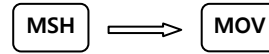




MOV series

- 105 °C 2,000Hrs assured.
- Improved safety features for abnormally excessive voltage
- RoHS compliant
- Halogen-free capacitors are also available.



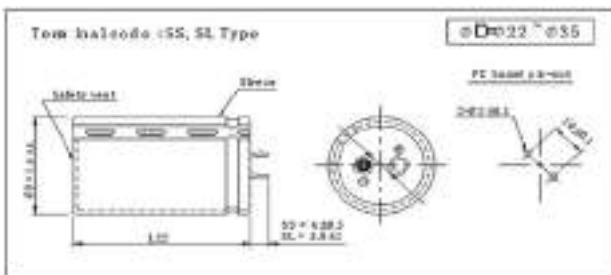
Anti-overvoltage



Specifications

Item	Characteristics	
Rated Voltage Range	200 Vdc	400, 450 Vdc
Operating Temperature Range	-40 ~ +105 °C	-25 ~ +105 °C
Capacitance Tolerance	±20% (M) (at 20 °C, 120Hz)	
Leakage Current	I=0.03CV or 3mA whichever is smaller Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(Vdc) (at 20 °C, 5min)	
Dissipation Factor(Tanδ)	Rated voltage (Vdc)	200 ~ 400 450
	Tanδ (max.)	0.15 0.20
Temperature characteristics (Max,impedance ratio)	(at 20 °C, 120Hz)	
	Rated voltage (Vdc)	200 ~ 250 400 ~ 450
	Z(-25°C)/Z(20°C)	3 8
	Z(-40°C)/Z(20°C)	12 -
	(at 120Hz)	
Load life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified life times at 105°C2,000hrs. Capacitance change ≤±20%of the initial value Tan δ ≤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. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≤±20% of the initial value Tanδ ≤200% of the initial specified value Leakage current ≤The initial specified value	
Safety performance	When overvoltage (rated voltage x 1.5, limited current=1A) is applied to a capacitor, the pressure relief	

Dimensions

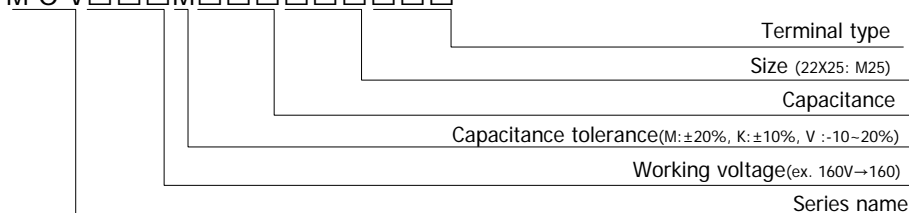
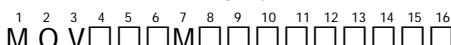


- Printed white color letter on brown sleeve
- The standard design has no bottom plate

Rated ripple current multipliers

Vdc \ Freq.(Hz)	50	60	120	1K	10K
200	0.85	0.88	1.00	1.15	1.20
400, 450	0.88	0.90	1.00	1.10	1.15

Code numbering system



Ø22	M
Ø25	N
Ø30	O
Ø35	P

MOV series

■ Standard Ratings Note1) Ripple current = mA rms/105°C, 120Hz

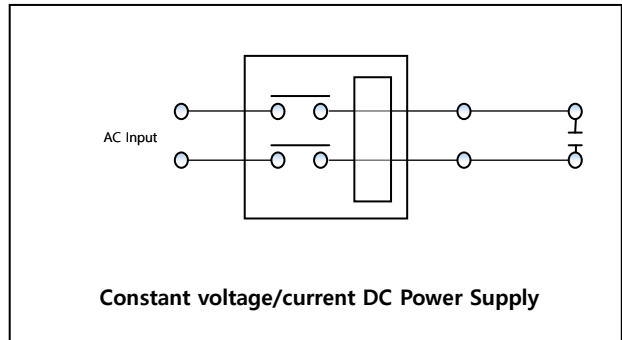
VV (Vdc)	Cap (uF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
200	180	22 x 25	0.15	820	MOV200□181M25□□□
		30 x 20	0.15	820	MOV200□181O20□□□
	220	22 x 25	0.15	930	MOV200□221M25□□□
		22 x 30	0.15	1,020	MOV200□271M30□□□
	270	25 x 25	0.15	1,020	MOV200□271N25□□□
		30 x 20	0.15	1,100	MOV200□271O20□□□
		22 x 35	0.15	1,250	MOV200□331M35□□□
	330	25 x 30	0.15	1,250	MOV200□331N30□□□
		30 x 25	0.15	1,250	MOV200□331O25□□□
		22 x 40	0.15	1,350	MOV200□391M40□□□
	390	25 x 30	0.15	1,350	MOV200□391N30□□□
		30 x 25	0.15	1,350	MOV200□391O25□□□
	470	22 x 45	0.15	1,520	MOV200□471M45□□□
		25 x 30	0.15	1,450	MOV200□471N30□□□
	560	30 x 25	0.15	1,470	MOV200□471O25□□□
		22 x 50	0.15	1,740	MOV200□561M50□□□
		25 x 35	0.15	1,600	MOV200□561N35□□□
	680	30 x 30	0.15	1,600	MOV200□561O35□□□
		35 x 25	0.15	1,580	MOV200□561P25□□□
		25 x 40	0.15	1,820	MOV200□681M40□□□
820	30 x 30	0.15	1,820	MOV200□681O30□□□	
	35 x 25	0.15	1,860	MOV200□681P25□□□	
	30 x 35	0.15	2,110	MOV200□821O35□□□	
1,000	35 x 30	0.15	2,110	MOV200□821P30□□□	
	30 x 40	0.15	2,400	MOV200□102O40□□□	
1,200	35 x 30	0.15	2,400	MOV200□102P30□□□	
	30 x 50	0.15	2,650	MOV200□122O50□□□	
1,500	35 x 35	0.15	2,650	MOV200□122P35□□□	
	35 x 45	0.15	3,080	MOV200□152P45□□□	
1,800	35 x 50	0.15	3,310	MOV200□182P50□□□	
400	33	22 x 20	0.20	220	MOV400□330M20□□□
		22 x 30	0.20	510	MOV400□680M30□□□
	68	25 x 25	0.20	510	MOV400□680N25□□□
		30 x 20	0.20	510	MOV400□680O20□□□
	82	22 x 30	0.20	580	MOV400□820M30□□□
		25 x 25	0.20	580	MOV400□820N25□□□
		30 x 20	0.20	580	MOV400□820O20□□□
	100	25 x 35	0.20	660	MOV400□101N35□□□
		25 x 30	0.20	660	MOV400□101N30□□□
		30 x 25	0.20	660	MOV400□101O25□□□
	120	35 x 20	0.20	660	MOV400□101P20□□□
		22 x 40	0.20	760	MOV400□121M40□□□
		25 x 30	0.20	760	MOV400□121N30□□□
	150	30 x 25	0.20	760	MOV400□121O25□□□
		22 x 45	0.20	850	MOV400□151M45□□□
		25 x 35	0.20	850	MOV400□151N35□□□
	180	30 x 30	0.20	850	MOV400□151O30□□□
		35 x 25	0.20	850	MOV400□151P25□□□
		22 x 50	0.20	950	MOV400□181M50□□□
	220	25 x 40	0.20	950	MOV400□181N40□□□
30 x 30		0.20	950	MOV400□181O30□□□	
35 x 25		0.20	950	MOV400□181P25□□□	
270	25 x 45	0.20	1,240	MOV400□221M45□□□	
	30 x 35	0.20	1,240	MOV400□221O35□□□	
	35 x 30	0.20	1,240	MOV400□221P30□□□	
330	30 x 40	0.20	1,300	MOV400□271O40□□□	
	35 x 35	0.20	1,300	MOV400□271P35□□□	
390	30 x 45	0.20	1,470	MOV400□331O45□□□	
	35 x 35	0.20	1,470	MOV400□331P35□□□	
390	30 x 50	0.20	1,620	MOV400□391O50□□□	
	35 x 45	0.20	1,620	MOV400□391P45□□□	

VV (Vdc)	Cap (uF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
400	470	35 x 45	0.20	1,900	MOV400□471P45□□□
	560	35 x 50	0.20	2,120	MOV400□561P50□□□
450	68	22 x 30	0.20	530	MOV450□680M30□□□
		22 x 35	0.20	640	MOV450□820M35□□□
	100	22 x 40	0.20	690	MOV450□101M40□□□
		25 x 30	0.20	690	MOV450□101N30□□□
	120	22 x 45	0.20	800	MOV450□121M45□□□
		25 x 35	0.20	800	MOV450□121N35□□□
	150	22 x 50	0.20	880	MOV450□151M50□□□
		25 x 40	0.20	880	MOV450□151N40□□□
		30 x 30	0.20	880	MOV450□151O30□□□
	180	25 x 45	0.20	1,000	MOV450□181M45□□□
		30 x 35	0.20	1,000	MOV450□181O35□□□
	220	25 x 50	0.20	1,120	MOV450□221M50□□□
		30 x 40	0.20	1,120	MOV450□221O40□□□
		35 x 30	0.20	1,120	MOV450□221P30□□□
	270	30 x 45	0.20	1,280	MOV450□271O45□□□
35 x 35		0.20	1,280	MOV450□271P35□□□	
330	30 x 50	0.20	1,450	MOV450□331O50□□□	
	35 x 40	0.20	1,450	MOV450□331P40□□□	
390	35 x 45	0.20	1,550	MOV450□391P45□□□	
	35 x 50	0.20	1,850	MOV450□471P50□□□	
560	35 x 60	0.20	2,030	MOV450□561P60□□□	

DC Over-voltage Test Conditions

The safety vent will operate and the capacitor shall become an open circuit without burning materials when the following excess DC voltage is applied.

■ Test Circuit & Voltage



Rated voltage	Nominal Capacitance	Current Limit	Test Voltage
200Vdc	< 330uF	4A	300/375Vdc
	330uF ≤ C < 470uF	5A	
	≥ 470uF	7A	
400Vdc	< 100uF	4A	500/600Vdc
	100uF ≤ C < 220uF	5A	
	≥ 220uF	7A	
450Vdc	< 100uF	4A	550/675Vdc
	100uF ≤ C < 220uF	5A	
	≥ 220uF	7A	