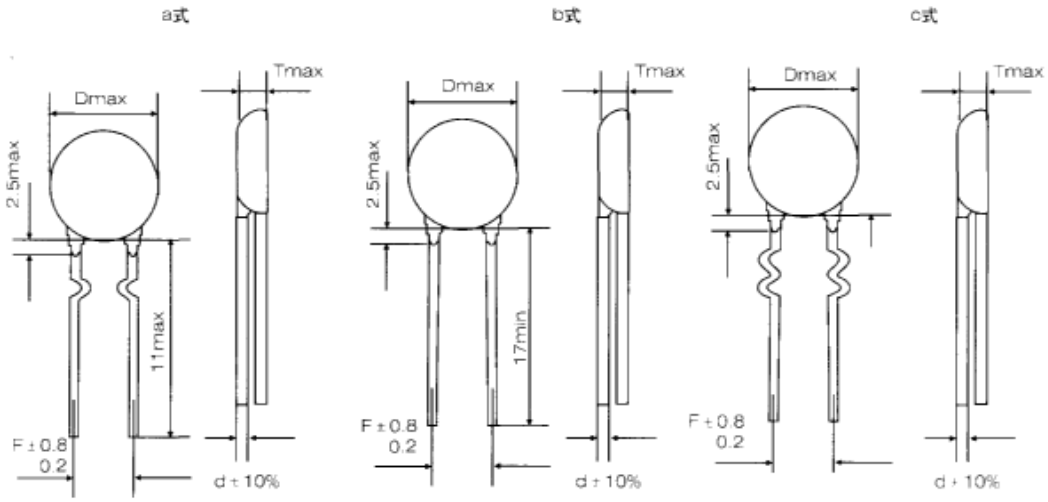
Disk ceramic capacitor

AN017—disk ceramic

*Low voltage temperature compensated
*High voltage temperature compensated
*Low voltage high dielectric constant
*High voltage high dielectric constant
*Semiconductor dielectric insulato
*Alternating current—Safety standard recognized—Y1X, Y2X

Code	Type
017A-CC1	Low voltage temperature compensated disk ceramic capacitor
017B-CC81	High voltage temperature compensated disk ceramic capacitor
017C-CT1	Low voltage high dielectric constant disk ceramic capacitor
017D-CT81	High voltage high dielectric constant disk ceramic capacitor
017E-CS1	Semiconductor dielectric insulator disk ceramic capacitor
017F-CT7	Alternating current disk ceramic capacitor

Dimensions



NOTE: Lead style and distance are fit of JIS and EIA standard. Other we can produce which customers require.

CERAMIC DISC CAPACITOR

CC1 TEMPERATURE COMPENSATE CAPACITOR

FEATURE:

Low DF, stable capacitance, the linear capacitance change with temperature. Designed from all series T.C suits for oscillation and temperature compensate compensate circuit.

Operating Temperature Range:-30°C - +85°C

Capacitance Range:

DMax (mm) Dimension	(Capacitance Range) PF					(U_R) Operating voltage
	NP0 (OH)	N330 (SH)	N470 (TH)	N750 (UJ)	SL	
40	1-15	5-20	4-33	5-68	1-120	50-500V
4.5	1-30	22-33	20-68	10-100	30-150	
5.0	22-50	36-72	56-100	70-150	150-220	
60	47-68	56-82	68-120	82-180	180-250	
70	70-82	68-100	82-150	100-200	240-330	
8.0	86-100	82-120	100-180	160-220	360-470	
90	100-120	100-150	120-200	200-260	500-560	
10.0	120-150	150-200	220-270	270-330	600-680	
12.0				330-560	820-1000	

Test Voltage:2.5 U_R

I.R: Insulation resistance Ri ≥ 10000MΩ.

DF: SPF≤C≤30PF, tg δ ≤1/(400+20C)

tangent of loss angel

C>30PF, tg≤ 0.0015

C <5 p F, Please consult your requirements to factory.

CERAMIC DISC CAPACITOR

CT1 (Low voltage High dielectric constant capacitor~ series ceramic capacitor:

FEATURE:

The greater variation of T.C are available for by-passing, low DF and frequency discriminating circuit.

Operating Temperature Range, please consider EIA code

Capacitance Range:

DMax(mm) Dimension		(Capacitance Range) PF				
		Y5P	Y5U	Y5V	Z5U	Z5V
5.0	Test Voltage (U_R =50V)	100-200	470-1500	22004700	1000-5000	1000-5600
6.0		1500-2200	2200-4700	5600-10000	6800-10000	6800-10000
7.0		2700-3300	3600-6800	8200-15000		15000-22000
8.0		3600-4700	6800-10000	20000-22000	15000-20000	22000-25000
9.0		5100-6800	15000	25000	22000	30000-100000
10.0		7500-10000	22000	33000	22000-47000	47000-200000
12.0			33000	47000	47000-50000	220000
14.0			47000			
6.0	Test Voltage (U_R =500V)	100-680	470-1000	1000-1500	1200-2200	1500-2200
8.0		820 - 1200	1500 -2000	2200 -3300	2400 -4700	3300-5600
10.0		1500-2200	2200-3000	4700-6800	5100-7500	6800-8200
12.0		2200-4700	3300-5600	8200-10000	8200-10000	10000-15000
14.0		3300-6800	6800-10000	15000		22000
16.0		8200-10000				

operating Voltage: 50 - 500V

Test Voltage: 2.5 U_R

lR: Insulation resistance Ri ≥4000MΩ

tangent of loss angel: Y5P: tg δ ≤ 0.025

Y5U, Z5U: tg δ ≤0.030 Y5V. Z5V: tg δ ≤0.035

CERAMIC DISC CAPACITOR

CS1 (semiconductor dielectric capacitor) series ceramic capacitor

FEATURE:

High capacitance, small volume. Used in low impedance circuit of requiring low IR.

Operating Temperature Range:-30°C ~ +85°C

Capacitance Range:

(Capacitance Range) PF							(mm) Dimension
Y5P(B)		Y5U(E)		Y5V(F)			
U_R=25V	U_R=50V	U_R =25V	U_R =50V	U_R =16V	U_R =25V	U_R =50V	
103		103	103	103-473	103-223	103-223	4.0
153-223	103-153	223-473	223-333		333-473	473	5.0
333	223		473	104	104		6.0
473-513		104	104			104	7.0
683	333-473			224			8.0
	513-683				224		10.0
1 04				474			11.0

Test Voltage: 1.5U_R

l.R: Insulation resistance $U_R \geqslant 25V$, Ri≥1 ,000MΩ.

$U_R < 25V$, Ri≥250MΩ.

tangent of loss angel: $U_R \geqslant 25V$, tg δ ≤0.05

$U_R \geqslant 25V$, tg δ ≤0.075

CERAMIC DISC CAPACITOR

CC81 (High voltage Temperature compensate capacitor) r

FEATURE:

Low DF, table capacitance suits for pulse circuit, oscillation and temperature compensate circuit

Operating Temperature Range -30°C ~ +85°C

Capacitance Range:

DMax (mm) Dimension	(Capacitance Range) PF					(U_R) operating voltage
	NPO (OH)	N330 (SH)	N470 (TH)	N750 (UJ)	SL	
6.0	5-33	10-47	15-56	22-68	47-68	1 KV
8.0	47-56	47-68	56-82	68-82	82-100	
10.0	68-82	82-100	82-100	100-120	120-220	
12.0	82-100	100-120	100-160	150-180	330-470	
6.0	5-22	10-33	10-47	15-56	33-56	2KV
8.0	33-47	33-56	56-82	56-82	68-100	
10.0	56-68	68-82	82-100	82-100	100-150	
12.0	68-82	82-100		100-120		

Test Voltage: $1.5U_R$+500V.

I.R: Insulation resistance Ri ≥1 0000MΩ.

tangent of loss angel: C>30PF: tg δ ≤0.0015

5pF≤C≤30PF: tg δ ≤1/(400+20C)

C<5pF, Please consult your requirements to factory

CERAMIC DISC CAPACITOR

CT81 (High Voltage High dielectric constant capacitor)

FEATURE:

The capacitor are widely used in all sorts of electronic instrument and high voltage by-passing or coupling circuit.

Operating Temperature Range, please consider EIA code Capacitance Range:

operating voltage	Capacitance(PF)					DMax(mm) Dimension
	General Model			Low DF Model		
	2B4(Y5P)	2E4(Y5U)	2F4(Y5V)	BN(Y5P)	2R4	
1KV			1000-1500			6
	100-560	470-1000	2200-3300	100-470	100-560	8
	680-1000	1500-2200	4700-5600	560-820	680-1000	10
	1200-1800	2700-3300	8200-10000	1000-1800	1200-1500	12
	2200-3300	3900-4700		2200-2700	1800	14
	3900-4700	5600-6800		3300-4700		16
		8200-10000				18
2KV	100-330	330-470	1500-2200	100-330	100-330	8
	470-680	560-1000	3300-4700	390-680	470-560	10
	820-1200	1500-2200	5600-8200	820-1000	680-1000	12
	1500-1800	2700-3300	10000	1200-1800	1200-1500	14
	2200-3300	3900-4700		2200-3300	1800	16
	3900-4700	6800-8200		3900-4700		18
3KV	100-470	470-560	2200-3300	100-270	330-470	10
	560-820	680-1000	4700-5600	330-680	100-270	12
	1000-1600	1500-2200	8200	820-1500	560-680	14
	1800-2200	3300-3900	10000	1800-2200	820~1000	16
	2700-3300	4700			1500	18

Test Voltage: 1.5 U_R +500V

IR: Insulation resistance Ri ≥4000MΩ.

tangent of loss angel: Y5P: tg δ ≤0.020

Y5U. Z5U: tg δ ≤0.030

BN: tg δ ≤0.005; R: tg δ ≤0.0035

CERAMIC DISC CAPACITOR

CT81 (High Voltage High dielectric Constant capacitor)

FEATURE:

The capacitor are widely used in all sorts of electronic instrument and high voltage by-passing or coupling circuit.

Operating Temperature Range, please consider EIA code.

Capacitance Range:

(U_R) Operating voltage	Capacitance(PF)					DMax (mm) Dimension
	General Model			Low DF Model		
	2B4(Y5P)	2E4(Y5U)	2F4(Y5V)	BN(Y5P)	2R4	
1KV			1000-1500			6
	100-560	470-1000	2200-3300	100-470	100-560	8
	680-1000	1500-2200	4700-5600	560-820	680-1000	10
	1200-1800	2700-3300	8200-10000	1000-1800	1200-1500	12
	2200-3300	3900-4700		2200-2700	1800	14
	3900-4700	5600-6800		3300-4700		16
		8200-10000				18
2KV	100-330	330-470	1500-2200	100-330	100-330	8
	470-680	560-1000	3300-4700	390-680	470-560	10
	820-1200	1500-2200	5600-8200	820-1000	680-1000	12
	1500-1800	2700-3300	10000	1200-1800	1200-1500	14
	2200-3300	3900-4700		2200-3300	1800	16
	3900-4700	6800-8200		3900-4700		18
3KV	100-470	470-560	2200-3300	100-270	330-470	10
	560-820	680-1000	4700-5600	330-680	100-270	12
	1000-1600	1500-2200	8200	820-1500	560-680	14
	1800-2200	3300-3900	10000	1800-2200	820~1000	16
	2700-3300	4700			1500	18

Test Voltage: 1.5 U_R +500V

I.R: Insulation resistance Ri ≥4000MΩ.

Tangent of loss angel: Y5P: tg δ ≤0.020

Y5U. Z5U: tg δ ≤0.030

BN: tg δ ≤0.005; R: tg δ ≤0.0035

CERAMIC DISC CAPACITOR

CT7 (AC capacitor) series ceramic DISC capacitor

FEATURE:

The capacitor are available for lines,by-passing, antenna coupling and switch surge suppressor in any other electronic equipments.

Operating Temperature Range -30℃ +85℃

Capacitance Range:

(U_R /AC)	PF			DMax(mm) Dimension
	Y5P	Y5U	Y5V	
Y2/X1 (250V)	100-180	470-680	2200-3300	08
	220-560	1000-220	3300-4700	10
	680-1000	330-5100	4700-6800	12
		6800	6800-10000	14
Y1/X1 (400V)	220-470	1000-2200	1500-4700	10
	680-1000	3300-4700	5100-6800	12
	1500-1800	5100-6800	6800-8200	14
	2200	8200		16

Test Voltage: 10 U_R

I.R: Insulation resistance Ri ≥10000MΩ.

Tangent of loss angel: Y5P: tgó≤0.020

Y5U: tg δ ≤0.030

Y5V: tg δ ≤0035

CERAMIC DISC CAPACITOR SUBSTRATE AND CHIP-SILVER

(ModeL)	(T. C)	(Dimensions)	(Rated voltage)	(PF) (Capacitance)	(Tolernce)
CC1	NP0-10	4818, 4820. 4530	50	1 -10	C. D, F, G
	NP0-20	4520, 4820, 5818	50	10-20	F, C, J
	NP0-30	4520, 4820, 5818	50	20-35	J, K
	NP0-101	4820, 5820, 6820	50	36 130	J, K, M
	IUJ-80	4818, 5820, 6820	50	36-100	J, K, M
	SL-325	4818. 4820, 5820	50	100-280	U, K, M
		6820. 7820, 9520	50	300-820	J, K, M
CT1	2 B_4-162	4530, 4820	50	220-1500	K, M
	2B_4-282	4818. 4820, 5818	50	1000-3000	K, M
	2E_4-602	4517, 4918. 5818	50	1500-6000	K, M
	2F_4-133	4818, 4820, 5818	50	6800- 10000	M. S. Z
	2F_4-1 53	4517, 4817, 4820	50	6800-10000	M, 5, Z
		4840-7840	50	330- 10000	M, S, Z
	2 F_7-203	4518. 4918, 5818	50	10000-20000	M, 5, Z
	2F_7-253	4517, 4918. 5918	50	10000-22000	M, Z
CT81	2B_4 (Y5P)	050040-150215	0.5KV-5KV	100-10000	K
	2E_6(Z5U)	050040-150215	0.5KV-5KV	330-22000	M
	2B_6 (Z5V)	050040-150215	0.5KV-SKy	1000-33000	S. Z, P
	BN	050040-150215	05KV-SKy	100-10000	K
	2R_4	050040-150215	0.5KV-5KV	100-6800	K
CC81	SL	050040-150180	0.5KV-SKy	10-470	J, K
	YL	050040-150180	0.5KV-5KV	33-100	J, K
CT7	2B_4 (Y5P)	050136 - 140220	250V,400V(AC)	100 - 2200	K
	2E_4(Z5U)	0501 35 - 140250	250V,400V(AC)	470 - 4700	M
	2B_4(Z5V)	050150-140270	250V400V(AC)	1000-10000	S, Z, P
	BN	050135 - 140210.	250V,400V(AC)	100 - 3300	K
	2R_4	050135-150210	250V,400V(AC)	100-2200	K

Test voltage, insulation resistance. tangent of loss angel, capacitance tolerance refering to the stardard of the types of ceramic disc capacitor standard.

HOW TO ORDER

001	— F	7	SL	1	B	331	J	S	P	W
1	2	3	4	5	6	7	8	9	10	11

1 Capacitor Type Code

Type	
CC1	Low voltage temperature compensated disk ceramic capacitor
CC81	High voltage temperature compensated disk ceramic capacitor
CT1	Low voltage high dielectric constant disk ceramic capacitor
CT81	High voltage high dielectric constant disk ceramic capacitor
CS1	Semiconductor dielectric insulator disk ceramic capacitor
CT7	Alternating current disk ceramic capacitor

2 Rated voltage

Letter symbol	D	E	F	G	J	K	L	N	M	P	Q	X	Y
rated voltage	16V	25V	50V	100V	60V	250V	500V	1KV	2KV	3KV	4KV	250V AC	400V AC

3 Diameter coefficient

Symbol	4	5	6	7	8	9	10	12
Diameter(mm)	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0

4 Temperature coefficient: Please consider temperature characteristics and EIA code Lead style

symbol	Style
1	Straight lend (length 23mm)
2	Straight lend (length 1 7mm)
3	Cutting lend (short lend)
4	Tape straight lend
5	Tape small inside kink
6	Tape large inside kink
7	Double inside kinks
8	Double outside kinks
9	Outside kink

6 Lead Distance

Symbol	Lead spacing(mm)
A	25+08/-0.2
B	5.0+0.8/-0.2
D	7.5+08/-0.2
E	10.0+0.8/-0.2

7 Standard capacitance

lR0	1PF	Note: The unit of standard capacitance if consisting of 3 digits. 1St
4R7	4.7PF	two digits stand for effective value of the Standard capacitance, third

100	10PF	digit indicates the number of zeros; Rindicates decimal.
560	56PF	
821	820PF	
102	1 000PF	
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8 Capacitance tolerance, Please consider EIA code

9 Packing style

Symbol	Packing Style
T	Tape
S	bulk

10 Enclosure style

Code	Enclosure style
F	Epoxy resin
p	Phenol resin

11 W --- Lead-Free

TEMPERATURE CHARACTERISTICS

		EIA Code	JIS. GB Code
0±60	NP0	C0H	CH
-33±60	N33	S_1H	HH
-75±60	N75	U_1H	LH
-150±60	N150	P_2H	PH
-220±60	N220	R_2H	RH
-330±60	N330	S_2H	SH
-470±60	N470	T_2H	TH
-750±120	N750	U_2J	UJ or U_2J
+140~ —1000	P140~N1000(SL)	S_2L	SL orS_2L

CERAMIC DISC CAPACITOR

EIA CODE

The First Letter	The Second Letter	The Third Letter	Capacitance tolerance	
X:-55℃	4:+65℃	E:±4.7%	C	±0.25pF
Y:-25℃	5:+85℃	F:±7.5%	D	±0.5pF
Z:+10℃	6:+105℃	P:±10%	J	±5%
	7:+125℃	R:±15%	K	±10%
	8:+150℃	S:±22%	M	±20%
		T:+20% -33%	S	+50% -20%
		U:+22% -56%	Z	+80% -20%
		V:+22% -82%	P	+100/0