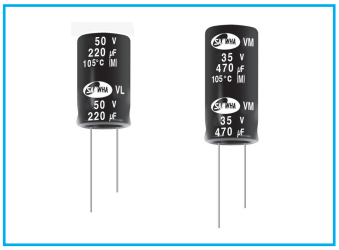
NEW

VM,VL

For Refolw Series

Solvent Proof
WV≦100V

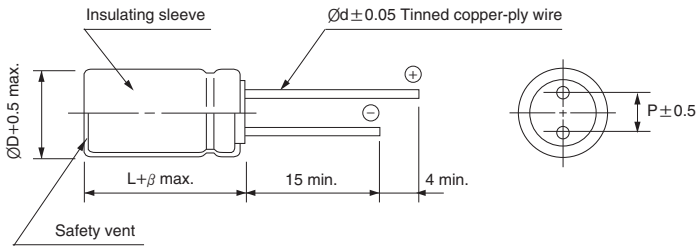


· Suitable for CFL, adapter and power supply
· VM series is load life of 5000 hours at 105˚C
· VL series is load life of 8000 hours at 105˚C
· Complied to the RoHS directive

Item	Characteristics
Operating temperature range	-40 ~ 105˚C
Leakage current max.	WV ≦ 100: I = 0.01CV or 3μA whichever is greater (after 2 min.) WV > 100: I = 0.02CV + 25μA (after 5 min.)
Capacitance tolerance	±20% at 120Hz, 20˚C
Dissipation factor max. (at 120Hz, 20˚C)	WV: 25 / 35 / 50 / 100 / 160 / 250 tanδ: 0.16 / 0.13 / 0.12 / 0.08 / 0.14 / 0.20
Low temperature characteristics (Impedance ratio at 120Hz)	WV: 25 / 35 / 50 / 100 / 160 / 250 Z-40˚C/Z+20˚C: 5 / 4 / 3 / 3 / 6 / 8
Load life	After application of the rated voltage 5000(VM), 8000(VL) hours at 105˚C Leakage current: Less than specified value Capacitance change: Within ±20% of initial value tanδ: Less than 200% of specified value
Shelf life (at 105˚C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed after exposure for 24 hours at room temperature after application of DC reted voltage to the capacitors for 30 minutes.

DRAWING

Unit : mm



ØD	8	10
P	3.5	5.0
Ød	0.5	0.6
β	1.5	2.0

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF \ WV	25		35		50		100		160		250	
15											8×20	375
22									8×20	375	10×16	469
33									8×20	469	10×20	625
47									10×20	625		
68							8×20	630				
82							10×16	725				
100							10×20	830				
180					8×20	760						
220					10×16	810						
330					10×20	890						
470	8×20	780	8×20	810								
560	8×20	930	10×20	1029								
680	10×16	1089	10×20	1295								
820	10×20	1351										
1000	10×20	1600										

Ripple current (mA rms) at 105˚C, 100kHz
Case size ØD×L (mm)

FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency	120Hz	300Hz	1kHz	10kHz	100kHz≦
~ 33	0.32	0.60	0.80	0.90	1.00
39 ~ 270	0.40	0.63	0.82	0.91	1.00
330 ~ 1000	0.45	0.67	0.84	0.92	1.00

* Refer to page 182 for soldering recommendation.

Reflow soldering method for series of VM, VL

1. Recommended conditions for reflow soldering

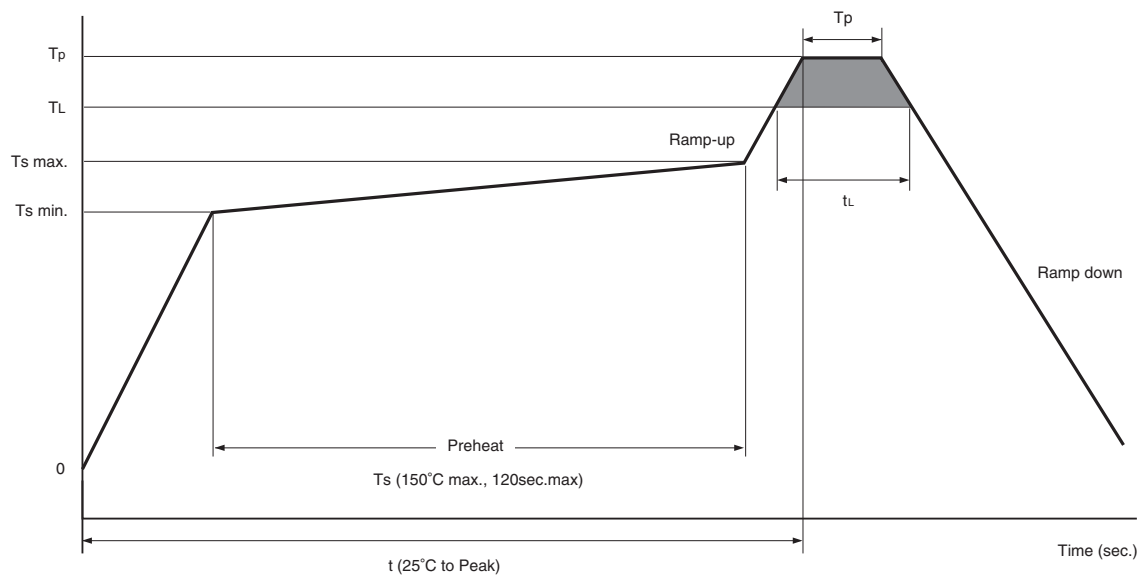
The aluminum electrolytic capacitor is subjected to soldering by reflow method.
Temperature and time conditions of reflow soldering shall be set as per each temperature profile shown below as a standard. The following are recommended conditions in the case of reflow soldering method for the aluminum electrolytic capacitor.

(1) The capacitor shall not be subjected to either flow or dip soldering method.

(2) Avoid soldering twice by reflow. The number of reflow time for aluminum electrolytic capacitor shall be once basically. If this type of capacitor has to be inevitably subjected to the reflow twice, enough cooling time between the first and the second reflow (at least more than 30 minutes) shall be taken to avoid the consecutive reflows by all means.

(3) On setting the reflow conditions, it shall be done lest the temperature at surface of the capacitor should exceed more than 175˚C

2. RECOMMENDED REFLOW SOLDERING CONDITIONS



Profile Feature		Soldering condition
		Ø8 ~ Ø10
Average Ramp-up Rate (T_L to T_P)		2˚C / second max.
Preheat	Temperature Min. (T_S min)	100˚C
	Temperature Max. (T_S max)	125˚C
	Time (T_S min to T_S max)	60 ~ 90 seconds
TS max to TL - Ramp-up Rate		2˚C / second max.
Time maintained above	Temperature (T_L)	140˚C
	Time (t_L)	40 ~ 60 seconds
Peak/classification Temperature (T_P)		175˚C
Time within 5˚C of actual peak temperature(T_P)		10 seconds max.
Ramp-Down rate		3˚C / second max.
Time 25˚C to peak temperature		6 minute max.