

UL Series 105°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

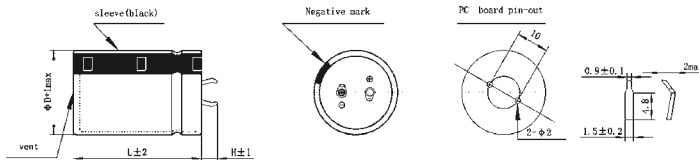
Item	Performance Characteristics		
Operating Temperature Range	-25 to +105°C		
Rated voltage V_R	400, 450 V DC		
Surge voltage V_S	1.10 V_R		
Rated capacitance C_R	330 ~ 1000 μ F		
Capacitance tolerance	$\pm 20\%$ (120Hz, +20°C)		
Dissipation Factor $\tan \delta$ (at 20°C · 120Hz)	Less than the value under table(%)		
	W.V.(V)	400	450
	D.F.(%) max	20	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 105 °C; V_R, I_{AC^*R}	> 7000 h	Requirements: $\Delta C/C \leq \pm 40\%$ of initial value $ESR \leq 4$ times initial specified limit $I_{leak} \leq$ initial specified limit Outlier Percentage: 0 %	
Voltage Endurance test 105 °C; V_R	5000 h	Post test requirements: $\Delta C/C \leq \pm 20\%$ of initial value $ESR \leq 2$ times initial specified limit $I_{leak} \leq$ initial specified limit Outlier Percentage: 0 %	
Shelf Life 105 °C	1000 h	Post test requirements: $\Delta C/C \leq \pm 20\%$ of initial value $ESR \leq 2$ 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

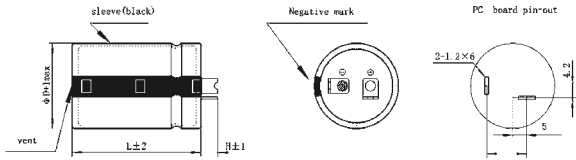
Dimensional drawings

Standard 2 terminals



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

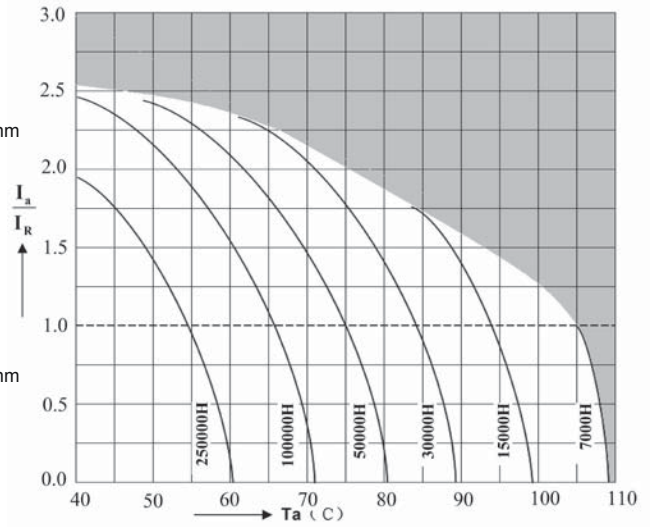
Vibration proof terminal T type



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	30x46	1400	310	440	220	30x51	1280	330	460	240
330	35x37	1440	310	440	220	35x42	1280	330	460	240
390	30x46	1600	260	370	180	30x56	1450	280	390	200
390	35x42	1680	260	370	180	35x47	1450	280	390	200
470	30x51	1830	220	310	150	35x52	1680	240	330	170
470	35x42	1830	220	310	150	35x57	1750	240	330	170
470	35x47	1900	220	310	150					
560	35x52	2070	190	260	130	35x57	1920	210	280	150
560	35x57	2150	190	260	130	35x62	2000	210	280	150
680	35x57	2270	160	220	110	35x67	2250	180	240	130
680	35x62	2350	160	220	110	40x62	2350	180	240	130
820	35x67	2680	130	180	90	40x67	2500	150	200	110
820	40x57	2700	130	180	90					
1000	40x70	3260	110	150	80					

Ripple Current (mA, rms) at 105°C 120Hz