

## WH Series

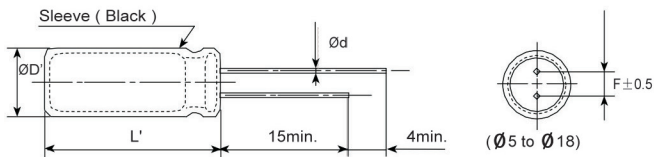
- Standard series for general purpose
- Wide temperature range from -40°C~+105°C
- Endurance: +105°C2,000hours
- RoHS Compliant



### ◆ SPECIFICATIONS

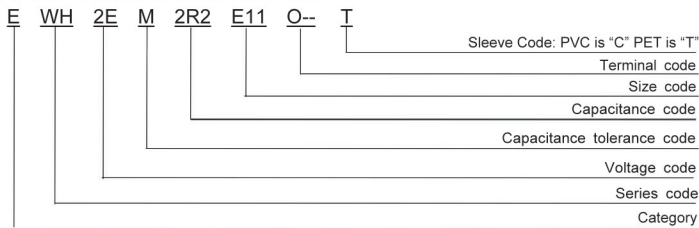
Items	Characteristics												
Category	-40 to +105°C(6.3 to 100V <sub>dc</sub> )						-25 to +105°C(160 to 450V <sub>dc</sub> )						
Temperature Range													
Rated Voltage Range	6.3 to 450V <sub>dc</sub>												
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)												
Leakage Current	6.3 to 100V <sub>dc</sub>						160 to 450V <sub>dc</sub>						Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)
	I ≦ 0.03CV or 4μA (at 1minute)						CV		After 1 minutes		After 5 minutes		
	I ≦ 0.01CV or 3μA (at 2minute)						CV≦1,000		I ≦ 0.1CV+40μA		I ≦ 0.03CV+15μA		
	Whichever is greater						CV>1,000		I ≦ 0.04CV+100μA		I ≦ 0.02CV+25μA		
Dissipation Factor (tanδ)	Rated voltage (V <sub>dc</sub> )	6.3	10	16	25	35	50	63	100	160-250	350-400	450	
	tanδ (Max.)	0.26	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.20	0.24	0.24	
When nominal capacitance exceeds 1,000 uF, add 0.02 to the value above for each 1,000 uF increase. (at 20°C, 120Hz)													
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	6.3	10	16	25	35	50	63	100	160-250	350-400	450	(at 120Hz)
	Z(-25°C)/Z(+20°C)	5	4	3	2				3	6	6		
	Z(-40°C)/Z(+20°C)	12	10	8	5	4	3		-	-	-		
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 2,000 hours at 105°C.												
	Capacitance change	≤ ±20% of the initial value											
	D.F. (tanδ)	≤200% of the initial specified value											
	Leakage current	≤The initial specified value											
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.												
	Capacitance change	≤ ±20% of the initial value											
	D.F. (tanδ)	≤200% of the initial specified value											
	Leakage current	≤ 200% of the initial specified value											

### ◆ DIMENSIONS [mm]



∅D	5	6.3	8	10	12.5	16	18
∅d	0.5	0.5	0.5	0.6	0.6	0.6	0.8
F	2.0	2.5	3.5		5.0	5.0	7.5
∅D'	∅D+0.5max.						
L'	L+2max.						

### ◆ PART NUMBER SYSTEM



※Sleeve Code and Terminal Code should follow the part number system

### ◆ RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Cap.(uF) \ Freq.(Hz)	50	120	300	1k	10k	100k
Cap.<10	0.65	1.00	1.35	1.75	2.30	2.50
10≤Cap.<100	0.75	1.00	1.25	1.50	1.75	1.80
100≤Cap.≤1000	0.80	1.00	1.15	1.30	1.40	1.50
Cap.>1000	0.85	1.00	1.03	1.05	1.08	1.08

The endurance of capacitors is shorted with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.