

UD Series 85°C

Features

Extremely long useful life

Applications

- ◆ Professional power supplies
- ◆ Frequency converters
- ◆ Uninterruptible power supplies
- ◆ Used for air conditioner, general-purpose inverter

Features

- ◆ High reliability
- ◆ Long useful life
- ◆ High ripple current capability
- ◆ Aluminum case designed explosion-proof vent
- ◆ RoHS-compatible

Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Aluminum case designed explosion-proof vent
- ◆ Snap-in solder pins to hold component in place on PC-board



Specifications

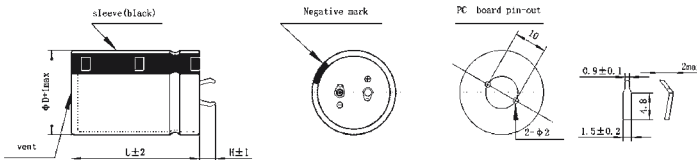
Item	Performance Characteristics		
Operating Temperature Range	-25 to +85°C		
Rated voltage V_R	400, 450 V DC		
Surge voltage V_S	1.10 V_R		
Rated capacitance C_R	330 ~ 1200 μ F		
Capacitance tolerance	$\pm 20\%$ (120Hz, +20°C)		
Dissipation Factor $\tan \delta$ (at 20°C · 120Hz)	Less than the value under table(%)		
	W.V.(V)	400	450
	D.F.(%) max	15	20
Leakage Current I_{leak} (+20°C.max)	$\leq 3 \sqrt{CV}$ (μ A) After 5 minutes with rated working voltage applied		
Self-inductance ESL	approx. 20 nH		
Useful life 85 °C; $V_R, I_{AC}^2 R$	> 10000 h	Requirements: $\Delta C/C \leq \pm 40\%$ of initial value ESR ≤ 4 times initial specified limit $I_{leak} \leq$ initial specified limit Outlier Percentage: 0 %	
Voltage Endurance test 85 °C; V_R	5000 h	Post test requirements: $\Delta C/C \leq \pm 20\%$ of initial value ESR ≤ 2 times initial specified limit $I_{leak} \leq$ initial specified limit Outlier Percentage: 0 %	
Shelf Life 85 °C	1000 h	Post test requirements: $\Delta C/C \leq \pm 20\%$ of initial value ESR ≤ 2 times initial specified limit $I_{leak} \leq$ initial specified limit Outlier Percentage: 0 %	
Vibration Resistance test	To IEC 60068-2-6, test Fc:		
	Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3x2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.		
Characteristics at low temperature	Max. impedance ratio at 120 Hz		
	V_R	≤ 400 V	≥ 450 V
	$Z_{-25^\circ C} / Z_{20^\circ C}$	8	8
Sectional specification	IEC 60384-4 and JIS-C-5101		

Multiplier for Ripple Current vs. Frequency

CAP(μF)/Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
100≤CAP≤1000	0.8	1	1.16	1.25	1.35	1.38
1000<CAP	0.8	1	1.11	1.17	1.25	1.28

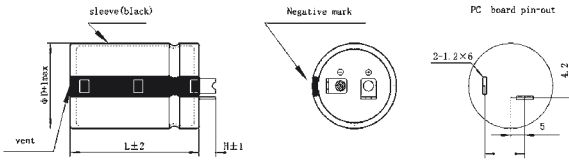
Dimensional drawings

Standard 2 terminals



Standard snap-in terminals: length(6.0±1)mm · Also available with length of (4.0±1)mm

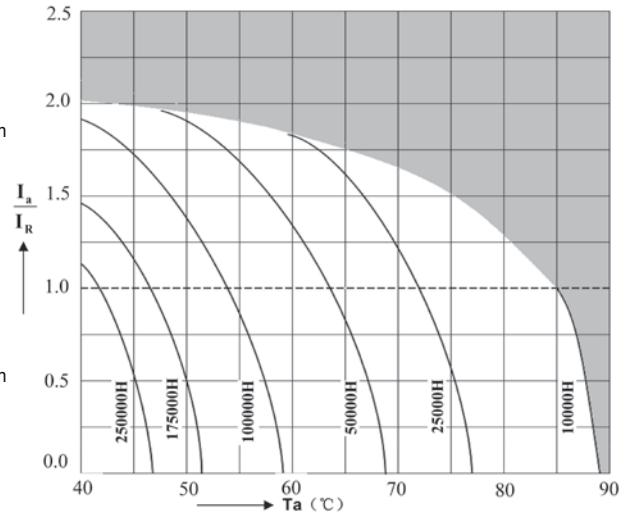
Vibration proof terminal T type



Standard snap-in terminals: length(4.5±1)mm · Also available with length of (5.5±1)mm

Useful life

depending on ambient temperature T_a versus under ripple current operating conditions



Case Size

WV	400V					450V				
	Size	Ripple	Typ. ESR 20°C 120Hz	MAX ESR 20°C 120Hz	Zmax (mΩ/20°C 10KHz)	Size	Ripple	Typ. ESR 20°C 120Hz	MAX ESR 20°C 120Hz	Zmax (mΩ/20°C 10KHz)
330	30x41	1650	340	480	240	30x46	1460	360	500	260
330	35x37	1700	340	480	240	35x42	1530	360	500	260
390	30x46	1880	290	410	200	35x42	1670	310	430	220
390	35x37	1880	290	410	200	35x47	1750	310	430	220
470	30x51	2160	240	340	170	35x47	1920	260	360	190
470	35x42	2160	240	340	170	35x52	2000	260	360	190
470	35x47	2270	240	340	170					
560	30x56	2350	200	280	140	35x57	2280	220	300	160
560	35x47	2350	200	280	140	35x62	2370	220	300	160
560	35x52	2470	200	280	140					
680	35x52	2700	160	230	110	35x62	2600	180	250	130
680	35x57	2840	160	230	110	40x62	2800	180	250	130
820	35x62	3000	140	190	100	40x62	3000	160	210	120
820	35x67	3200	140	190	100					
820	40x57	3200	140	190	100					
1000	40x62	3680	110	160	80	40x70	3600	90	140	60
1200	40x70	3850	90	130	60					

Ripple Current (m A, rms) at 85°C 120Hz