Y2:300Vac</u> 1500Vdc			

*Marking by the laser.



* " • " : Individual specification code, it is added under the lot no.

Marking: AS

1. Type Designation	AS
2. Nominal Capacitance	3-digit-system
3. Capacitance Tolerance	K:±10%, M:±20%
4. Company Name Code(Trade mark)	UK
5. Products ID	<p>Abbreviation ex.:</p> <p>Manufacture year: ← 2_C 6 1234 → Last 4 digits of lot no.</p> <p>1:2021 2:2022 3:2023 ... Individual specification code</p> <p>Manufacture month: 1:January 2:February ... 9:September O:October N:November D:December</p> <p>Epoxy resin code: "_" : Halogen and Pb free epoxy resin (For the last code "H" and "B" of SAP P/N)</p> <p>Manufacture: C:Pan overseas (Guangzhou)</p>

6. Approved Monogram:	
(1) VDE approval mark	 IEC 60384-14 Class code : X1 : 760V~ , Y1 : 500V~
(2) UL approval mark	
(3) CQC approval mark	

Marking Ex.:

Two sides marking (for SAP part number 10-11 digits ≤ "08" products)	One side marking (for SAP part number 10-11 digits ≥ "09" products)
	

* Marking by the laser.

** "C" : Marked with code " _ " stand for Halogen and Pb free epoxy resin.

** " • " : Individual specification code, it is added under the lot no.

SMD TYPE SAFETY STANDARD CERAMIC CAPACITOR SAP Part Number Explanation

To order, please also specify Pan Overseas Part No. as the following example for SAP system :

YV	SYW	102	M	P	00
1	2	3	4	5	6

1. Temperature characteristic (identified code):

CODE	SL	YP (Y5P)	YU (Y5U)	YV (Y5V)
Cap. Change (%)	-1000~+350ppm/°C(+20°C~+85°C)	±10%	+20%to -55%	+30%to -80%

2. TYPE (identified by 3-figure code):

SYW= Y1:250V~/400V~
SYL= X1:440V~/Y2:300V~

3. Capacitance (identified by 3-figure code)






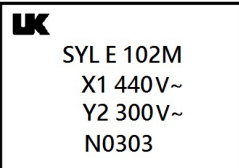
4. Capacitance tolerance (identified by code)

5. Special Specification Code (identified by 2-figure code)

Code	Description
P	Pb Solder Product

6. Internal control code:0—Normal, other code—Special control

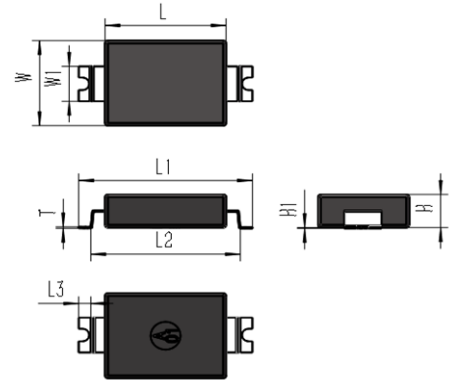
Marking:

1. Company Name Code (Trade mark)	UK	
2. Type/Series Designation	SYW	SYL
3. Code of Dielectric	SL / B(Y5P) / E(Y5U) / F(Y5V)	
4. Nominal Capacitance	Identified by 3-Figure Code. Ex. 470pF→"471", 1000pF→"102"	Identified by 3-Figure Code. Ex. 470pF→"471", 1000pF→"102"
5. Capacitance Tolerance	J:±5%,K:±10%,M:±20%	K:±10%,M:±20%
6. Class code/Rated Voltage Mark	Y1 / 250V~ ; 400V~	X1 : 440V~ ; Y2 : 300V~
7. Safety certification mark	UL/cUL:  us ; ENEC:  15 ; CQC:  ; KC: 	
8. Products ID (Manufactured Date code, add as needed)	Abbreviation ex.: NB210303 N:2021 year B: Sn-Pb-Ag Solder 21: Machine and batch (production line traceability) 03: March 03:date	Abbreviation ex.: N0303 N:2021 year 03: March 03:date
Marking sample		

SYW Type-Class X1/Y1

Part numbering, T.C, Capacitance, and Tolerance:

SAP P/N	T.C.	Capacitance	Tolerance
SLSYW100JP00	SL	10 pF	±5%
SLSYW220JP00		22 pF	
SLSYW470JP00		47 pF	
SLSYW680JP00		68 pF	
YPSYW101KP00	Y5P	100 pF	±10%
YPSYW221KP00		220 pF	
YPSYW331KP00		330 pF	
YPSYW471KP00		470 pF	
YUSYW471MP00	Y5U	470 pF	±20%
YUSYW681MP00		680 pF	
YUSYW102MP00		1000 pF	
YUSYW152MP00		1500 pF	
YVSYW222MP00	Y5V	2200 pF	±20%



Safety standards approval

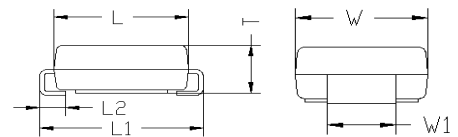
Safety Standard	Standard No.	Subclass	w.v.
UL / CUL	ANSI/UL 60384-14	Y1	250Vac/400Vac
ENEC	EN 60384-14:2013/A1:2016	Y1	250Vac/400Vac
CQC	GB/T6346.14	Y1	400Vac
KC	K60384-14	Y1	250Vac

Dimension(mm)			
L	7.8±0.1	W1	2.5±0.05
W	5.4±0.1	T	0.13±0.02
H	2.38±0.05	H1	0.05±0.03
L1	9.6±0.2	L3	0.5±0.1
L2	8.4±0.2		

SYL Type-Class X1/Y2

Part numbering, T.C, Capacitance, and Tolerance:

SAP P/N	T.C.	Capacitance	Tolerance
SLSYL220KP00	SL	22 pF	±10%
SLSYL470KP00		47 pF	
YPSYL680KP00	Y5P	68 pF	±10%
YPSYL101KP00		100 pF	
YPSYL221KP00		220 pF	
YPSYL331KP00		330 pF	
YPSYL471KP00	Y5U	470 pF	±20%
YUSYL471MP00		470 pF	
YUSYL561MP00		560 pF	
YUSYL681MP00		680 pF	
YUSYL102MP00	Y5V	1000 pF	±20%
YVSYL152MP00		1500 pF	
YVSYL222MP00		2200 pF	±20%



Safety standards approval

Safety Standard	Standard No.	Subclass	w.v.
UL / CUL	ANSI/UL 60384-14	X1/Y2	440Vac/300Vac
ENEC	EN 60384-14:2013/A1:2016	X1/Y2	440Vac/300Vac
CQC	GB/T6346.14	X1/Y2	440Vac/300Vac
KC	IEC60384-14	Y2	300Vac

Dimension(mm)			
L	4.3±0.1	W	3.5±0.1
L1	5.0±0.1	W1	1.8±0.05
L2	0.5±0.1	T	2.2±0.05

RADIAL LEADED MULTILAYER CERAMIC CAPACITOR PART NUMBER EXPLANATION

To order, please also specify Pan Overseas Part No. as the following example for SAP system :

RD21	B	102	K	500	B	5	H	07	B
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Product Type

Product Type		
RD21	RD20	RD30

② Dielectric Code

Code	T.C.	OP Temperature	Cap. Change (ΔC)
N	NPO	-55~+125°C	0 ± 30 (ppm/°C)
B	X7R	-55~+125°C	± 15%
F	Y5V	-25~+85°C	+30% ~ -80%

③ Capacitance Code

Code	Capacitance	Code	Capacitance	Code	Capacitance	Code	Capacitance
1R0	1 pF	100	10 pF	102	1000 pF	103	10000 pF
1R5	1.5 pF	101	100 pF	472	4700 pF	104	100000 pF

④ Tolerance Code

Code	Tolerance	Code	Tolerance	Code	Tolerance	Code	Tolerance	Code	Tolerance
D	±0.5pF	J	± 5%	K	± 10%	M	± 20%	Z	+80% / -20%

* Remark about tolerance code:

NPO: Cap<10pF: D tolerance / Cap ≥ 10pF: J, K, M, Z, X7R: K · M, Y5V: M · Z

⑤ Rated Voltage

Code	Voltage	Code	Voltage	Code	Voltage	Code	Voltage	Code	Voltage	Code	Voltage
100	10V	250	25V	101	100V	251	250V	631	630V	202	2000V
160	16V	500	50V	201	200V	501	500V	102	1000V	302	3000V

⑥ Packaging Code

Code	Packing
A	Ammo
B	Bulk

⑧ Termination

Code	Termination
H	Cu/Ni/Sn Halogen free

⑨-1 Lead Length for Bulk

Code	Length
07	7.0 mm
3E	3.5 mm
05	5.0 mm

⑦ Chip Size

Code	Chip Size
5	0805
6	1206
0	1210
2	1812
8	1808

⑨-2 Packing for Taping

Code	Packing
AN	Ammo

⑩ Length Tolerance

Code	Length Tol.	Code	Length Tol.
A	± 0.5 mm	D	Taping.
B	± 1.0 mm		

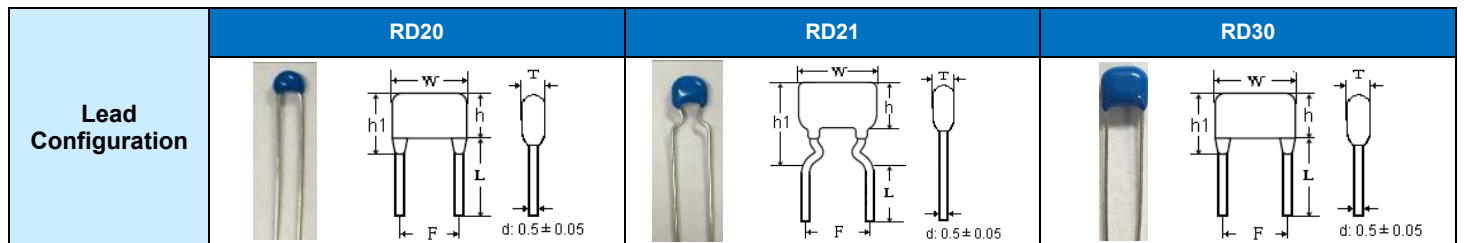
Features

1. MLC Radial Lead Capacitor (RD) has wide application in computer, data processing, telecommunication, industrial control and instrumentation equipment.
2. The radial lead MLC is built with superior moisture, and shock resistant epoxy coating material can be supplied in both, bulk or taping form for automatic insertion.
3. RoHS compliance.
4. Halogen free products are available.

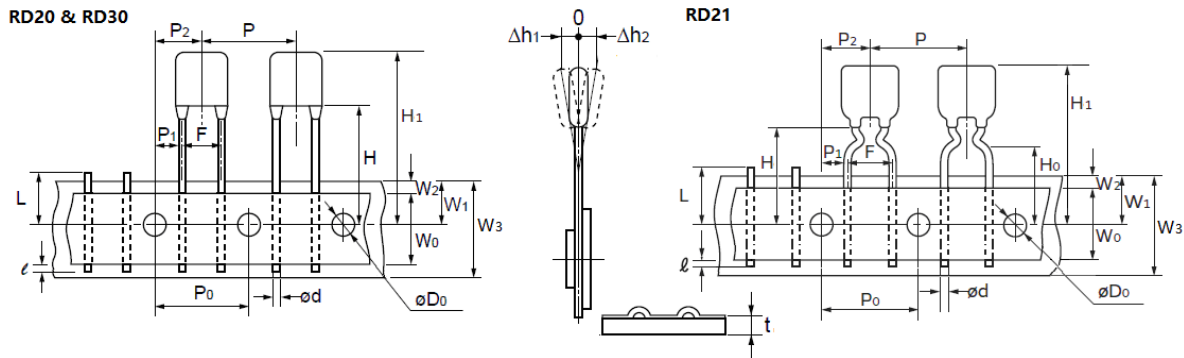
Lead configuration and dimension

(Unit: mm)

Size	Width (W) Max.	Height (H)Max.	Height (H1)Max.	Thickness (T) Max.	Length (L)	Lead spacing (F)		Lead diameter (d)
						Taping	Bulk	
RD20	0805	5.0	4.5	6.0	3.0	2.5±1.0	2.54±1.0	0.5±0.05
RD21	0805	5.0	4.5	6.5	3.5	5.0±1.0	5.08±1.0	
	1206	6.5	5.0	7.0	4.0			
RD30	1210	6.5	5.5	7.5	5.0	5.0±1.0	5.08±1.0	
	1808	8.0	6.0	7.5	5.5			
	1812	8.0	6.5	8.0	5.5			



Taping Specification



ITEM	SYMBOL	DIMENSIONS (mm)	REMARKS
Pitch of Components	P	12.7 ± 1.0	
Feed hole pitch	P0	12.7 ± 0.3	Cumulative pitch error : ± 1.0mm / 20 pitches
Feed hole center to lead	P1	5.1 ± 0.7(for RD20) 3.85 ± 0.7(for RD21 & RD30)	
Feed hole center to component center	P2	6.35 ± 1.3	
Lead diameter	φd	0.5 ± 0.05	
Lead to lead spacing	F	2.5 ± 0.8 (for RD20) 5.0 ± 0.8 (for RD21& RD30)	To lead top within tolerance
Component alignment, F - R	Δh	2.0 max	The alignment from the center of the lead is ± 1.0 mm
Tape width	W3	18.0 -1.0 / -0.5	
Adhesive tape width	W0	11.0 min	
Hole position	W1	9.0 ± 0.5	
Adhesive tape position	W2	3.0 max	
Length from the terminal of the lead wire to the edge of adhesive tape	ℓ	3.0 max	Or the end of lead wire may be inside the hole-down tape.
Height of bottom body from tape center	H	18.0 + 2.0 / -0 (for RD21) 18.0 ± 0.5 (for RD20/RD30)	$H + 12.5 \text{ mm} \leq H1$
Lead-wire clinch height	H0	16.0 ± 0.5 (for RD21)	$6.5 \leq H0 - W1$
Component height	H1	32.25 max	
Feed hole diameter	D0	4.0 ± 0.2	
Total tape thickness	T	0.6 ± 0.3	

NPO Dielectric

Dielectric		NPO																									
Size		0805				1206						1210						1808				1812					
Voltage (VDC)		50	100	200	250	50	100	200	250	500	630	1000	50	100	200	250	500	630	1000	500	630	1000	2000	500	630	1000	2000
Capacitance	1.0pF (1R0)	B	B	B	B																						
	1.2pF (1R2)	B	B	B	B	B	B																				
	1.5pF (1R5)	B	B	B	B	B	B	B	B	B	B	B															
	1.8pF (1R8)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	2.2pF (2R2)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	2.7pF (2R7)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	3.3pF (3R3)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	3.9pF (3R9)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	4.7pF (4R7)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	5.6pF (5R6)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	6.8pF (6R8)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	8.2pF (8R2)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B			
	10pF (100)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	12pF (120)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	15pF (150)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	18pF (180)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	22pF (220)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	27pF (270)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	33pF (330)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	39pF (390)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	47pF (470)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	56pF (560)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	68pF (680)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	82pF (820)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	100pF (101)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	120pF (121)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	150pF (151)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	180pF (181)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	220pF (221)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	270pF (271)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	330pF (331)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	390pF (391)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	470pF (471)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	560pF (561)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	680pF (681)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	820pF (821)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1000pF (102)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1200pF (122)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1500pF (152)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1800pF (182)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	2200pF (222)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	2700pF (272)	B	B			B	B	B	B				B	B	B	B	B	B							B	B	
3300pF (332)	B	B			B	B	B	B				B	B	B	B	B	B							B	B		
3900pF (392)	B	B			B	B	B	B				B	B	B	B	B	B							B	B		
4700pF (472)	B	B			B	B	B	B				B	B	B	B									B	B		
5600pF (562)	B	B			B	B						B	B	B	B									B	B		
6800pF (682)	B	B			B	B						B	B	B	B									B	B		
8200pF (822)	B				B	B						B	B	B	B									B	B		
0.010uF (103)	B				B	B						B	B	B	B												
0.012uF (123)	B				B	B						B	B														
0.015uF (153)	B				B	B						B	B														
0.018uF (183)	B				B	B						B	B														
0.022uF (223)	B				B	B						B	B														
0.027uF (273)					B							B	B														
0.033uF (333)					B	B						B	B														
0.039uF (393)					B																						
0.047uF (473)					B																						
0.056uF (563)					B																						
0.068uF (683)					B																						
0.082uF (823)					B																						
0.1uF (104)					B																						

1. The letter in cell is expressed the symbol of product terminations. B: (Cu/Ni/Sn)
 2. RD30 type can use Mlcc size 1808 and 1812, RD21 type can use Mlcc size 0805 and 1206, but RD20 type can only use Mlcc size 0805.

X7R Dielectric

Dielectric		X7R																												
		0805				1206								1210								1808					1812			
Size		50	100	200	250	50	100	200	250	500	630	1000	50	100	200	250	500	630	1000	500	630	1000	2000	3000	500	630	1000	2000	3000	
Voltage (VDC)		50	100	200	250	50	100	200	250	500	630	1000	50	100	200	250	500	630	1000	500	630	1000	2000	3000	500	630	1000	2000	3000	
Capacitance	100pF (101)	B	B	B	B																									
	120pF (121)	B	B	B	B																									
	150pF (151)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B					
	180pF (181)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B					
	220pF (221)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B					
	270pF (271)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	
	330pF (331)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	
	390pF (391)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	
	470pF (471)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	
	560pF (561)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	
	680pF (681)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	B
	820pF (821)	B	B	B	B	B	B	B	B	B	B	B									B	B	B	B	B			B	B	B
	1000pF (102)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1200pF (122)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1500pF (152)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	1800pF (182)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	2200pF (222)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	2700pF (272)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	3300pF (332)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	3900pF (392)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	4700pF (472)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	5600pF (562)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	6800pF (682)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	8200pF (822)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.01uF (103)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.012uF (123)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.015uF (153)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.018uF (183)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.022uF (223)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.027uF (273)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.033uF (333)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.039uF (393)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
0.047uF (473)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
0.056uF (563)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
0.068uF (683)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
0.082uF (823)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
0.1uF (104)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
0.12uF (124)	B				B	B							B	B	B	B											B	B		
0.15uF (154)	B				B	B							B	B	B	B											B	B		
0.18uF (184)	B				B	B							B	B	B	B											B	B		
0.22uF (224)	B	B			B	B							B	B	B	B											B	B		
0.27uF (274)	B				B	B							B	B	B	B														
0.33uF (334)	B				B	B							B	B	B	B														
0.39uF (394)	B				B	B							B	B	B	B														
0.47uF (474)	B	B			B	B							B	B	B	B														
0.56uF (564)					B	B							B	B	B															
0.68uF (684)					B	B							B	B	B	B														
0.82uF (824)					B	B							B	B																
1.0uF (105)	B				B	B							B	B																
1.5uF (155)													B	B																
2.2uF (225)													B	B																

1. The letter in cell is expressed the symbol of product terminations. B: (Cu/Ni/Sn)
 2. RD30 type can use Mlcc size 1808 and 1812, RD21 type can use Mlcc size 0805 and 1206, but RD20 type can only use Mlcc size 0805.

Y5V Dielectric

Dielectric		Y5V																								
Size		0805						1206						1210						1812						
Voltage (VDC)		10	16	25	50	100	200	250	10	16	25	50	100	200	250	10	16	25	50	100	200	250	50	100	200	250
Capacitance	0.01uF (103)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.015uF (153)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.022uF (223)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.033uF (333)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.047uF (473)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.068uF (683)	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B		B	B	B
	0.1uF (104)	B	B	B	B	B			B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.15uF (154)	B	B	B	B				B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	0.22uF (224)	B	B	B	B				B	B	B	B	B			B	B	B	B	B			B	B	B	B
	0.33uF (334)	B	B	B	B				B	B	B	B				B	B	B	B	B			B	B	B	B
	0.47uF (474)	B	B	B	B				B	B	B	B				B	B	B	B				B	B	B	B
	0.68uF (684)	B	B	B	B				B	B	B	B				B	B	B	B				B	B	B	B
	1.0uF (105)	B	B	B	B				B	B	B	B				B	B	B	B				B	B		
	1.5uF (155)	B	B						B	B	B					B	B	B					B			
	2.2uF (225)	B	B						B	B	B					B	B	B	B				B			
	3.3uF (335)	B	B						B	B	B					B	B	B					B			
	4.7uF (475)	B	B						B	B	B					B	B	B	B				B			
	6.8uF (685)	B							B	B						B	B	B					B			
10uF (106)	B							B	B						B	B	B									
22uF (226)								B																		

☆ The letter in cell is expressed the symbol of product terminations. B: (Cu/Ni/Sn)

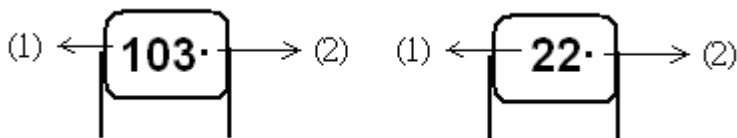
☆ RD30 type can use Mlcc size 1808 and 1812, RD21 type can use Mlcc size 0805 and 1206, but RD20 type can only use Mlcc size 0805.

Marking

Rated voltage (VDC)	10	16	25	50	100	200	250	500	630	1000	2000	3000
3-figure code Marking	<u>103</u>	<u>103</u>	<u>103</u>	103	<u>103</u>	<u>103</u>	<u>103</u>	<u>103</u>	<u>103</u>	<u>103</u>	<u>103</u>	<u>103</u>
2-figure code Marking	<u>22</u>	<u>22</u>	<u>22</u>	22	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>

3-figure code Marking

2-figure code Marking



- (1) Rated capacitance:
Two significant digits followed by no. of zeros. And R is in place of decimal point.
ex.: 0R5=0.5pF, 1R0=1.0pF, 104=10x104 =100nF
- (2) Halogen and Pb free: There is a "." beside the capacitance code when the coating resin is Halogen and Pb free Epoxy.

MPQ (Min. Packing Quantity)

Disc DC Cap. (50V~6KVdc)	Packing type	The code of 14th to 15th in SAP P/N		MPQ (Kpcs/Box)		Remark
	Taping	AF		1		
		AM (The size code \leq 11)		1		
		AM (The size code \geq 12)		0.5		
		AN		2		Phenolic resin
		AN		1.5		Epoxy resin
	Packing type	Lead length	Size code of 10th to 12th in SAP P/N	MPQ (Kpcs/Bag)	Kpcs/Box	Remark
	Bulk	Long lead (L \geq 20mm)	040~070	1	3	Phenolic resin
			080~100	1	2	Phenolic resin
			050~100	1	2	Epoxy resin
110~120			0.5	1.5		
130~140			0.5	1		
Short lead (L < 20mm)		040~060	1	6		
		070~080	1	4		
		090~100	1	3		
		110~140	1	2		

Y Cap.	Packing type	The code of 14th to 15th in SAP P/N		MPQ (Kpcs/Box)		Remark
AH, AS and AC series	Taping	AF		1		
		AS		1		
		AM (The size code \leq 11)		1		F=10mm (Code -17th"A" or "0")
		AM (The size code \geq 12)		0.5		
	Packing type	Lead length	Size code of 10th to 11th in SAP P/N	MPQ (Kpcs/Bag)	Kpcs/Box	Remark
	Bulk	Long lead (L \geq 20mm)	06~12	0.5	1.5	
			13-15	0.5	1	
		Short lead (L < 20mm)	06~14	0.5	2	
	Bulk (Only for AS series)	Long lead (L \geq 20mm)	07~11	0.5	1.5	
			12-14	0.5	1	
Short lead (L < 20mm)		07~11	0.5	2		
		12-14	0.5	1.5		

SMD Y CAP	Packing type	series	MPQ	Remark
			(Kpcs/Box)	
	Taping of Reel	SYW & SYL	3	

RD Cap. (Multilayer Radial Ledged Type)	Packing type	The code of 16th to 17th in SAP P/N		MPQ (Kpcs/Box)		Remark
	Taping	TN		2		
		AN		2		Size of chip \leq 0805
		AN		1.5		Size of chip > 0805
	Packing type	Lead length		MPQ (Kpcs/Bag)	Kpcs/Box	Remark
	Bulk	Short lead(L \leq 7mm)		1	20	
Short lead(L>7mm)		1	10			

Taiwan - Yang-Mei Plant / Sales Office

Walsin Technology Corporation
566-1, Kao-Shi Road, Yang-Mei, Tao-Yuan, Taiwan
Tel: +886-3-475-8711 Fax: +886-3-475-7130 Email: info@passivecomponent.com

China - Dalang Plant / Sales Office

Dongguan Walsin Tech. Electronics CO., Ltd.
Xiniupo Administrative Zone, Dalang Town, Dongguan City, Guangdong Province 523799
Tel: +86-769-831-15168 Fax: +86-769-831-15188 Email: msyu@passivecomponent.com

China - Suzhou Plant / Sales Office

Suzhou Walsin Technology Electronics Co., Ltd.
No. 369, Changyan Street, Suzhou Industrial Park, Jiangsu Province 215126
Tel: +86-512-628-36888 Fax: +86-512-628-37888 Email: msyu@passivecomponent.com

China - Guangzhou Plant / Sales Office

Pan Overseas (Guangzhou) Electronic Co., Ltd.
No. 277, Hong Ming Road, Eastern Section, Guangzhou Economic and Technology, Development Zone, China
Tel: +86-20-8223-7476 Fax: +86-20-8223-7475 Email: msyu@passivecomponent.com

Germany - Munich Sales Office

Walsin Technology Corporation Europe
Bretonischer Ring 6, Pavillon 3, 85630 Grasbrunn, Germany
Tel: +49-(0)89-9308-6475 Fax: +49-(0)89-9308-6464 Email: aw@passivecomponent.com

Singapore - Sales Office

WTC Singapore Sales Office, Singapore
24 Sin Ming Lane Midview City, #04-100, Singapore 573970
Contact: Morris Liew
Tel: +65-6262 3997 Email: morrisliew@sg.passivecomponent.com

Malaysia - Sales Office

Walsin Technology Corporation, Malaysia
1st Floor, No.19, Jalan Puteri 5/8, Bandar Puteri Puchong, Puchong, 47100, Selangor, Malaysia
Contact: Arthur Ling
Tel: +6016-2217-948 Fax: +603-8051-7060 Email: arthurling@passivecomponent.com

United States - West Coast Sales Office

Walsin Technology Corporation, USA
Contact: FC Tseng
Tel: +1-214-708-5182 E-mail: fctsens@passivecomponent.com

JAPAN - Sales Office

PSA BLDG. 3F, 6-1-6 Chuou, Yamato-Shi, Kanagawa, 242-0021 Japan
Tel: +81-46-204-8806 Fax: +81-46-204-8955 Email: sales@kamaya.co.jp

