

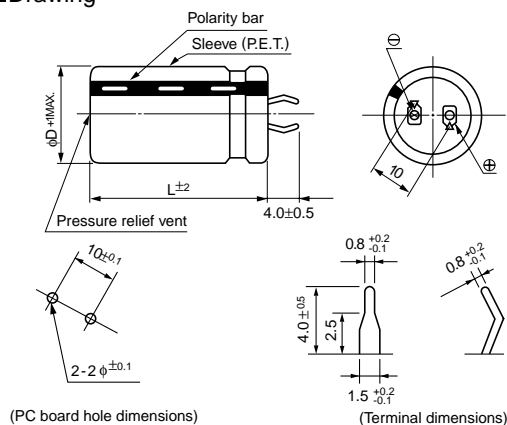
- Excellent in voltage holding property.
- Suitable for quick charge and discharge.
- Wide temperature range (−25°C to +60°C).
- Compliant to the RoHS directive (2011/65/EU).



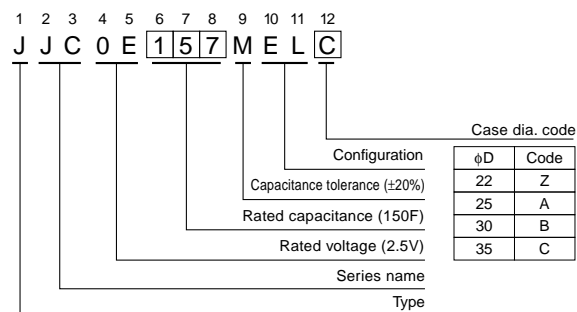
## Specifications

Item	Performance Characteristics	
Category Temperature Range	−25 to +60°C	
Rated Voltage Range	2.5V	
Rated Capacitance Range	15 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
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.	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 2000 hours at 60°C.	Capacitance change
		Within ±30% of the initial capacitance value
		ESR
Marking	Printed with white color letter on black sleeve.	300% or less than the initial specified value
		Leakage current
		Less than or equal to the initial specified value

## 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)	15	156	120	160	22×20			
	18	186	120	140		25×20		
	22	226	90	130			30×20	
	27	276	90	110	22×30		30×20	
	33	336	80	90		25×30		35×20
	39	396	80	80	22×35	25×30		35×20
	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 bellow.

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

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