

Part Numbering System



① Category code

Type	Code	
	2	3
Electrolytic Capacitor	E	
Conductive Polymer	S	

② Series code

Series name	Code	
	2	3
WH	W	H
CD11GE	G	E
CD11GES	G	X
CD11GAS	G	W
CD11GHS	G	S
NR	N	R
PZ	P	Z

③ Voltage code

WV (V _{dc})	Code	
	4	5
2.5	0	E
3	0	D
4	0	G
6.3	0	J
6.8	0	C
7	0	Q
7.5	0	A
10	1	A
12	1	T
16	1	C
25	1	E
35	1	V
40	1	G
50	1	H
63	1	J
80	1	B
100	1	K
120	2	B
160	2	C
180	2	L
200	2	D
220	2	N
250	2	E
315	2	F
350	2	V
380	2	P
400	2	G
420	2	T
450	2	W
500	2	H
550	2	J
600	2	K

④ Capacitance tolerance code

Tol. (%)	Code	
	6	
-10~+10	K	
-20~+20	M	
-10~+30	Q	
-10~+20	V	
0~+20	A	
-5~+20	C	
-10~-20	B	
-5~+5	D	
0~+10	E	
-5~-20	F	
-15~+5	N	

⑤ Capacitance code

Cap (μF)	Code		
	7	8	9
0.10	R	1	0
0.22	R	2	2
0.33	R	3	3
0.47	R	4	7
0.68	R	6	8
1	0	1	0
2.2	2	R	2
3.3	3	R	3
4.7	4	R	7
6.8	6	R	8
10	1	0	0
22	2	2	0
33	3	3	0
47	4	7	0
68	6	8	0
100	1	0	1
220	2	2	1
330	3	3	1
470	4	7	1
680	6	8	1
1000	1	0	2
2200	2	2	2
3300	3	3	2
4700	4	7	2
6800	6	8	2
10000	1	0	3
22000	2	2	3
33000	3	3	3
68000	6	8	3

⑥ Size code

ΦD (mm)	Code
4	C
5	D
6.3	E
8	F
10	G
11	H
12	J
12.5	W
13	K
14	X
16	L
18	M
19	Z
20	N
22	O
25	P
30	Q
35	R
40	Y
51.6	S
64.3	T
76.9	U
91	V
100	A

L (mm)	Code	
	11	12
5	0	5
7	0	7
11	1	1
12	1	2
16	1	6
20	2	0
25	2	5
30	3	0
35	3	5
40	4	0
46	4	6
50	5	0
60	6	0
80	8	0
100	A	0
115	B	5
120	C	0
130	D	0
140	E	0
160	G	0
200	K	0
220	M	0
236	N	6
250	P	0

⑦ Terminal code

Specification	Code		
	13	14	15
Bulk packing	O	-	-
Taping (SMD Type)	D	0	0
Φ4~8 Taping F=5.0mm	P	5	0
Φ10~12.5 Taping F=5.0mm	B	5	0
Lead Cut L=3.5mm	C	3	5
Lead Cut L=11.0mm	C	B	0
Lead Forming & Cut L=4.5mm	F	-	-
Kink & Cut L=4.5mm	J	-	-
Snap-in type Terminal 4.0mm in length	K	-	-
Three Terminals	T	-	-
Ring clip mounting standard design	A	0	0
Ring clip mounting special design	S	-	-

⑧ Sleeve/Marking code

Sleeve/Marking	Code	
	16	
PVC	C	
PET	T	
Dark blue	B	
Bright red	R	
Sky-blue	S	
Light blue	T	
Pink	Z	
Black	H	
Purple-blue	V	
Red	O	

Lead Forming
Taping Specifications

Fig.1 code: X



Fig.2 code: B



Fig.3 code: B



Fig.4 code: P



Lead Forming

Specification Fig.1 & Fig.2 & Fig.3

Items	Symbol	Case size										Tolerance		
		4*5 4*7		5*5 5*7		5*11		6.3*5	6.3*7 6.3*9	6.3*11 6.3*12	8*5/7 8*9/11 8*11.5 8*12		8*16 8*20	10*9/12 10*12.5 10*13/16 10*20/25
Pin Code		X	B	X	B	X	B	B	B	B	B	B	B	
Lead wire diameter	Φd	0.45		0.45		0.5		0.45	0.5	0.5	0.45/0.5	0.6	0.6	±0.05
Pitch of body	P	12.7		12.7		12.7		12.7	12.7	12.7	12.7	12.7	12.7	±1.0
Feed hole pitch	P0	12.7		12.7		12.7		12.7	12.7	12.7	12.7	12.7	12.7	±0.2
Distance from hole center to lead	P1	5.1	5.6	5.1	5.35	5.1	5.35	5.1	5.1	5.1	4.6	4.6	3.85	±0.7
Distance from feed hole center to body center	P2	6.35		6.35		6.35		6.35	6.35	6.35	6.35	6.35	6.35	±1.0
Lead-to-lead distance	F	2.5	1.5	2.5	2.0	2.5	2.0	2.5	2.5	2.5	3.5	3.5	5.0	±0.5
Height of body from tape center	H	18.5		18.5		18.5		18.5	18.5	18.5	18.5	18.5	18.5	±0.75
Base tape width	W	18.0		18.0		18.0		18.0	18.0	18.0	18.0	18.0	18.0	±0.5
Adhesive tape width	W0	6.0		6.0		6.0		6.0	6.0	8.0	8.0	8.0	11.0	min
Hole position	W1	9.0		9.0		9.0		9.0	9.0	9.0	9.0	9.0	9.0	+0.75 -0.5
Hole down tape position	W2	3.0		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	max

Specification Fig.4

Items	Symbol	Case size									Tolerance
		4*5 4*7	5*5	5*7	5*11	6.3*5	6.3*7 6.3*9	6.3*11 6.3*12	8*5/7 8*9/11 8*11.5/12	8*16 8*20	
Pin Code		P	P	P	P	P	P	P	P	P	
Lead wire diameter	Φd	0.45	0.45	0.45	0.5	0.45	0.5	0.5	0.45/0.5	0.6	±0.05
Pitch of body	P	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	±1.0
Feed hole pitch	P0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	±0.2
Distance from hole center to lead	P1	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	±0.7
Distance from feed hole center to body center	P2	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	±1.0
Lead-to-lead distance	F	1.5	2.0	2.0	2.0	2.5	2.5	2.5	3.5	3.5	±0.5
Lead to lead distance	F1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	+0.8 -0.2
Height of body from tape center	H	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	±0.75
Lead wire clinch height	H0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	±0.5
Base tape width	W	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	±0.5
Adhesive tape width	W0	6.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	min
Hole position	W1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	+0.75 -0.5
Hole down tape position	W2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	max

Lead Forming

Lead Forming & Cut

Code:C
RANGE: $\Phi 4\sim\Phi 18$



Code:F
RANGE: $\Phi 4\sim\Phi 8$



ΦD	F	L	ΦD	F	L
4	1.5	3.0~12.0	4	5.0	3.5, 4.5, 5.0, 7.0
5	2.0	3.0~12.0	5	5.0	3.5, 4.5, 5.0, 7.0
6.3	2.5	3.0~12.0	6.3	5.0	3.5, 4.5, 5.0, 7.0
8	3.5	3.0~12.0	8	5.0	3.5, 4.5, 5.0, 7.0
10	5.0	3.0~12.0	-	-	-
12.5	5.0	3.0~12.0	-	-	-
16	7.5	3.0~12.0	-	-	-
18	7.5	3.0~12.0	-	-	-

Code:J
RANGE: $\Phi 10\sim\Phi 18$



ΦD	F	L
10	5.0	4.0, 4.5, 5.0
12.5	5.0	4.0, 4.5, 5.0
16	7.5	4.0, 4.5, 5.0
18	7.5	4.0, 4.5, 5.0

Solering Recommendation

■ Flow Soldering(Radial Lead Type)



■ Reflow Soldering

- (For Polymer SMD Type)

Recommended Reflow Profile



Item	Preheating	T1(°C)	T2(°C)	T3(°C)	t1(sec.)	t2(sec.)	t3(sec.)	Reflow cycle
Condition 1	150°C to 180°C Within 90sec.	≤260	230	200	≤10	≤40	≤60	1
Condition 2		≤250	230	200	≤10	≤40	≤60	2

● (For Liquid SMD Type)

Case size: $\Phi 6.3$ – $\Phi 10$ mm:

- Temperature at surface of capacitor shall not exceed $T^{\circ}\text{C}$.
- The duration for over 200°C temperature and $T_1^{\circ}\text{C}$ at surface of capacitor shall not exceed t and t_1 seconds, respectively.
- Preheat shall be done at 100°C to 200°C and for Maximum 180 seconds.



Case size (mm)	$T(^{\circ}\text{C})$ ①	$T_1(^{\circ}\text{C})$	$t(\text{sec.})$ ②	$t_1(\text{sec.})$ ③	Reflow cycle
$\Phi 6.3$	250	230	90	40	1
$\Phi 8$	240	230	90	30	1
$\Phi 10$	235	230	60	30	1

- ① Peak temperature
- ② The duration over 200°C (max.)
- ③ The duration over $T_1^{\circ}\text{C}$
- Please contact us if capacitors are subject to the conditions other than the allowable range of reflow.

Case size: $\Phi 12.5$ – $\Phi 18$ mm:

- Temperature at surface of capacitor shall not exceed $T^{\circ}\text{C}$.
- The duration for over 200°C temperature and $T_1^{\circ}\text{C}$ at surface of capacitor shall not exceed t and t_1 seconds, respectively.
- Preheat shall be done at 100°C to 180°C and for Maximum 150 seconds.



Case size (mm)	$T(^{\circ}\text{C})$ ①	$T_1(^{\circ}\text{C})$	$t(\text{sec.})$ ②	$t_1(\text{sec.})$ ③	Reflow cycle
$\Phi 12.5$ – $\Phi 18$	240	230	60	30	1

- ① Peak temperature
- ② The duration over 200°C (max.)
- ③ The duration over $T_1^{\circ}\text{C}$
- Please contact us if capacitors are subject to the conditions other than the allowable range of reflow.

RS series

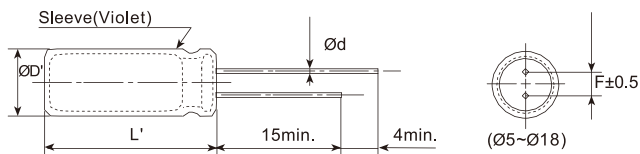
- High performance, high reliability
- Low impedance, high ripple current, long life
- Endurance: +105°C 4,000~10,000 hours
- RoHS Compliant



SPECIFICATIONS

Items	Characteristics											
Category Temperature Range	-40~+105°C											
Rated Voltage Range	6.3~120 V _{dc}											
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)											
Leakage Current	I ≤ 0.01CV or 3μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C after 2 minutes)											
Dissipation Factor (tanδ)	Rated Voltage(V _{dc})	6.3	10	16	25	35	50	63	80	100	120	
	tanδ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08	0.12	
When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)												
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(V _{dc})	6.3	10	16	25	35	50	63	80	100	120	
	Z(-25°C)/Z(+20°C)	4	3				2				3	
	Z(-40°C)/Z(+20°C)	8	6	4			3				6	
(at 120Hz)												
Endurance	The specifications listed below shall be met when the capacitors are restored to 20°C after DC voltage plus rated ripple current is applied for a specified period of time at 105 °C.											
	Capacitance Change	≤±20% of the initial value (6.3, 10V: ≤±30%)						Dia.		Load life (hours)		
	D.F. (tanδ)	≤200% of the initial specified value						ØD ≤ 6.3		6.3~10V	16~120V	
	Leakage Current	≤The initial specified value						ØD = 8 & 10		4,000	5,000	
The following specifications shall be satisfied when the capacitors are restored to 20°C after leaving them under no load at 105°C for 1,000 hours.												
Shelf Life	Capacitance Change	≤±20% of the initial value (6.3, 10V: ≤±30%)						ØD ≥ 12.5		8,000	10,000	
	D.F. (tanδ)	≤200% of the initial specified value										
	Leakage Current	≤200% of the initial specified value										

DIMENSIONS [mm]



ØD	5	6.3	8	10	12.5	16	18
Ød	0.5	0.5	0.5	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ØD'	ØD+0.5max.						
L'	L+2max.						

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq.(Hz)	120	1k	10k	100k
Cap.<220	0.40	0.75	0.90	1.00
220 ≤ Cap.<680	0.50	0.85	0.94	1.00
680 ≤ Cap.<2200	0.60	0.87	0.95	1.00
2200 ≤ Cap.<4700	0.75	0.90	0.95	1.00
Cap. ≥ 4700	0.85	0.95	0.98	1.00

RS series

■ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
35(1V)	33	5*11	0.12	0.57	200
		6.3*9	0.12	0.74	180
	56	6.3*11	0.12	0.21	350
		8*9	0.12	0.27	310
	150	8*12	0.12	0.13	660
		10*9	0.12	0.17	590
	220	8*16	0.12	0.086	850
		10*12.5	0.12	0.08	870
	270	8*20	0.12	0.069	1050
	330	10*16	0.12	0.06	1230
	470	10*20	0.12	0.046	1400
		12.5*16	0.12	0.049	1450
	560	10*25	0.12	0.042	1650
		10*30	0.12	0.03	1920
	680	12.5*20	0.12	0.035	1910
		16*15	0.12	0.041	1950
	1000	12.5*25	0.12	0.026	2230
		12.5*30	0.12	0.024	2650
		16*20	0.12	0.028	2247
	1200	16*25	0.12	0.027	2530
		12.5*35	0.12	0.02	2880
		12.5*40	0.12	0.017	3350
	1800	16*25	0.12	0.021	2930
		18*20	0.12	0.026	2860
16*30		0.14	0.017	3450	
2200	18*25	0.14	0.019	3140	
	16*35	0.14	0.015	3610	
2700	18*30	0.14	0.015	4170	
	16*40	0.16	0.012	4100	
3300	18*35	0.16	0.014	4220	
	18*40	0.16	0.011	4300	
50(1H)	22	5*12	0.10	0.68	190
		6.3*9	0.10	0.89	170
	56	6.3*11	0.10	0.3	300
		8*9	0.10	0.39	270
	100	8*12	0.10	0.17	560
		10*9	0.10	0.22	500
	120	8*16	0.10	0.12	740
	150	10*12.5	0.10	0.12	760
	180	8*20	0.10	0.09	910
	220	10*16	0.10	0.084	1050
	270	10*20	0.10	0.058	1230
		12.5*16	0.10	0.061	1260
	330	10*25	0.10	0.055	1440
		10*30	0.10	0.043	1700
	470	12.5*20	0.10	0.045	1660
		16*15	0.10	0.055	1690
	560	12.5*25	0.10	0.034	1960
	680	12.5*30	0.10	0.03	2310
	820	12.5*35	0.10	0.025	2510
		16*20	0.10	0.034	2210
	1000	12.5*40	0.10	0.021	2920
		16*25	0.10	0.025	2560
		18*20	0.10	0.036	2490
	1200	16*30	0.10	0.021	3010
18*25		0.10	0.026	2740	
1500	16*35	0.10	0.019	3150	
1800	16*40	0.10	0.016	3710	
	18*30	0.10	0.021	3640	
2200	18*35	0.12	0.017	3680	
2700	18*40	0.12	0.014	3800	

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
63(1J)	15	5*11	0.09	0.88	165
		6.3*9	0.09	1.15	145
	33	6.3*12	0.09	0.35	265
		8*9	0.09	0.46	235
	56	8*12	0.09	0.22	500
		10*9	0.09	0.29	440
	82	8*16	0.09	0.16	665
		10*12.5	0.09	0.11	690
	120	8*20	0.09	0.12	820
		10*16	0.09	0.076	950
	180	10*20	0.09	0.056	1150
		12.5*16	0.09	0.072	1150
	220	10*25	0.09	0.046	1350
	330	12.5*20	0.09	0.041	1500
	390	12.5*25	0.09	0.031	1900
	470	12.5*30	0.09	0.028	2300
		16*20	0.09	0.032	2000
	560	12.5*35	0.09	0.024	2500
		12.5*40	0.09	0.021	2800
		16*25	0.09	0.025	2600
	680	18*20	0.09	0.03	2500
		16*30	0.09	0.021	2850
	820	18*25	0.09	0.024	2800
		16*35	0.09	0.019	2900
1000	16*40	0.09	0.018	3400	
	18*30	0.09	0.02	3300	
1500	18*35	0.09	0.018	3400	
1800	18*40	0.09	0.017	3500	
80(1B)	68	10*12.5	0.08	0.17	480
	100	10*16	0.08	0.11	600
	120	10*20	0.08	0.084	800
		10*25	0.08	0.069	900
	150	12.5*16	0.08	0.11	750
		12.5*20	0.08	0.062	1100
	220	12.5*25	0.08	0.047	1250
		16*20	0.08	0.048	1350
	330	12.5*30	0.08	0.042	1500
		12.5*35	0.08	0.036	1650
	470	16*25	0.08	0.038	1700
		18*20	0.08	0.045	1500
560	12.5*40	0.08	0.032	1800	
	16*30	0.08	0.032	1850	
680	18*25	0.08	0.036	1750	
	16*35	0.08	0.029	2000	
820	18*30	0.08	0.03	1900	
	16*40	0.08	0.027	2200	
1000	18*35	0.08	0.027	2200	
	18*40	0.08	0.026	2700	

Radial Type

RS series

■ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
100(1K)	6.8	5*11	0.08	1.4	125
		6.3*9	0.08	1.9	110
	15	6.3*12	0.08	0.57	205
		8*9	0.08	0.75	180
	27	8*12	0.08	0.36	355
		10*9	0.08	0.45	310
	39	8*16	0.08	0.25	450
	47	10*12.5	0.08	0.17	480
	56	8*20	0.08	0.19	565
	68	10*16	0.08	0.11	600
	82	10*20	0.08	0.084	800
	100	12.5*16	0.08	0.11	750
	120	10*25	0.08	0.069	900
	150	12.5*20	0.08	0.062	1100
	220	12.5*25	0.08	0.047	1250
		16*20	0.08	0.048	1350
	270	12.5*30	0.08	0.042	1500
		12.5*35	0.08	0.036	1650
	330	16*25	0.08	0.038	1700
		18*20	0.08	0.045	1500
	390	12.5*40	0.08	0.032	1800
		16*30	0.08	0.032	1850
	470	18*25	0.08	0.036	1750
		16*35	0.08	0.029	2000
	560	18*30	0.08	0.03	1900
		16*40	0.08	0.027	2200
	680	18*35	0.08	0.027	2200
		18*40	0.08	0.026	2700

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
120(2B)	10	6.3*11	0.12	6	85
	15	6.3*12	0.12	5	110
	18	8*9	0.12	4.5	125
	22	8*12	0.12	4	140
	33	8*16	0.12	3.5	245
		10*12.5	0.12	3.5	245
	47	8*20	0.12	2.8	300
		10*16	0.12	2.8	315
	56	10*16	0.12	2.5	315
	68	10*16	0.12	2.2	315
	82	10*20	0.12	2	330
	100	10*25	0.12	1.7	410
	120	12.5*20	0.12	1.5	470
	150	12.5*25	0.12	1.0	620
	220	13*30	0.12	0.85	760
		16*20	0.12	0.85	760
	270	16*25	0.12	0.6	860
		18*20	0.12	0.6	860
	330	16*30	0.12	0.46	930
		18*25	0.12	0.46	930
	470	16*40	0.12	0.33	1035
		18*30	0.12	0.33	1035

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Aluminium Electrolytic Capacitors - Radial Leaded](#) category:

Click to view products by [Aishi](#) manufacturer:

Other Similar products are found below :

[LXY50VB4.7M-5X11](#) [RFO-100V471MJ7P#](#) [ECE-A1EGE220](#) [B41041A7226M8](#) [B41044A7157M6](#) [NCD681K10KVY5PF](#)
[NEV1000M25EF-BULK](#) [NEV100M35DC](#) [NEV100M63DE](#) [NEV220M25DD-BULK](#) [NEV.33M100AA](#) [NEV4700M50HB](#) [NEV.47M100AA](#)
[NEVH1.0M250AB](#) [NEVH3.3M250BB](#) [NEVH3.3M450CC](#) [KME50VB100M-8X11.5](#) [SG220M1CSA-0407](#) [ES5107M016AE1DA](#)
[ESMG160ETD102MJ16S](#) [ESX472M16B](#) [227RZS050M](#) [476CKH100MSA](#) [477RZS050M](#) [B41793A9108Q1](#) [UVX1V101KPA1FA](#)
[UVX1V222MHA1CA](#) [KME25VB100M-6.3X11](#) [VTL100S10](#) [VTL470S10](#) [VTL470S16A](#) [511D336M250EK5D](#) [052687X](#) [ECE-A1CF471](#)
[NRE-S560M16V6.3X7TBSTF](#) [RGA221M1CTA-0611G](#) [ERZA630VHN182UP54N](#) [UPL1A331MPH](#) [NEV1000M6.3DE](#) [NEV100M16CB](#)
[NEV100M50DD-BULK](#) [NEV2200M16FF](#) [NEV220M50EE](#) [NEV2.2M50AA](#) [NEV330M63EF](#) [NEV4700M35HI](#) [NEV4.7M100BA](#)
[NEV47M16BA](#) [NEV47M50CB-BULK](#) [NEVH1.0M350AB](#)