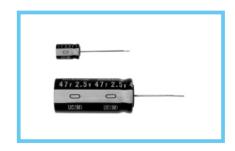


- Excellent in voltage holding property.
- Suitable for quick charge and discharge.
- Wide temperature range (- 25 to +70°C).
- Adapted to the RoHS directive (2002/95/EC).

Products which are scheduled to discontinue. Not recommended for new designs

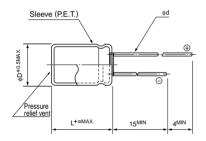




## ■ Specifications

Item	Performance Characteristics					
Category Temperature Range	− 25 to +70°C					
Rated Voltage Range	2.5V					
Rated Capacitance Range	0.47 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, 2.5V)					
Stability at Low Temperature	Capacitance (- 25°C) / Capacitance (+20°C) ×100 ≥ 70%					
ESR, DCR*	Refer to the list below (20°C). *DC internal resistance					
Endurance	After an application of DC voltage for 1000 hours at 70°C, capacitors meet the characteristic requirements listed at right.	Capacitance change	Within ±30% of initial value			
		ESR Leakage current	300% or less of initial specified value Initial specified value or less			
Shelf Life	After storing the capacitors under no load at 70°C for 1000hours, they will meet the characteristic requirements listed at right.	Capacitance change ESR Leakage current	Within ±30% of initial value 300% or less of initial specified value Initial specified value or less			
Marking	Printed with white color letter on black sleeve.					

## Drawing



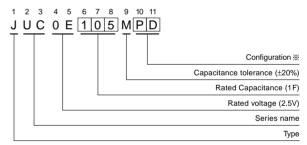


						(mm)
φD	6.3	8	10	12.5	16	18
Р	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5	0.6	0.6*1	0.6*2	0.8	0.8

 $\alpha$   $(\phi D < 10) 1.0$   $(\phi D \ge 10) 1.5$ 

- % 1 In case  $\phi$ 10  $\times$  40, lead dia  $\phi$ d=0.8
- Please refer to page 20 for end seal configulation.

# Type numbering system (Example: 2.5V 1F)



※ Configuration

φD	Pb-free lead finishing Pb-free PET sleeve		
6.3	ED		
8 • 10	PD		
12.5 to 18	HD		
	•		

#### Dimensions

Rated Voltage ( Code )	Rated Capacitance (F)	Code	ESR (Ω) (at 1kHz)	DCR (Ω)	Case size φ D × L (mm)
2.5V (0E)	0.47	474	7	11	6.3×11
	1.0	105	2	5	8×11.5
	2.2	225	1	2	8×20
	3.3	335	1	1.5	10×20
	4.7	475	0.5	1	12.5×20
	10	106	0.1	0.5	12.5 × 31.5
	10	106	0.1	0.5	10×40
	22	226	0.1	0.3	16×31.5
	33	336	0.1	0.2	18×31.5
	47	476	0.1	0.2	18×40

## Note:

To calculate capacitance, the capacitor must be charged at the rated voltage of 2.5V for 30 minutes. Measure the time of duration  $\Delta T$  (sec.) it takes go from 2V to 1V when a constant current discharge of i (A) = 0.01  $\times$  nominal capacitance is carried out. It is then possible to calculate capacitance based on the calculation provided below.

Capacitance (F) =  $I \times \Delta T$