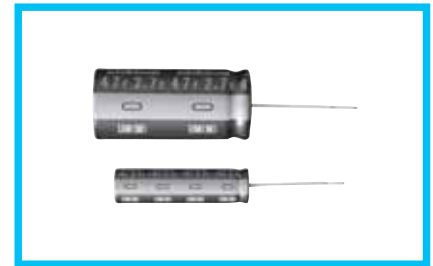
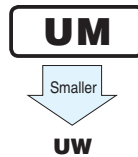


ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

UM series Radial Lead Type, High Voltage

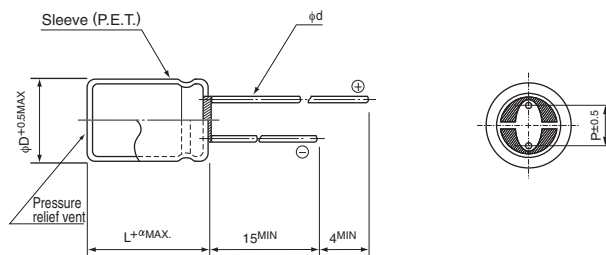
- High voltage type (2.7V).
- Suitable for quick charge and discharge.
- Wide temperature range (-25 to +70°C).
- Compliant to the RoHS directive (2011/65/EU).



Specifications

Item	Performance Characteristics							
Category Temperature Range	-25 to +70°C							
Rated Voltage Range	2.7V							
Rated Capacitance Range	1 to 47F See Note							
Capacitance Tolerance	±20% , 20°C							
Leakage Current	0.5C (mA) [C : Rated Capacitance(F)] (After 30 minutes' application of rated voltage : 2.7V)							
Stability at Low Temperature	Capacitance (-25°C) / Capacitance (+20°C) ×100 ≥ 70%							
ESR, DCR*	Refer to the table below (20°C). *DC internal resistance							
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Shelf Life	The specifications listed at right shall be met when the capacitors are restored to 20°C after storing the capacitors under no load for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Marking	Printed with white color letter on black sleeve.							

Drawing

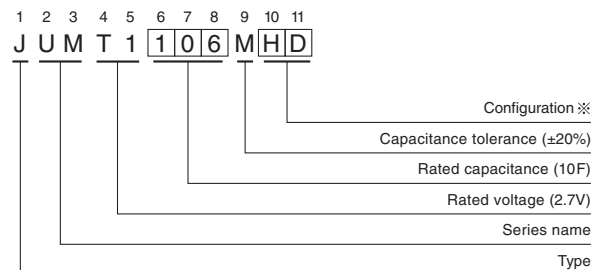


	(mm)				
φD	8	10	12.5	16	18
P	3.5	5.0	5.0	7.5	7.5
φd	0.6	0.6	0.6 [※]	0.8	0.8

※ In case L>25 for the φ12.5 dia unit, lead dia φd=0.8

α	(φD < 10)
	1.5
α	(φD ≥ 10)
	2.0

Type numbering system (Example : 2.7V 10F)



※ Configuration

φ D	Pb-free lead finishing Pb-free PET sleeve
8 · 10	PD
12.5 to 18	HD

• Please refer to page 20 for end seal configuration.

Dimensions

Rated Voltage (Code)	Rated Capacitance (F)	Code	ESR (Ω) (at 1kHz)	DCR※ Typical (Ω)	Case size φ D × L (mm)
2.7V (T1)	1	105	2	3	8 × 11.5
	2.2	225	2	1.3	8 × 20
	3.3	335	1	1.0	10 × 20
	4.7	475	0.4	0.6	12.5 × 20
	10	106	0.2	0.25	12.5 × 31.5
	22	226	0.2	0.13	16 × 31.5
	33	336	0.1	0.08	18 × 31.5
	47	476	0.1	0.06	18 × 40

Note :

The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.7V).

The discharge current (i) is 0.01 × rated capacitance (F).

The discharge time (ΔT) measured between 2V and 1V with constant current.

The capacitance calculated below.

$$\text{Capacitance (F)} = i \times \Delta T$$

※ The listed DCR value is typical and therefore not a guaranteed value.

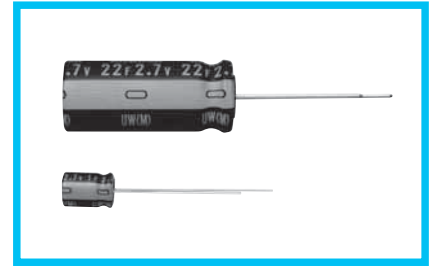
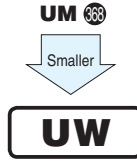
ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

nichicon

UW series Radial Lead Type, High Voltage, Smaller-Sized

Expanded

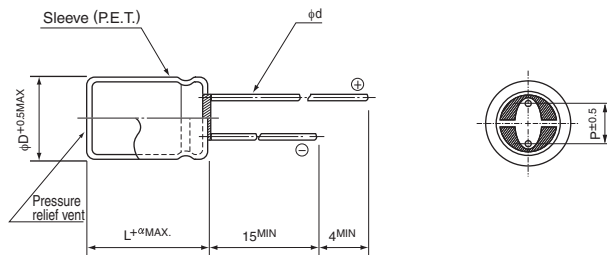
- High voltage type (2.7V).
- One rank smaller case sized than UM series.
- Wide temperature range (-25 to +70°C).
- Compliant to the RoHS directive (2011/65/EU).



Specifications

Item	Performance Characteristics							
Category Temperature Range	-25 to +70°C							
Rated Voltage	2.7V							
Rated Capacitance Range	1 to 82F See Note							
Capacitance Tolerance	±20% , 20°C							
Leakage Current	0.5C (mA) [C : Rated Capacitance(F)] (After 30 minutes' application of rated voltage : 2.7V)							
Stability at Low Temperature	Capacitance (-25°C) / Capacitance (+20°C) ×100 ≥ 70%							
ESR, DCR*	Refer to the table below (20°C). *DC internal resistance							
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Shelf Life	The specifications listed at right shall be met when the capacitors are restored to 20°C after storing the capacitors under no load for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Marking	Printed with white color letter on black sleeve.							

Drawing



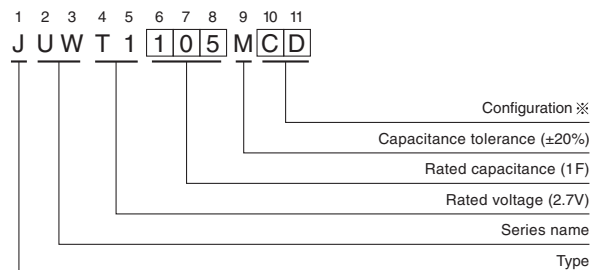
	(mm)					
φD	6.3	8	10	12.5	16	18
P	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5	0.6	0.6*	0.6*	0.8	0.8

α	(φD < 10)
	1.5
α	(φD ≥ 10)
	2.0

* In case L>25 for the φ10 and φ12.5 dia unit, lead dia φd=0.8

• Please refer to page 20 about the end seal configuration.

Type numbering system (Example : 2.7V 1F)



※ Configuration

φ D	Pb-free lead finishing Pb-free PET sleeve
6.3	CD
8 · 10	PD
12.5 to 18	HD

Dimensions

Rated Voltage (Code)	Rated Capacitance (F)	Code	ESR (Ω) (at 1kHz)	DCR※ Typical (Ω)	Case size φ D × L (mm)
2.7V (T1)	1.0	105	4	4	6.3 × 9
	1.5	155	3	2.5	8 × 11.5
	2.7	275	2	1.2	8 × 20
	3.3	335	2	1.1	10 × 12.5
	4.7	475	1	0.8	10 × 20
	6.8	685	0.8	0.7	12.5 × 20
	12	126	0.4	0.6	10 × 31.5
	22	226	0.3	0.4	12.5 × 31.5
	33	336	0.2	0.28	16 × 31.5
	47	476	0.2	0.22	18 × 31.5
82	826	0.1	0.13	18 × 40	

※ The listed DCR value is typical and therefore not a guaranteed value.

Note :

The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.7V).

The discharge current (i) is 0.01 × rated capacitance (F).

The discharge time (ΔT) measured between 2V and 1V with constant current.

The capacitance calculated below.

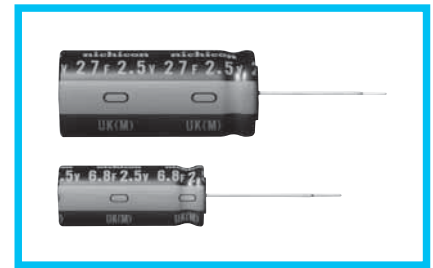
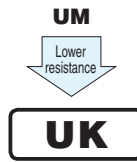
$$\text{Capacitance (F)} = i \times \Delta T$$

ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

nichicon

UK Radial Lead Type, Lower Resistance series

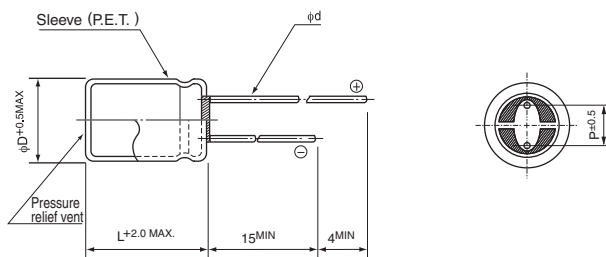
- Lower resistance type of UM series.
- Suited for Smart Meters.
- Lower temperature range (-40 to +70°C).
- Adapted to the RoHS directive (2011/65/EU).



Specifications

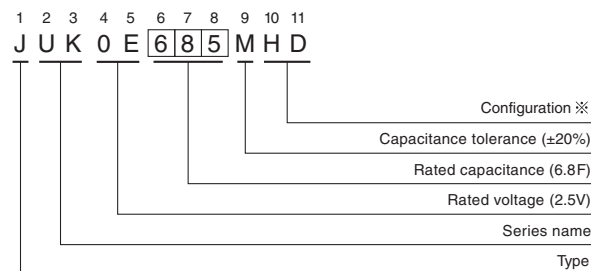
Item	Performance Characteristics							
Category Temperature Range	-40 to +70°C							
Rated Voltage	2.5V							
Rated Capacitance Range	6.8 to 27F See Note							
Capacitance Tolerance	±20% , 20°C							
Leakage Current	0.5C (mA) [C : Rated Capacitance(F)] (After 30 minutes' application of rated voltage : 2.5V)							
Stability at Low Temperature	Capacitance (-40°C) / Capacitance (+20°C) ×100 ≥ 70%							
ESR, DCR*	Refer to the table below (20°C). *DC internal resistance							
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Shelf Life	The specifications listed at right shall be met when the capacitors are restored to 20°C after storing the capacitors under no load for 1000 hours at 70°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>ESR</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	ESR	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Capacitance change	Within ±30% of the initial capacitance value						
	ESR	300% or less than the initial specified value						
Leakage current	Less than or equal to the initial specified value							
Marking	Printed with white color letter on black sleeve.							

Drawing



	(mm)		
φD	12.5	16	18
P	5.0	7.5	7.5
φd	0.8	0.8	0.8

Type numbering system (Example : 2.5V 6.8F)



※ Configuration	
φ D	Pb-free lead finishing Pb-free PET sleeve
12.5 to 18	HD

• Please refer to page 20 about the end seal configuration.

Dimensions

Rated Voltage (Code)	Rated Capacitance (F)	Code	ESR (Ω) (at 1kHz)	DCR※ Typical (Ω)	Case size φ D × L (mm)
2.5V (0E)	6.8	685	0.075	0.085	12.5 × 31.5
	12	126	0.060	0.065	16 × 31.5
	18	186	0.055	0.055	18 × 31.5
	27	276	0.040	0.035	18 × 40

Note :

The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.5V).

The discharge current (i) is 0.01 × rated capacitance (F).

The discharge time (ΔT) measured between 2V and 1V with constant current.

The capacitance calculated below.

$$\text{Capacitance (F)} = i \times \Delta T$$

※ The listed DCR value is typical and therefore not a guaranteed value.

ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

JC series Snap-in Terminal Type

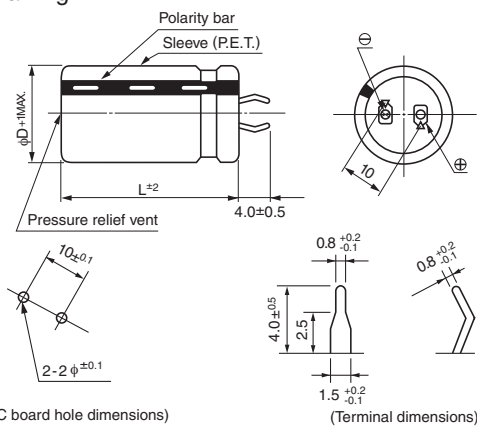


- Excellent in voltage holding property.
- Suitable for quick charge and discharge.
- Wide temperature range (– 25°C to + 60°C).
- Compliant to the RoHS directive (2011/65/EU).

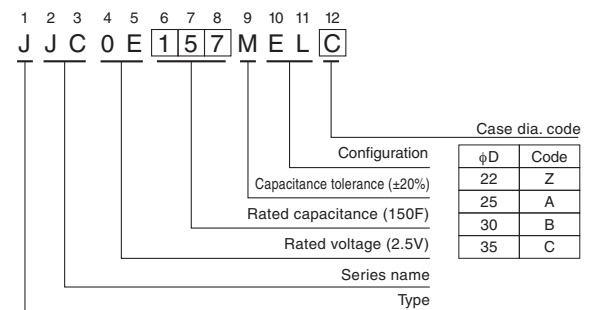
Specifications

Item	Performance Characteristics	
Category Temperature Range	– 25 to +60°C	
Rated Voltage Range	2.5V	
Rated Capacitance Range	27 to 200F See Note	
Capacitance Tolerance	± 20% (20°C)	
Leakage Current	0.5C (mA) [C : Rated Capacitance(F)] (After 30 minutes' application of rated voltage : 2.5V)	
Stability at Low Temperature	Capacitance (– 25°C) / Capacitance (+20°C) × 100 ≥ 70%	
ESR, DCR*	Refer to the table below (20°C). *DC internal resistance	
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 60°C.	
	Capacitance change	Within ±30% of the initial capacitance value
	ESR	300% or less than the initial specified value
Shelf Life	The specifications listed at right shall be met when the capacitors are restored to 20°C after storing the capacitors under no load for 2000 hours at 60°C.	
	Capacitance change	Within ±30% of the initial capacitance value
	ESR	300% or less than the initial specified value
Leakage current	Less than or equal to the initial specified value	
	Less than or equal to the initial specified value	
Marking	Printed with white color letter on black sleeve.	

Drawing



Type numbering system (Example : 2.5V 150F)



Dimensions

Rated Voltage (code)	Cap. (F)	Cap. code	ESR(mΩ) (at 1kHz)	DCR** Typical (mΩ)	Case size φD × L (mm)			
					φ 22 (Z)	φ 25 (A)	φ 30 (B)	φ 35 (C)
2.5V (0E)	27	276	90	110	22 × 30			
	33	336	80	90		25 × 30		
	39	396	80	80	22 × 35	25 × 30		
	47	476	70	60	22 × 40	25 × 35		
	56	566	70	50		25 × 40	30 × 30	
	68	686	60	45				35 × 30
	82	826	60	35		25 × 50	30 × 40	
	100	107	50	30				35 × 35
	120	127	50	25			30 × 50	35 × 40
	150	157	40	22				35 × 50
200	207	30	16				35 × 50	

Note :

The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.5V).

The discharge current (i) is 0.01 × rated capacitance (F). The discharge time (ΔT) measured between 2V and 1V with constant current.

The capacitance calculated below.

$$\text{Capacitance (F)} = i \times \Delta T$$

** The listed DCR value is typical and therefore not a guaranteed value.

ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

nichicon



Screw Terminal Type, High Energy Density Type

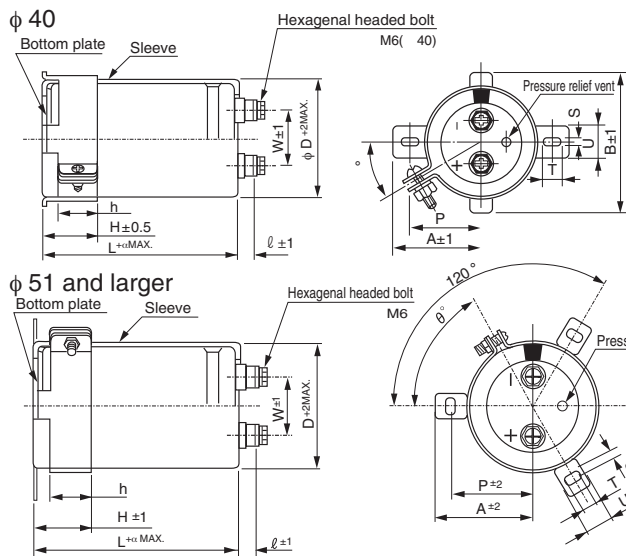


- High energy density.
- Suitable for electric power storage.
- Compliant to the RoHS directive (2011/65/EU).

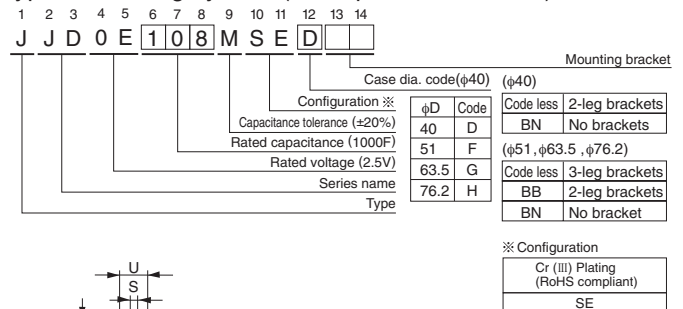
Specifications

Item	Performance Characteristics	
Category Temperature Range	- 25 to + 60°C	
Rated Voltage Range	2.5V	
Rated Capacitance Range	1000 to 6000F See Note	
Capacitance Tolerance	±20% (20°C)	
Leakage Current	0.5C (mA) [C : Rated Capacitance (F)] (After 30 minutes' application of rated voltage : 2.5V)	
Stability at Temperature	Capacitance (-25°C) / Capacitance (+20°C) × 100 ≥ 70% DCR(-25°C) / DCR (+20°C) ≤ 7	
DCR*	Refer to the table below. (20°C) *DC internal resistance	
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 60°C.	
	Capacitance change	Within ±30% of the initial capacitance value
	DCR	300% or less than the initial value
Shelf Life	The specifications listed at right shall be met when the capacitors are restored to 20°C after storing the capacitors under no load for 2000 hours at 60°C.	
	Capacitance change	Within ±30% of the initial capacitance value
	DCR	300% or less than the initial value
Marking	Printed with white color letter on black sleeve.	
	Leakage current	Less than or equal to the initial specified value
	Leakage current	Less than or equal to the initial specified value

Drawing



Type numbering system (Example : 2.5V 1000F)



Note :
 The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.5V).
 The discharge current (i) is 0.01 × rated capacitance (F).
 The discharge time (ΔT) measured between 2V and 1V with constant current.
 The capacitance calculated below.
 Capacitance (F) = i × ΔT

Dimensions

Rated Voltage (Code)	Cap. (F)	Cap. code	DCR ※ Typical (mΩ)	Case size		Ref. Weight (g)
				φ (mm)	L (mm)	
2.5V (0E)	1000	108	8.0	40	105	210
	1300	138	6.0		135	250
	2300	238	4.0	51	135	450
	2500	258	3.5		142	500
	4000	408	2.2	63.5	150	800
	6000	608	2.2	76.2	165	1300

※ The listed DCR value is typical and therefore not a guaranteed value.

• Dimensions of terminal pitch(W) and length(ℓ) and Normal dia. of bolt (mm)

φ D	W	ℓ	Nominal of bolt	
40	18.8	9	3	M6
51	26.0	10	3	M6
63.5	28.6	10	3	M6
76.2	31.8	6	3	M6

Dimensions of mounting bracket (mm)

Symbol	3-Legs			2-Legs			
	51	63.5	76.2	40	51	63.5	76.2
P	32.5	38.1	44.5	27	33.2	40.5	46.5
A	38.5	43	49.2	32	40	46.5	53
B	-	-	-	48	-	-	-
T	7.5	8.0	7.0	7.0	6.0	7.0	6.0
S	5.0	5.0	5.0	3.5	4.5	4.5	4.5
U	12	14	14	10	14	14	14
θ°	60	60	60	45	30	30	30
H	20	25	30	17	25	35	35
h	15	20	24	12	15	20	20

Note) The brackets will be supplied in the separate box.

ELECTRIC DOUBLE LAYER CAPACITORS "EVerCAP®"

nichicon



Screw Terminal Type, High Power Density Type

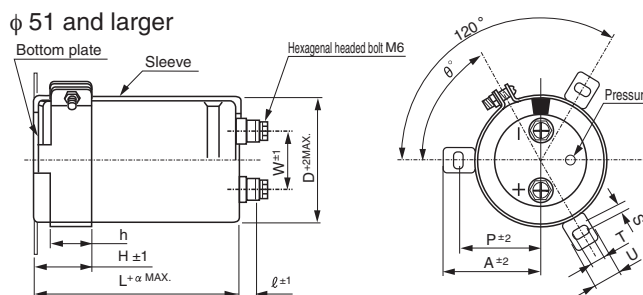
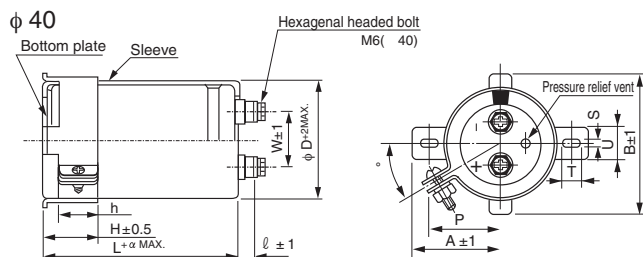
- High power density.
- Rapid charge-discharge.
- Suitable for regeneration and UPS applications.
- Compliant to the RoHS directive (2011/65/EU).



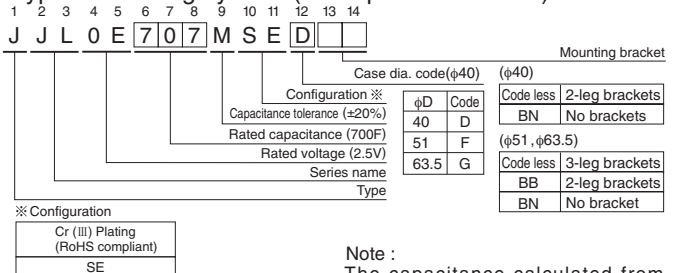
Specifications

Item	Performance Characteristics	
Category Temperature Range	- 25 to + 60°C	
Rated Voltage Range	2.5V	
Rated Capacitance Range	700 to 2600F See Note	
Capacitance Tolerance	±20% (20°C)	
Leakage Current	0.5C (mA) [C : Rated Capacitance (F)] (After 30 minutes' application of rated voltage : 2.5V)	
Stability at Low Temperature	Capacitance (-25°C) / Capacitance (+20°C) ×100 ≥ 70% DCR (-25°C) / DCR (+20°C) ≤ 7	
DCR*	Refer to the table below. (20°C) *DC internal resistance	
Endurance	Capacitance change	Within ±30% of the initial capacitance value
	DCR	300% or less than the initial value
	Leakage current	Less than or equal to the initial specified value
Shelf Life	Capacitance change	Within ±30% of the initial capacitance value
	DCR	300% or less than the initial value
	Leakage current	Less than or equal to the initial specified value
Marking	Printed with white color letter on black sleeve.	

Drawing



Type numbering system (Example : 2.5V 700F)



Note :
The capacitance calculated from discharge time (ΔT) with constant current (i) after 30minute charge with rated voltage (2.5V).
The discharge current (i) is 0.01 × rated capacitance (F).
The discharge time (ΔT) measured between 2V and 1V with constant current.
The capacitance calculated below.
Capacitance (F) = $i \times \Delta T$

Dimensions

Rated Voltage (Code)	Cap. (F)	Cap. code	DCR ※ Typical (mΩ)	Case size φ D × L (mm)		Ref. Weight (g)
				φ D	L	
2.5V (0E)	700	707	3.5	40	105	210
	850	857	2.5		135	250
	1500	158	1.8	51	135	450
	1700	178	1.7		142	500
	2600	268	1.3		63.5	150

※ The listed DCR value is typical and therefore not a guaranteed value.

Dimensions of terminal pitch(W) and length(ℓ) and Normal dia. of bolt (mm)

φ D	W	ℓ	α	Nominal of bolt
40	18.8	9	3	M6
51	26.0	10	3	M6
63.5	28.6	10	3	M6

Dimensions of mounting bracket (mm)

Leg shape Symbol φD	3-Legs		2-Legs		
	51	63.5	40	51	63.5
P	32.5	38.1	27	33.2	40.5
A	38.5	43	32	40	46.5
B	—	—	48	—	—
T	7.5	8.0	7.0	6.0	7.0
S	5.0	5.0	3.5	4.5	4.5
U	12	14	10	14	14
θ°	60	60	45	30	30
H	20	25	17	25	35
h	15	20	12	15	20

Note) The brackets will be supplied in the separate box.