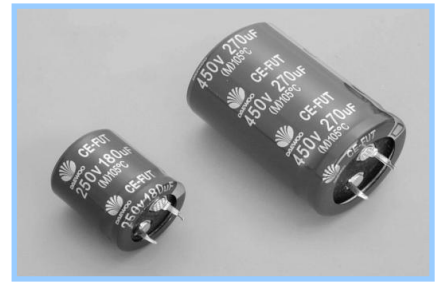


# FUT SERIES

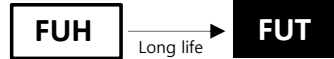
105°C, Long life, PCB terminal type

## Features

- 105°C, Long life, Snap-in terminal
- PCB Mounting
- High and stable quality
- Load life of 3,000 hours at 105°C

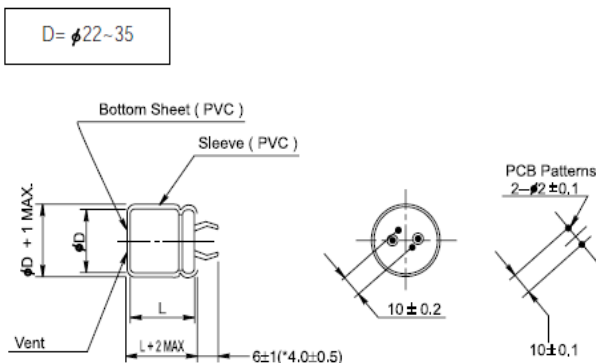


## Specifications



Item	Performance Characteristics		
Operating temperature range	-40°C ~ +105°C		-25°C ~ +105°C
Rated working voltage range	160V ~ 250V		350V ~ 500V
Nominal capacitance range	56 µF ~ 2,200 µF , ±20% (at 20°C, 120Hz)		
D.C Leakage current(at 20°C)	The following specifications shall be satisfied when the rated voltage is applied for the required time  I ≤ 0.02C or 2mA (5min), whichever is less.  Where I = Leakage current(µA)      C = Nominal capacitance(µF)      V = Rated voltage (V)		
Tan δ (max., at 20°C, 120Hz)	W.V	160~250	350~500
	Tan δ	0.10	0.20
Characteristics at low temperature(max.) (impedance ratio at 120Hz)	W.V(V)	160~250	350~500
	Z-25°C/Z+20°C	4	8
	Z-40°C/Z+20°C	12	-
Load life	After applying rated working voltage for 3,000 hours at +105°C and then listed being stabilized at +20°C, capacitors shall meet following limits.		
	Capacitance change	Within ± 20% of the initial measured value	
	Tan δ	≤ 200% of the initial specified value	
	Leakage current	≤ The initial specified value	
Shelf life	After storage for 1,000hours at + 105°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet following limits.		
	Capacitance change	Within ± 20% of the initial measured value	
	Tan δ	≤ 200% of the initial specified value	
	Leakage current	≤ The initial specified value	

## Dimensions



\* Shorter terminal is available upon request

## Ripple current coefficient

• Frequency

W.V(V)	Freq(Hz)	50	120	1K	10K	100K
16~100		0.90	1.00	1.10	1.15	1.25
160~250		0.80	1.00	1.25	1.40	1.50
350~500		0.84	1.00	1.15	1.20	1.32

# FUT SERIES

## ▣ Dimensions & Maximum permissible ripple current

μF	V	160				200				250			
		Φ22	Φ25	Φ30	Φ35	Φ22	Φ25	Φ30	Φ35	Φ22	Φ25	Φ30	Φ35
220										22 x 25 0.92	25 x 25 0.89		
270					22 x 25 1.00					22 x 30 1.04	25 x 30 1.04		
330		22 x 25 1.15			22 x 30 1.17	25 x 25 1.17				22 x 35 1.15	25 x 35 1.15	30 x 25 1.15	
390		22 x 30 1.20	25 x 25 1.18		22 x 35 1.25	25 x 25 1.25				22 x 40 1.27	25 x 35 1.27	30 x 25 1.27	
470		22 x 30 1.45	25 x 30 1.45		22 x 40 1.53	25 x 30 1.40	30 x 25 1.40			22 x 45 1.40	25 x 35 1.40	30 x 30 1.40	35 x 25 1.40
560		22 x 35 1.53	25 x 30 1.53	30 x 25 1.53	22 x 45 1.55	25 x 35 1.55	30 x 30 1.55			22 x 50 1.47	25 x 40 1.60	30 x 30 1.60	35 x 30 1.60
680		22 x 40 1.70	25 x 35 1.70	30 x 25 1.70	22 x 45 1.60	25 x 40 1.60	30 x 30 1.60	35 x 25 1.60		25 x 50 1.80	30 x 35 1.80	35 x 30 1.80	
820		22 x 45 1.90	25 x 35 1.90	30 x 30 1.90	35 x 25 1.90	25 x 45 1.86	30 x 35 1.86	35 x 30 1.86		25 x 60 2.00	30 x 40 2.10	35 x 35 2.10	
1,000		22 x 50 2.07	25 x 40 2.05	30 x 35 2.05	35 x 30 2.05	25 x 50 2.10	30 x 40 2.10	35 x 30 2.10				30 x 50 2.27	35 x 40 2.27
1,200			25 x 45 2.33	30 x 35 2.31	35 x 30 2.31	25 x 60 2.34	30 x 45 2.33	35 x 35 2.33				30 x 60 2.60	35 x 45 2.55
1,500			25 x 50 2.71	30 x 40 2.68	35 x 35 2.68		30 x 50 2.82	35 x 40 2.82					35 x 50 2.80
1,800				30 x 45 3.12	35 x 40 2.85		30 x 60 3.13	35 x 45 3.12					35 x 60 3.22
2,200				30 x 50 3.58	35 x 45 3.20			35 x 50 3.44					

μF	V	350				400				450				500			
		Φ22	Φ25	Φ30	Φ35	Φ22	Φ25	Φ30	Φ35	Φ22	Φ25	Φ30	Φ35	Φ22	Φ25	Φ30	Φ35
56										22 x 25 0.40				22 x 35 0.42	25 x 30 0.42	30 x 30 0.44	
68						22 x 25 0.51				22 x 30 0.51	25 x 25 0.48			22 x 40 0.41	25 x 35 0.47	30 x 30 0.49	
82		22 x 25 0.51				22 x 25 0.60				22 x 30 0.60	25 x 30 0.60	30 x 25 0.58		22 x 45 0.50	25 x 35 0.52	30 x 35 0.52	
100		22 x 25 0.65				22 x 30 0.64	25 x 25 0.64			22 x 35 0.65	25 x 30 0.65	30 x 25 0.62			25 x 40 0.60	30 x 35 0.61	
120		22 x 30 0.71	25 x 25 0.71			22 x 35 0.70	25 x 25 0.70	30 x 25 0.75		22 x 40 0.72	25 x 35 0.72	30 x 30 0.72			25 x 45 0.69	30 x 40 0.70	35 x 30 0.72
150		22 x 35 0.76	25 x 30 0.77	30 x 25 0.76		22 x 40 0.82	25 x 30 0.82	30 x 30 0.82		22 x 45 0.80	25 x 35 0.80	30 x 30 0.80	35 x 25 0.76			30 x 45 0.74	35 x 35 0.75
180		22 x 40 0.88	25 x 30 0.88	30 x 25 0.86		22 x 45 0.90	25 x 35 0.90	30 x 30 0.90	35 x 25 0.94	22 x 50 0.90	25 x 40 0.90	30 x 35 0.90	35 x 25 0.90			30 x 50 0.80	35 x 40 0.83
220		22 x 45 0.97	25 x 35 0.96	30 x 30 0.94	35 x 25 0.96	22 x 40 1.00	25 x 40 1.00	30 x 35 1.00	35 x 25 1.08		25 x 45 1.02	30 x 35 1.02	35 x 30 1.02			30 x 60 1.00	35 x 45 1.01
270		22 x 50 1.06	25 x 40 1.08	30 x 30 1.07	35 x 25 1.10		25 x 45 1.18	30 x 35 1.18	35 x 30 1.22		25 x 50 1.08	30 x 40 1.18	35 x 35 1.18				35 x 50 1.18
330			25 x 45 1.15	30 x 35 1.18	35 x 30 1.10		25 x 50 1.34	30 x 40 1.34	35 x 30 1.40			30 x 50 1.30	35 x 40 1.30				35 x 60 1.40
390			25 x 50 1.37	30 x 40 1.37	35 x 35 1.35		25 x 60 1.41	30 x 45 1.50	35 x 35 1.55			30 x 60 1.35	35 x 45 1.39				
470			25 x 60 1.44	30 x 45 1.43	35 x 35 1.46			30 x 50 1.75	35 x 45 1.75				35 x 50 1.73				
560				30 x 50 1.67	35 x 40 1.70			30 x 60 2.00	35 x 50 2.02								
680				30 x 60 2.00	35 x 50 1.79				35 x 60 2.13	Case size : ΦD x L(mm) Maximum permissible ripple current[A(rms) at 105°C, 120Hz]							