



## ELECTRIC DOUBLE-LAYER CAPACITORS

# CSD01 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Rated voltage of 2.7V
- Capacitance ranging from 0.1F~120F
- Low ESR for high power density
- Long cycle life
- Suitable for quick charge and discharge
- Accept customization

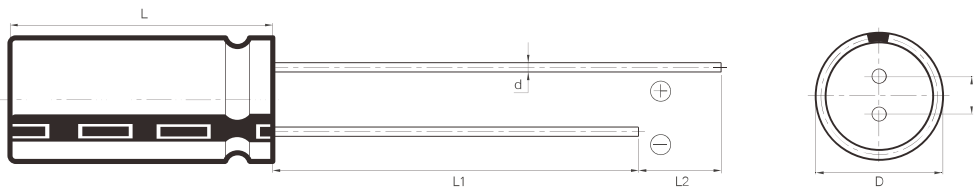
## » APPLICATIONS

Typical applications include hybrid battery packs, UPS & telecom systems, hold up power, high pulse current applications.

## » ORDERING INFORMATION

CSD01	MT	2R7	305	K	C05	Y	T	-M
Series	Temperature characteristics	Rated voltage	Capacitance(μF)	Capacitance tolerance	Size code	Termination finish	Packaging	
CSD01	CP:-25°C~70°C MT:-40°C~70°C LT:-50°C~65°C	2R7:2.7V 3R0:3.0V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=3000000μF =3.0F	J=±5% K=±10% M=±20% N=±30% V=-20%~+80%	C05	Y=CP wire	T=Bulk	Internal code standard

## » DIMENSIONS



# CSD01 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

Size code	Unit: mm						Weight(g)
	L	L1	L2	D	F	d	
C02	7.50±1.00	≥15	≥4	5.00±0.50	1.85±0.35	0.45±0.10	0.30±0.10
C03	12.00±1.50	≥15	≥4	6.30±0.50	2.65±0.35	0.60±0.15	0.66±0.20
C04	12.00±1.50	≥15	≥4	8.00±0.80	3.30±0.35	0.60±0.15	0.90±0.35
C05	17.00±1.50	≥15	≥4	8.00±0.80	3.50±0.35	0.60±0.15	1.35±0.30
C06	20.00±2.00	≥15	≥4	8.00±0.80	3.50±0.35	0.60±0.15	1.50±0.30
C07	20.00±2.00	≥15	≥4	10.00±0.80	4.75±0.35	0.60±0.15	2.25±0.50
C08	34.00±2.00	≥15	≥4	16.00±0.80	7.50±0.75	0.80±0.15	8.10±0.50
C09	25.00±2.00	≥15	≥4	10.00±0.80	5.00±0.50	0.60±0.15	3.00±0.80
C10	30.00±2.00	≥15	≥4	10.00±0.80	5.00±0.50	0.60±0.15	3.10±0.60
C11	26.00±2.00	≥15	≥4	16.00±0.80	7.50±0.75	0.80±0.15	7.80±1.50
C12	31.00±2.00	≥15	≥4	16.00±0.80	7.50±0.75	0.80±0.15	8.50±1.00
C14	42.00±2.00	≥15	≥4	18.00±0.80	7.50±0.75	0.80±0.15	13.00±1.50
C15	42.00±2.00	≥15	≥4	18.00±0.80	7.50±0.75	0.80±0.15	14.00±1.80
C16	42.00±2.00	≥15	≥4	18.00±0.80	7.50±0.75	0.80±0.15	15.00±2.00
C40	60.00±2.00	≥15	≥4	18.00±0.80	7.50±0.75	0.80±0.15	20.00±2.00
C17	43.00±2.00	≥15	≥4	22.00±0.80	10.00±1.00	1.00±0.15	17.90±2.30
C19	21.00±2.00	≥15	≥4	12.50±0.80	5.00±0.50	0.60±0.15	3.50±0.80
C20	26.00±2.00	≥15	≥4	12.50±0.80	5.00±0.50	0.60±0.15	4.05±0.80
C25	25.00±2.00	≥15	≥4	8.00±0.80	3.50±0.35	0.60±0.15	2.00±0.40
C34	30.00±2.00	≥15	≥4	12.50±0.80	5.00±0.50	0.60±0.15	5.20±0.80
C36	47.00±2.00	≥15	≥4	12.50±0.80	5.00±0.50	0.60±0.15	7.50±1.20

## » CAPACITANCE AND RATED VOLTAGE RANGE

2.7V Part NO.	Capacitance(F)	Capacitance tolerance	Temperature characteristics	Rated voltage(V)	Surge voltage(V)
CSD01□□2R7104□C02YT(-M)	0.1	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7154□C02YT(-M)	0.15	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7254□C02YT(-M)	0.25	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7504□C03YT(-M)	0.5	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7504□C04YT(-M)	0.5	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7105□C04YT(-M)	1	M、N、V	CP、MT、LT	2.7	2.85
CSD01□□2R7205□C04YT(-M)	2	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7305□C05YT(-M)	3.0	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7335□C06YT(-M)	3.3	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7505□C07YT(-M)	5	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7505□C25YT(-M)	5	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7705□C07YT(-M)	7	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7805□C09YT(-M)	8	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7106□C09YT(-M)	10	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7106□C19YT(-M)	10	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7106□C10YT(-M)	10	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7126□C10YT(-M)	12	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7156□C20YT(-M)	15	K、M、V	CP、MT、LT	2.7	2.85
CSD01□□2R7206□C20YT(-M)	20	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7206□C11YT(-M)	20	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7256□C11YT(-M)	25	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7306□C12YT(-M)	30	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7506□C14YT(-M)	50	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7606□C15YT(-M)	60	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7786□C16YT(-M)	78	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7107□C40YT(-M)	100	K、M	CP、MT、LT	2.7	2.85
CSD01□□2R7107□C17YT(-M)	100	M、N	CP、MT、LT	2.7	2.85
CSD01□□2R7127□C17YT(-M)	120	K、M	CP、MT、LT	2.7	2.85

# CSD01 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## » ELECTRICAL CHARACTERISTICS

Rated voltage	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA, 72hr)	Voltage holding characteristics Min. (V, 24hr)	Peak current (A)	Sustainable current max (A) ΔT ≤ 15°C
2.7V	0.1	1500	5000	5	2.1	0.090	0.010
	0.15	600	2500	5	2.1	0.147	0.016
	0.25	400	1800	5	2.1	0.233	0.027
	0.5	300	1000	5	2.2	0.450	0.054
	1	200	600	6	2.3	0.844	0.108
	2	160	400	8	2.3	1.500	0.216
	3.0	80	220	12	2.4	2.440	0.324
	3.3	80	220	12	2.4	2.581	0.356
	5	60	160	15	2.4	3.750	0.540
	7	50	120	20	2.4	5.136	0.756
	8	40	120	20	2.4	5.510	0.864
	10 <sup>010*25</sup>	50	120	30	2.4	6.136	1.080
	10 <sup>012.5*21</sup>	40	75	40	2.4	7.714	1.080
	10 <sup>010*30</sup>	40	75	40	2.4	7.714	1.080
	12	40	75	40	2.4	8.526	1.296
	15	35	60	50	2.4	10.66	1.620
	20 <sup>012.5*26</sup>	30	60	50	2.4	12.27	2.160
	20 <sup>016*26</sup>	30	45	50	2.4	14.21	2.160
	25	25	45	60	2.4	15.88	2.700
	30	20	40	80	2.4	18.41	3.240
40	20	30	100	2.4	24.55	4.320	
50	15	25	120	2.4	30.00	5.400	
60	15	25	150	2.4	32.40	6.480	
78	15	25	200	2.4	35.69	8.424	
100	15	20	250	2.4	45.00	10.800	
120	15	20	300	2.4	47.65	12.960	

a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.

# CSD02 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Rated voltage of 2.7V
- Capacitance ranging from 100F to 600F
- Low ESR for high power density
- Suitable for quick charge and discharge
- Accept customization

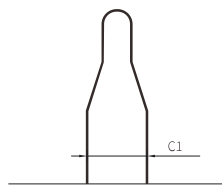
## »» APPLICATIONS

Typical applications include hybrid battery packs, UPS & telecom systems, hold up power, high pulse current applications.

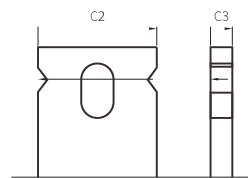
## »» ORDERING INFORMATION

CSD02	MT	2R7	457	K	M08	W	T	-M
Series	Temperature characteristics	Rated voltage	Capacitance(μF)	Capacitance tolerance	Size code	Wire form	Packaging	
CSD02	CP:-25°C~70°C MT:-40°C~70°C LT:-55°C~65°C	2R7:2.7V 3R0:3.0V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=3000000μF =3.0F	K=±10% M=±20%	M08	Form S Form L Form W Form T	T=Bulk	Internal code standard

## »» DIMENSIONS

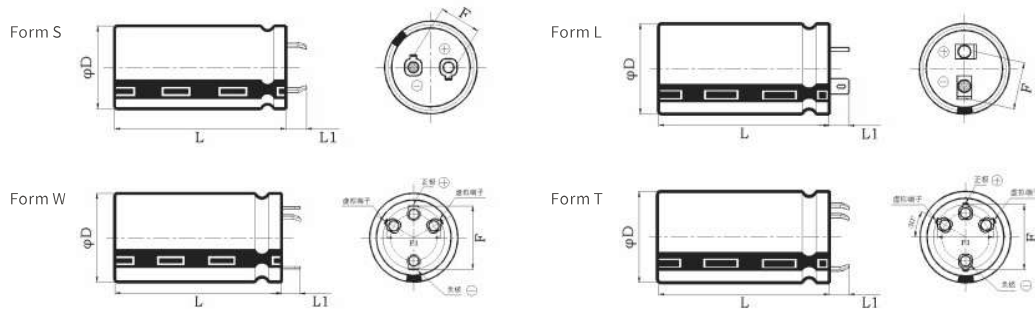


Pin type



Chip type

Pin type Size code	Chip Size code	
C1	C2	C3
1.60±0.10	5.20±0.20	1.00±0.10



Size code	Case size(mm)					Weight(g)
	D	L	L1	F	F1	
M01	22.0±1.5	45.0±2.0	6.5±1.0	10.0±2.0	/	21.5±2.0
M02	22.0±1.5	50.0±2.0	6.5±1.0	10.0±2.0	/	23.0±2.0
M12	22.0±1.5	56.0±2.0	6.5±1.0	10.0±2.0	/	32.0±2.0
M03	25.0±1.5	50.0±2.0	6.5±1.0	10.0±2.0	/	35.0±2.0
M04	30.0±1.5	52.0±2.0	6.5±1.0	10.0±2.0	/	44.5±3.0
M05	30.0±1.5	55.0±2.0	6.5±1.0	10.0±2.0	/	46.0±3.0
M11	30.0±1.5	60.0±2.0	6.5±1.0	10.0±2.0	/	70.0±3.0
M06	35.0±1.5	62.0±2.0	6.0±1.0	21.1±1.0	20.0±1.0	76.0±5.0
M07	35.0±1.5	66.0±2.0	6.0±1.0	21.1±1.0	20.0±1.0	85.0±5.0
M08	35.0±1.5	68.0±2.0	6.0±1.0	21.1±1.0	20.0±1.0	85.0±5.0
M09	35.0±1.5	71.0±2.0	6.0±1.0	21.1±1.0	20.0±1.0	86.5±5.0
M10	35.0±1.5	78.0±2.0	6.0±1.0	21.1±1.0	20.0±1.0	96.0±6.0

## »» CAPACITANCE AND RATED VOLTAGE RANGE

Part NO.	Capacitance(F)	Capacitance tolerance	Temperature characteristics	Outlet form	Rated voltage(V)	Surge voltage(V)
CSD02□□2R7107□M01□T(-M)	100	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7127□M02□T(-M)	120	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7157□M03□T(-M)	150	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7167□M12□T(-M)	160	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7207□M04□T(-M)	200	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7257□M05□T(-M)	250	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7307□M04□T(-M)	300	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7477□M11□T(-M)	470	K, M	CP, MT	S, L	2.7	2.85
CSD02□□2R7367□M06□T(-M)	360	K, M	CP, MT	W, T	2.7	2.85
CSD02□□2R7407□M07□T(-M)	400	K, M	CP, MT	W, T	2.7	2.85
CSD02□□2R7457□M08□T(-M)	450	K, M	CP, MT	W, T	2.7	2.85
CSD02□□2R7507□M09□T(-M)	500	K, M	CP, MT	W, T	2.7	2.85
CSD02□□2R7607□M10□T(-M)	600	K, M	CP, MT	W, T	2.7	2.85

## »» ELECTRICAL CHARACTERISTICS

Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)ΔT≤15°C
100	8.0	12.0	0.260	2.4	61.36	3.00
120	8.0	12.0	0.300	2.4	66.39	3.60
150	7.0	10.0	0.500	2.4	81.00	4.50
160	7.0	10.0	0.500	2.4	83.07	4.80
200	6.0	8.0	0.600	2.4	103.84	6.00
250	6.0	8.0	0.650	2.4	112.50	7.50
300	8.0	15.0	0.800	2.4	73.64	9.00
470	4.0	6.0	1.000	2.4	166.10	14.10
360	3.0	3.5	0.950	2.4	215.04	10.80
400	3.0	3.5	1.000	2.4	225.00	12.00
450	3.0	3.5	1.000	2.4	235.92	13.50
500	2.0	2.7	1.000	2.4	287.23	15.00
600	2.0	2.5	1.300	2.4	324.00	18.00

a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.

# CSD03 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Rated voltage of 2.7V
- Capacitance ranging from 650F to 3000F
- Large capacitance for high energy density
- Low ESR for high power density
- Long cycle life
- Suitable for quick charge and discharge

## » APPLICATIONS

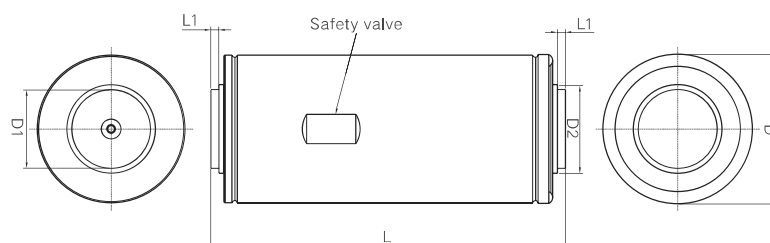
Typical applications include wind turbine pitch control, energy regeneration and motor start in escalators, hybrid vehicles, rail, UPS & telecom systems.

## » ORDERING INFORMATION

CSD03	MT	2R7	308	K	C54	X	E	-M
Series	Temperature characteristics	Rated voltage	Capacitance(μF)	Capacitance tolerance	Size code	Wire form	Packaging	
CSD03	CP:-25°C~65°C MT:-40°C~65°C LT:-55°C~65°C	2R7:2.7V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=3000000μF =3.0F	K=±10% M=±20%	Refer to dimensions	X= Aluminium	T=Bulk	Internal code standard

# CSD03 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## »» DIMENSIONS



Unit:mm

Size code	L	L1	L2	D	D1	D2	Weight(g)
C50	57.5±0.5	3.0±0.05	47.5±0.5	60.0±0.7	32.0±0.5	36.0±0.5	160±5
C51	80.0±0.5	3.0±0.05	70.0±0.5	60.0±0.7	32.0±0.5	36.0±0.5	260±5
C52	91.0±0.5	3.0±0.05	81.0±0.5	60.0±0.7	32.0±0.5	36.0±0.5	280±5
C53	108.0±0.5	3.0±0.05	98.0±0.5	60.0±0.7	32.0±0.5	36.0±0.5	360±10
C54	144.0±1.0	3.0±0.05	134.0±0.5	60.0±0.7	32.0±0.5	36.0±0.5	510±10

## »» CAPACITANCE AND RATED VOLTAGE RANGE

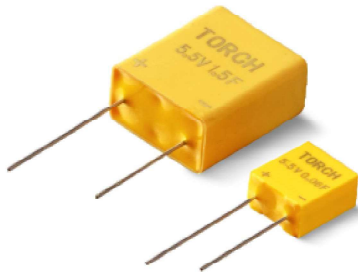
Part NO.	Capacitance(F)	Stored energy	Capacitance tolerance	Temperature characteristics	Rated voltage(V)	Surge voltage(V)
CSD03□□2R7657□C50XE (-M)	650	0.658	K、M	CP、MT、LT	2.7	2.85
CSD03□□2R7128□C51XE (-M)	1200	1.215	K、M	CP、MT、LT	2.7	2.85
CSD03□□2R7158□C52XE (-M)	1500	1.518	K、M	CP、MT、LT	2.7	2.85
CSD03□□2R7208□C53XE (-M)	2000	2.025	K、M	CP、MT、LT	2.7	2.85
CSD03□□2R7308□C54XE (-M)	3000	3.037	K、M	CP、MT、LT	2.7	2.85

## »» ELECTRICAL CHARACTERISTICS

Capacitance (F)	Max ESR(mΩ)	Max mass power density (KW/Kg)	Peak current (A)	Maximum sustainable current (A)
650	0.78	14.161	582.3	19.50
1200	0.55	12.085	975.9	36.00
1500	0.45	14.211	1209	45.00
2000	0.32	15.393	1646	60.00
3000	0.25	14.019	2314	90.00



# CSM01-A SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Operating temperature rang of -40°C to +70°C
- Store more energy
- Low ESR for high power density
- Long cycle life
- Accept customization

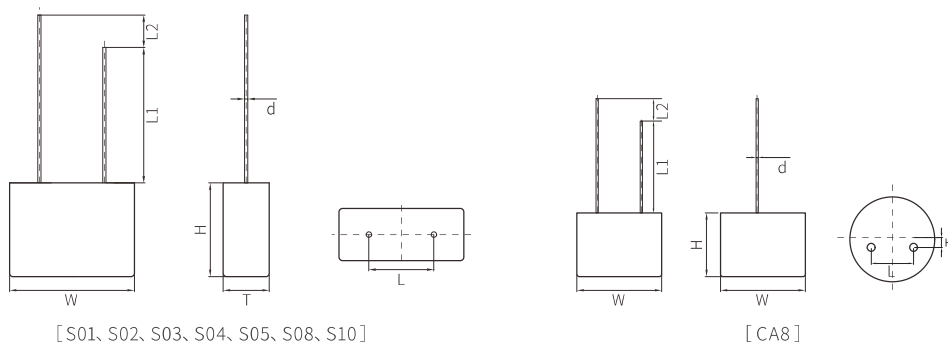
## » APPLICATIONS

Be used as pulse power output power supply, starting power supply, emergency backup power supply and UTC power supply.

## » ORDERING INFORMATION

CSM01	RP	5R5	104	M	S02	Y	F	-M
Series	Temperature characteristics	Rated voltage	Capacitance(μF)	Capacitance tolerance	Size code	Wire form	Packaging	
CSM01-A	GP (General product)  RP (Resin package)  SC (Special customized)	5R5:5.5V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=3000000μF=3.0F	K=±10% M=±20% N=±30% Q=-20%~50% V=-20%~80%	Refer to dimensions	X Y Z W	F=Waffle T=Bulk	Internal code standard

## » DIMENSIONS



Size code	Case size(mm)						
	L	L1	L2	W	H	T	d
S01	7.5±0.5	≥15	≥4	12.0±0.5	13.5±0.5	6.6±0.5	0.5±0.1
S02	7.0±0.5	≥15	≥4	13.0±0.5	12.5±0.5	6.3±0.5	0.4±0.1
S04	12.0±0.5	≥15	≥4	18.5±0.5	16.5±0.5	10.0±0.5	0.6±0.1
S05	12.0±0.5	≥15	≥4	18.5±0.5	21.0±0.5	10.0±0.5	0.6±0.1
S08	36.9±0.5	≥15	≥4	46.3±0.5	17.4±0.5	10.3±0.5	0.6±0.1
S10	15.5±0.5	≥15	≥4	22.8±0.5	25.0±0.5	12.4±0.5	0.6±0.1
CA8	5.0±0.5	≥15	≥4	12.0±0.5	9.3±0.5	0.6±0.5	0.4±0.1

# CSM01-A SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## »» CAPACITANCE AND RATED VOLTAGE RANGE

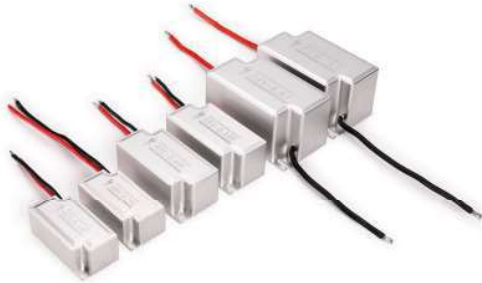
Part NO.	Capacitance tolerance	Temperature characteristics	Rated voltage(V)	Surge voltage(V)	Weight(g)
CSM01RP5R5473□S02YF (-M)	0.047	M、Q、V	5.5	5.7	1.4±0.3
CSM01SC5R5473□CA8YF(-M)	0.047	M、Q、V	5.5	5.7	1.8±0.5
CSM01RP5R5104□S01YF (-M)	0.1	M、Q、V	5.5	5.7	1.5±0.3
CSM01RP5R5104□S02YF (-M)	0.1	M、Q、V	5.5	5.7	1.4±0.3
CSM01RP5R5504□S04YF(-M)	0.5	M、Q、V	5.5	5.7	4.4±0.5
CSM01RP5R5105□S04YF(-M)	1.0	K、M、Q	5.5	5.7	4.4±0.5
CSM01RP5R5155□S05YF (-M)	1.5	K、M	5.5	5.7	5.5±0.5
CSM01RP5R5255□S10YF(-M)	2.5	K、M、Q	5.5	5.7	10.0±1.0
CSM01RP5R5355□S10YF(-M)	3.5	K、M、Q	5.5	5.7	10.3±1.0
CSM01SC8R1473□CA8YF(-M)	0.047	M、Q、V	8.1	8.55	1.8±0.5
CSM01RP8R1473□CA8YF (-M)	0.047	M、Q、V	8.1	8.55	1.8±0.5
CSM01RP8R1603□CA8YF (-M)	0.06	M、Q、V	8.1	8.55	1.8±0.5
CSM01RP8R1333□CA8YF(-M)	0.033	M、Q、V	8.1	8.55	1.8±0.5
CSM01SC8R1333□CA8YF(-M)	0.033	M、Q、V	8.1	8.55	1.8±0.5
CSM01RP13R204□S08YF(-M)	0.2	M、Q、V	13.5	14.25	11.7±1.5

## »» ELECTRICAL CHARACTERISTICS

Part NO.	Rated voltage	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)ΔT≤15°C
CSM01RP5R5473□S02YF (-M)	5.5	0.047	4000	11000	3	4.2	0.086	0.010
CSM01SC5R5473□CA8YF(-M)	5.5	0.047	15000	20000	3	4.2	0.10	0.015
CSM01RP5R5104□S01YF (-M)	5.5	0.1	1500	4000	5	4.0	0.20	0.022
CSM01RP5R5104□S02YF (-M)	5.5	0.1	800	3800	3	4.2	0.20	0.022
CSM01RP5R5504□S04YF(-M)	5.5	0.5	500	1500	6	4.5	0.78	0.110
CSM01RP5R5105□S04YF(-M)	5.5	1.0	350	800	10	4.6	1.53	0.220
CSM01RP5R5155□S05YF (-M)	5.5	1.5	200	600	12	4.6	2.44	0.324
CSM01RP5R5255□S10YF(-M)	5.5	2.5	150	270	15	4.7	4.10	0.550
CSM01RP5R5355□S10YF(-M)	5.5	3.5	80	200	20	4.7	5.67	0.770
CSM01SC8R1473□CA8YF(-M)	8.1	0.047	15000	20000	3	6.3	0.10	0.015
CSM01RP8R1473□CA8YF (-M)	8.1	0.047	2000	6000	3	6.3	0.17	0.015
CSM01RP8R1603□CA8YF (-M)	8.1	0.06	2000	6000	3	6.3	0.18	0.020
CSM01RP8R1333□CA8YF(-M)	8.1	0.033	9000	15000	3	6.3	0.077	0.011
CSM01SC8R1333□CA8YF(-M)	8.1	0.033	16000	22000	3	6.3	0.077	0.011
CSM01RP13R204□S08YF(-M)	13.5	0.2	500	1000	6	11.5	1.35	0.135

a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.

# CSM01-B SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Operating temperature rang of  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Store more energy
- Low ESR for high power density
- Long cycle life
- Accept customization

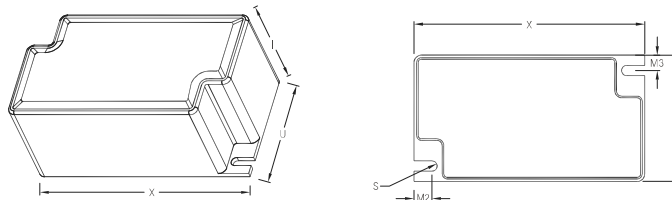
## »» APPLICATIONS

Equipment starting power supply, explosive power supply, instantaneous large current output power supply, intelligent equipment backup power supply, emergency power supply, power supply for emergency storage of power failure data.

## »» ORDERING INFORMATION

CSM01	GP	48R	164	M	ST1	W	T	-M
Series	Temperature characteristics	Rated voltage	Capacitance( $\mu\text{F}$ )	Capacitance tolerance	Size code	Wire form	Packaging	
CSM01-B	GP (General product)	5R5:5.5V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=300000 $\mu\text{F}$ =3.0F	K= $\pm 10\%$ M= $\pm 20\%$ N= $\pm 30\%$ Q= -20%~50% V= -20%~80%	Refer to dimensions	X Y Z W	F=Waffle T=Bulk	Internal code standard
	RP (Resin package)							
	SC (Special customized)							

## »» DIMENSIONS



Size code	Case size(mm)					
	W	T	H	L1	L2	R
ST1	70.2 $\pm 0.5$	36.8 $\pm 0.5$	27 $\pm 0.5$	5.5 $\pm 0.5$	3.8 $\pm 0.5$	2.0 $\pm 0.2$
ST2	84.5 $\pm 0.5$	43.9 $\pm 0.5$	36 $\pm 0.5$	7.5 $\pm 0.5$	6.0 $\pm 0.5$	2.0 $\pm 0.2$
ST3	92.8 $\pm 0.5$	52.2 $\pm 0.5$	42 $\pm 0.5$	7.5 $\pm 0.5$	6.0 $\pm 0.5$	2.0 $\pm 0.2$
ST4	100.8 $\pm 0.5$	58.7 $\pm 0.5$	52 $\pm 0.5$	10.5 $\pm 0.5$	6.0 $\pm 0.5$	2.0 $\pm 0.2$
ST5	100.8 $\pm 0.5$	58.7 $\pm 0.5$	52 $\pm 0.5$	10.5 $\pm 0.5$	6.0 $\pm 0.5$	2.0 $\pm 0.2$

# CSM01-B SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## »» CAPACITANCE AND RATED VOLTAGE RANGE

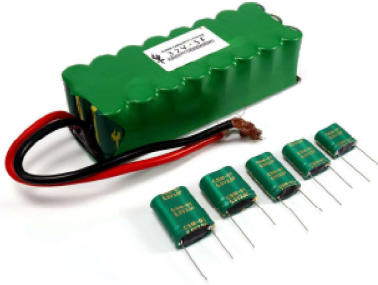
Part NO.	Capacitance tolerance	Temperature characteristics	Rated voltage(V)	Surge voltage(V)	Weight(g)
CSM01GP13R605□ST3WT (-M)	6	K、M、Q	13.5	14.2	240±20
CSM01GP13R126□ST4WT (-M)	12	K、M、Q	13.5	14.2	350±30
CSM01GP13R206□ST5WT (-M)	20	K、M、Q	13.5	14.2	450±30
CSM01GP16R505□ST3WT (-M)	5	K、M、Q	16	17	250±20
CSM01GP16R106□ST4WT (-M)	10	K、M、Q	16	17	360±30
CSM01GP16R166□ST5WT (-M)	16.7	K、M、Q	16	17	460±30
CSM01GP24R335□ST3WT (-M)	3.3	K、M、Q	24	25.6	260±20
CSM01GP24R665□ST4WT (-M)	6.6	K、M、Q	24	25.6	380±30
CSM01GP24R116□ST5WT (-M)	11	K、M、Q	24	25.6	490±30
CSM01GP32R255□ST3WT (-M)	2.5	K、M、Q	32	34	270±20
CSM01GP32R505□ST4WT (-M)	5.0	K、M、Q	32	34	390±30
CSM01GP32R835□ST5WT (-M)	8.3	K、M、Q	32	34	530±30
CSM01GP48R164□ST1WT (-M)	0.16	K、M、Q	48	51	100±10
CSM01GP48R444□ST2WT (-M)	0.44	K、M、Q	48	51	170±10
CSM01GP51R164□ST1WT (-M)	0.16	K、M、Q	51	54	100±10
CSM01GP51R424□ST2WT (-M)	0.42	K、M、Q	51	54	170±10
CSM01GP65R124□ST1WT (-M)	0.12	K、M、Q	65	68	100±10
CSM01GP65R334□ST2WT (-M)	0.33	K、M、Q	65	68	170±10

## »» ELECTRICAL CHARACTERISTICS

Part NO.	Rated voltage	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)ΔT≤15°C
CSM01GP13R605□ST3WT (-M)	13.5	6	100	200	80	11.5	18.4	3.24
CSM01GP13R126□ST4WT (-M)	13.5	12	50	90	150	11.5	38.5	6.48
CSM01GP13R206□ST5WT (-M)	13.5	20	50	75	250	11.5	54	10.8
CSM01GP16R505□ST3WT (-M)	16	5	120	240	80	13.8	18.4	3.24
CSM01GP16R106 □ ST4WT(-M)	16	10	60	108	150	13.8	38.5	6.48
CSM01GP16R166□ST5WT (-M)	16	16.7	60	90	250	13.8	54	10.8
CSM01GP24R335□ST3WT (-M)	24	3.3	180	360	80	20.7	18.4	3.24
CSM01GP24R665□ST4WT (-M)	24	6.6	90	162	150	20.7	38.5	6.48
CSM01GP24R116□ST5WT (-M)	24	11	90	135	250	20.7	54	10.8
CSM01GP32R255□ST3WT (-M)	32	2.5	240	480	80	27.6	18.4	3.24
CSM01GP32R505□ST4WT (-M)	32	5.0	120	216	150	27.6	38.5	6.48
CSM01GP32R835□ST5WT (-M)	32	8.3	120	180	250	27.6	54	10.8
CSM01GP48R164 □ ST1WT(-M)	48	0.16	1080	3960	12	41.4	2.44	0.32
CSM01GP48R444□ST2WT (-M)	48	0.44	720	1800	20	41.4	6.0	0.86
CSM01GP51R164□ST1WT (-M)	51	0.16	1140	4180	12	43.4	2.44	0.32
CSM01GP51R424□ST2WT (-M)	51	0.42	760	1900	20	43.4	6.0	0.86
CSM01GP65R124□ST1WT (-M)	65	0.12	1440	5280	12	55.2	2.44	0.32
CSM01GP65R334□ST2WT (-M)	65	0.33	960	2400	20	55.2	6.0	0.86

a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.

# CSM01-C SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Operating temperature rang of -40°C to +70°C
- Store more energy
- Low ESR for high power density
- Long cycle life
- Accept customization

## »» APPLICATIONS

Typical applications include hybrid battery packs, UPS & telecom systems, hold up power, high pulse current applications.

## »» ORDERING INFORMATION

CSM01-C	GP	5R5	104	K	TG0	Y	F	-M
Series	Temperature characteristics	Rated voltage	Capacitance(μF)	Capacitance tolerance	Size code	Wire form	Packaging	
CSM01-C	GP RP SC	5F5:5.5V 32R:32V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 305=3000000μF =3.0F	K=±10% M=±20% N=±30% Q=-20%~+50% V=-20%~+80%	TG0	X Y Z W	F=Waffle T=Bulk	Internal code standard

# CSM01-C SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## »» CAPACITANCE AND RATED VOLTAGE RANGE

Part NO.	Capacitance tolerance	Capacitance(F)	Rated voltage (V)	Surge voltage (V)	L(mm)	W(mm)	H(mm)	Lead spacing		weight(g)
								Wire diameter	Wire length	
CSM01GP5R5473□TG0YF (-M)	M、N、Q、V	0.047	5.5	5.7	10.5±0.5	5.5±0.5	9.4±0.5	7.0±0.5		0.8±0.3
CSM01GP5R5104□TG0YF (-M)	K、M、N、Q	0.1	5.5	5.7	10.5±0.5	5.5±0.5	9.4±0.5	7.0±0.5		0.8±0.3
CSM01SC5R5224□TG0YF(-M)	K、M、N、Q	0.22	5.5	5.7	13.3±0.5	6.7±0.5	13.0±0.5	5.0±0.5		1.4±0.5
CSM01GP5R5504□TG0YF (-M)	K、M、N、Q	0.5	5.5	5.7	16.5±0.5	8.5±0.5	14.0±0.5	12.0±0.5		2.2±0.5
CSM01GA5R5504 □TG0YT (-M)	K、M、N、Q	0.5	5.5	5.7	16.5±0.5	8.5±0.5	14.0±0.5	12.0±0.5		2.2±0.5
CSM01SC5R5105□TG0YT (-M)	K、M、N	1	5.5	5.7	16.5±0.5	8.5±0.5	14.0±0.5	5.0±0.5		2.2±0.5
CSM01GP5R5105□TG0YF (-M)	K、M、N	1	5.5	5.7	16.5±0.5	8.5±0.5	14.0±0.5	12.0±0.5		2.2±0.5
CSM01GP5R5155□TG0YF (-M)	K、M、N	1.5	5.5	5.7	16.5±0.5	8.5±0.5	18.8±0.5	12.0±0.5		3.0±0.5
CSM01GA5R5255 □TG0YF (-M)	K、M、N、Q	2.5	5.5	5.7	20.5±0.5	10.5±0.5	22.5±1.0	15.5±0.5		5.5±0.8
CSM01GP5R5355□TG0YF (-M)	K、M、N、Q	3.5	5.5	5.7	20.5±0.5	10.5±0.5	22.5±1.0	15.5±0.5		5.5±0.8
CSM01GA5R5505 □TG0YF (-M)	K、M、N、Q	5	5.5	5.7	25.5±0.5	13.0±0.5	23.0±1.0	18.0±0.5		7.6±0.8
CSM01GP5R5755□TG0YT (-M)	K、M、N、Q	7.5	5.5	5.7	25.5±0.5	13.0±0.5	28.0±1.0	18.0±0.5		10.0±1.0
CSM01GP5R5106□TG0YT (-M)	K、M、N、Q	10	5.5	5.7	25.5±0.5	13.0±0.5	28.0±1.0	18.0±0.5		10.0±1.0
CSM01GP5R5156□TG0YT (-M)	K、M、N、Q	15	5.5	5.7	32.5±0.5	16.5±0.5	32.0±1.0	24.0±0.5		18.0±1.5
CSM01GP5R5306□TG0YT (-M)	K、M、N、Q	30	5.5	5.7	36.5±0.5	18.5±0.5	42.5±1.0	25.5±1.0		28.6±2.5
CSM01GP5R5506□TG0YT (-M)	K、M、N、Q	50	5.5	5.7	36.5±0.5	18.5±0.5	62.5±0.5	25.5±1.0		42.5±5.0
CSM01SC13R126□TG0WT (-M)	K、M、N	12	13.5	14.2	97.0±2.0	18.5±1.0	45.5±2.0	线径: 3.5±0.5 线长: 150±5		88±10
CSM01GP13R206□TG0WT (-M)	K、M、N	20	13.5	14.2	97.0±2.0	18.5±1.0	64.8±2.0	线径: 3.5±0.5 线长: 150±5		120±10
CSM01GP16R106□TG0WT (-M)	K、M、N	10	16	17	114.5±2.0	18.5±1.0	45.5±2.0	线径: 3.5±0.5 线长: 150±5		95±10
CSM01GP16R166□TG0WT (-M)	K、M、N	16	16	17	114.5±2.0	18.5±1.0	64.8±2.0	线径: 3.5±0.5 线长: 150±5		152±10
CSM01GP32R506□TG0WT (-M)	K、M、N	5	32	34.2	132.0±1.0	49.0±1.0	35.0±1.0	线径: 4.5±0.5 线长: 150±5		262±10

## »» ELECTRICAL CHARACTERISTICS

Part NO.	Rated voltage	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)ΔT≤15°C
CSM01GP5R5473□TG0YF(-M)	0.047	5.5	4000	11000	3	4.2	0.08	0.010
CSM01GP5R5104□TG0YF(-M)	0.1	5.5	800	2500	3	4.2	0.23	0.022
CSM01SC5R5224□TG0YF(-M)	0.22	5.5	600	1300	5	4.4	0.47	0.048
CSM01GP5R5504□TG0YF(-M)	0.5	5.5	500	1500	6	4.5	0.78	0.110
CSM01GA5R5504 □TG0YT(-M)	0.5	5.5	200	450	6	4.5	1.53	0.110
CSM01SC5R5105□TG0YT(-M)	1	5.5	350	800	10	4.6	1.57	0.220
CSM01GP5R5105□TG0YF(-M)	1	5.5	350	800	10	4.6	1.57	0.220
CSM01GP5R5155□TG0YF(-M)	1.5	5.5	200	600	12	4.6	2.44	0.324
CSM01GA5R5255□TG0YF(-M)	2.5	5.5	150	270	15	4.7	4.10	0.550
CSM01GP5R5355□TG0YF(-M)	3.5	5.5	80	200	20	4.7	5.67	0.770
CSM01GA5R5505□TG0YF(-M)	5	5.5	80	150	20	4.7	7.85	1.10
CSM01GP5R5755□TG0YT(-M)	7.5	5.5	70	120	30	4.8	10.87	1.65
CSM01GP5R5106□TG0YT(-M)	10	5.5	80	120	50	4.8	12.50	2.20
CSM01GP5R5156□TG0YT(-M)	15	5.5	40	80	70	4.8	18.75	3.30
CSM01GP5R5306□TG0YT(-M)	30	5.5	40	50	150	4.8	33.10	6.40
CSM01GP5R5506□TG0YT(-M)	50	5.5	70	100	250	4.8	22.5	10.8
CSM01SC13R126□TG0WT(-M)	12	13.5	100	150	150	11.5	28.96	6.48
CSM01GP13R206□TG0WT(-M)	20	13.5	80	120	250	11.5	39.7	10.8
CSM01GP16R106□TG0WT(-M)	10	16	120	180	150	14.4	28.57	6.48
CSM01GP16R166□TG0WT(-M)	16	16	96	120	250	14.4	43.24	10.24
CSM01GP32R506□TG0WT(-M)	5	32	120	240	160	27.6	36.36	6.40

58 a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.

# CSM02 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

Operating temperature rang of  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$   
 large capacitance for high energy density  
 Internal with high reliable single voltage monitoring chip  
 High efficiency single overvoltage protection circuit  
 Accept customization

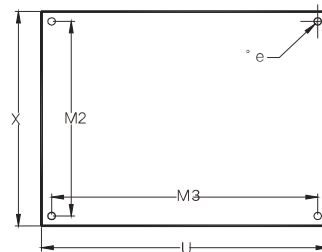
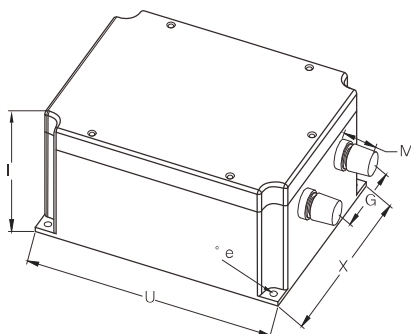
## »» APPLICATIONS

Typical applications include hybrid battery packs, UPS & telecom systems, hold up power, high pulse current applications.

## »» ORDERING INFORMATION

CSM02	GP	32R	386	M	SK1	Z	T	-M
Series	Temperature characteristics	Rated voltage	Capacitance( $\mu\text{F}$ )	Capacitance tolerance	Size code	Wire form	Packaging	
CSM02	GP	32R:32V	First two digits represent significant figures. Third digit specifies number of zeros. Example: 305=3000000 $\mu\text{F}$ =3.0F	K= $\pm 10\%$ M= $\pm 20\%$ N= $\pm 30\%$ Q= $-20\% \sim +50\%$ V= $-20\% \sim +80\%$	SK1	X Y Z W	T=Bulk	Internal code standard

## »» DIMENSIONS



Type GP

Size code	Case size(mm)								Weight(kg)
	W	T	H	F	L	L1	L2	d	
SK1	130.0 $\pm 3.0$	170.0 $\pm 3.0$	80.0 $\pm 3.0$	53.0 $\pm 1.0$	23.0 $\pm 3.0$	118.0 $\pm 2.0$	158.0 $\pm 2.0$	5.0 $\pm 0.3$	2.19 $\pm 0.2$
SK2	130.0 $\pm 3.0$	170.0 $\pm 3.0$	91.0 $\pm 3.0$	53.0 $\pm 1.0$	23.0 $\pm 3.0$	118.0 $\pm 2.0$	158.0 $\pm 2.0$	5.0 $\pm 0.3$	2.65 $\pm 0.2$

# CSM02 SERIES ELECTRIC DOUBLE-LAYER CAPACITOR

## »» CAPACITANCE AND RATED VOLTAGE RANGE

Part NO.	Capacitance(F)	Capacitance tolerance	Rated voltage(V)	Surge voltage(V)
CSM02GP24R506□SK1ZT (-M)	50	K、M	24	25.6
CSM02GP24R666□SK2ZT (-M)	66	K、M	24	25.6
CSM02GP32R386□SK1ZT (-M)	38	K、M	32	34.2
CSM02GP32R506□SK2ZT (-M)	50	K、M	32	34.2

## »» ELECTRICAL CHARACTERISTICS

Part NO.	Rated voltage (V)	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)ΔT≤15°C
CSM02GP24R506□SK1ZT (-M)	24	50	18.0	24.3	1.0	20.7	274	13.5
CSM02GP24R666□SK2ZT (-M)	24	66	16.2	22.5	1.5	20.7	324	18
CSM02GP32R386□SK1ZT (-M)	32	38	24.0	32.4	1.0	27.6	274	13.5
CSM02GP32R506□SK2ZT (-M)	32	50	21.6	30.0	1.5	27.6	324	18

a:The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.



# CSM02 SERIES CUSTOMIZED ELECTRIC DOUBLE-LAYER CAPACITOR



## FEATURES

- Operating temperature rang of  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- large capacitance for high energy density
- Internal with high reliable single voltage monitoring chip
- High efficiency single overvoltage protection circuit
- Structural seal, with a certain waterproof ability
- Accept customization

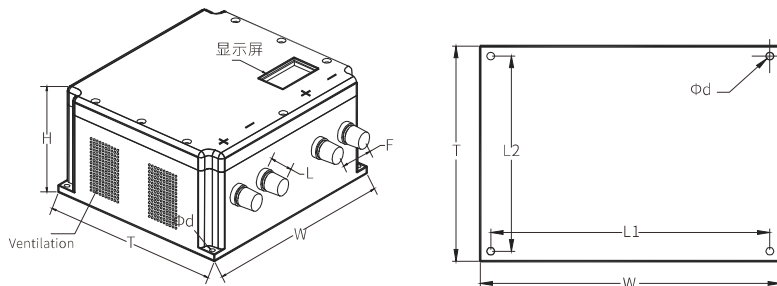
## »» APPLICATIONS

Typical applications include hybrid battery packs, UPS & telecom systems, hold up power, high pulse current applications.

## »» ORDERING INFORMATION

CSM02	SC	32R	506	M	SL1	Z	T	-M
Series	Temperature characteristics	Rated voltage	Capacitance( $\mu\text{F}$ )	Capacitance tolerance	Size code	Wire form	Packaging	
CSM02	SC	32R:32V	First two digits represent significant figures.Third digit specifies number of zeros. Example: 506=50000000 $\mu\text{F}$ =50F	K= $\pm 10\%$ M= $\pm 20\%$ N= $\pm 30\%$ Q= $-20\% \sim +50\%$ V= $-20\% \sim +80\%$	SL1	X Y Z W	T=Bulk	Internal code standard

## »» DIMENSIONS



Size code (Customization)	Case size(mm)								Weight(kg)
	W	T	H	F	L	L1	L2	d	
SL1	200.0 $\pm 3.0$	180.0 $\pm 3.0$	90.0 $\pm 3.0$	35.0 $\pm 1.0$	25.0 $\pm 3.0$	19.5 $\pm 1.0$	17.0 $\pm 1.0$	5.0 $\pm 0.3$	3.30 $\pm 0.1$

# CSM02 SERIES CUSTOMIZED ELECTRIC DOUBLE-LAYER CAPACITOR

## »» CAPACITANCE AND RATED VOLTAGE RANGE

Part NO.	Capacitance(F)	Capacitance tolerance	Rated voltage(V)	Surge voltage(V)
CSM02SC24R666□SL1ZT (-M)	66	K、M	24	25.6
CSM02SC32R506□SL1ZT (-M)	50	K、M	32	34.2

## »» ELECTRICAL CHARACTERISTICS

Part NO.	Rated voltage (V)	Capacitance (F)	Max ESR(mΩ) AC(at 1kHz)	Max ESR(mΩ) DC	Leakage current Max. (μA,72hr)	Voltage holding characteristics Min. (V,24hr)	Peak current (A)	Sustainable current max (A)△T≤15°C
CSM02SC24R666□SL1ZT (-M)	24	66	16.2	22.5	1.5	20.7	324	18
CSM02SC32R506□SL1ZT (-M)	32	50	21.6	30.0	1.5	27.6	324	18

a: The theoretical value of 1s discharge to half voltage is taken as the maximum instantaneous peak current allowed at room temperature.



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