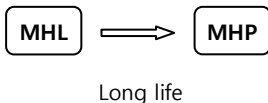




MHP series

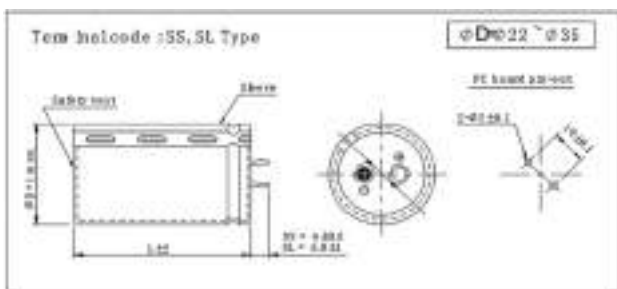
- 105 °C 7,000Hrs assured.
- Long life
- For SMPS, Inverter
- RoHS compliant
- Halogen-free capacitors are also available.



Specifications

Item	Characteristics											
Rated Voltage Range	160 ~ 450 Vdc	500 Vdc										
Operating Temperature Range	-40 ~ +105 °C	-25 ~ +105 °C										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)											
Leakage Current	I=0.02CV 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)	<table border="1"> <tr> <td>Rated voltage (Vdc)</td> <td>160~450</td> <td>500</td> </tr> <tr> <td>Tanδ (max.)</td> <td>0.15</td> <td>0.20</td> </tr> </table> (at 20°C, 120Hz)		Rated voltage (Vdc)	160~450	500	Tanδ (max.)	0.15	0.20				
Rated voltage (Vdc)	160~450	500										
Tanδ (max.)	0.15	0.20										
Temperature characteristics (Max,impedance ratio)	<table border="1"> <tr> <td>Rated voltage (Vdc)</td> <td>160~450</td> <td>500</td> <td rowspan="3">at 120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td> <td>-</td> </tr> </table>		Rated voltage (Vdc)	160~450	500	at 120Hz)	Z(-25°C)/Z(20°C)	4	8	Z(-40°C)/Z(20°C)	8	-
Rated voltage (Vdc)	160~450	500	at 120Hz)									
Z(-25°C)/Z(20°C)	4	8										
Z(-40°C)/Z(20°C)	8	-										
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°C 7,000hrs. Capacitance change ≤±25%of the initial value Tan δ ≤300% 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 ≤±25% of the initial value Tanδ ≤150% of the initial specified value Leakage current ≤The initial specified value											

Dimensions



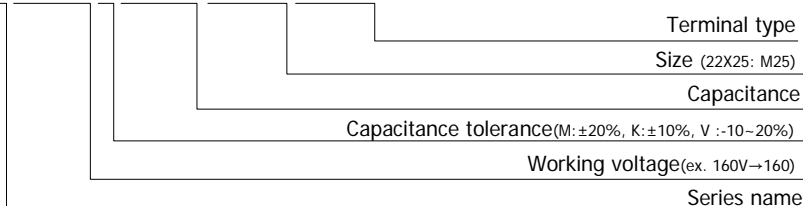
- Printed white color letter on brown sleeve
- The standard design has no bottom plate

Rated ripple current multipliers

Vdc \ Freq.(Hz)	50	60	120	1K	10K	100K
160 ~ 250	0.81	0.85	1.00	1.32	1.45	1.50
350 ~ 500	0.77	0.82	1.00	1.30	1.41	1.43

Code numbering system

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 M H P □ □ □ M □ □ □ □ □ □ □ □ □ □



Ø22	M
Ø25	N
Ø30	O
Ø35	P

MHP series

Standard Ratings

Note1) Ripple current = mArms/105°C,120Hz

VV (Vdc)	Cap (uF)	Size ØxL(mm)	Tan δ	Ripple ¹⁾	Code No
160	330	22 x 25	0.15	1,110	MHP160□331M25□□□
	390	22 x 30	0.15	1,260	MHP160□391M30□□□
	470	22 x 30	0.15	1,400	MHP160□471M30□□□
		25 x 25	0.15	1,400	MHP160□471N25□□□
	560	22 x 35	0.15	1,560	MHP160□561M35□□□
		25 x 30	0.15	1,560	MHP160□561N30□□□
		30 x 25	0.15	1,560	MHP160□561O25□□□
	680	22 x 40	0.15	1,760	MHP160□681M40□□□
		25 x 35	0.15	1,760	MHP160□681N35□□□
		30 x 25	0.15	1,760	MHP160□681O25□□□
	820	22 x 50	0.15	1,980	MHP160□821M50□□□
		25 x 40	0.15	1,980	MHP160□821N40□□□
		30 x 30	0.15	1,980	MHP160□821O30□□□
	1,000	25 x 45	0.15	2,280	MHP160□102N45□□□
		30 x 35	0.15	2,280	MHP160□102O35□□□
	1,200	25 x 50	0.15	2,560	MHP160□122N50□□□
		30 x 40	0.15	2,560	MHP160□122O40□□□
		35 x 30	0.15	2,560	MHP160□122P30□□□
	1,500	30 x 45	0.15	2,950	MHP160□152O45□□□
		35 x 35	0.15	2,950	MHP160□152P35□□□
1,800	30 x 50	0.15	3,320	MHP160□182O50□□□	
	35 x 40	0.15	3,320	MHP160□182P40□□□	
2,200	35 x 50	0.15	3,890	MHP160□222P50□□□	
2,700	35 x 60	0.15	4,050	MHP160□272P60□□□	
200	220	22 x 25	0.15	900	MHP200□221M25□□□
	270	22 x 25	0.15	1,050	MHP200□271M25□□□
	330	22 x 30	0.15	1,170	MHP200□331M30□□□
		25 x 25	0.15	1,170	MHP200□331N25□□□
	390	22 x 35	0.15	1,290	MHP200□391M35□□□
		25 x 30	0.15	1,290	MHP200□391N30□□□
	470	22 x 40	0.15	1,470	MHP200□471M40□□□
		25 x 30	0.15	1,470	MHP200□471N30□□□
		30 x 25	0.15	1,450	MHP200□471O25□□□
	560	22 x 45	0.15	1,650	MHP200□561M45□□□
		25 x 35	0.15	1,650	MHP200□561N35□□□
		30 x 30	0.15	1,630	MHP200□561O30□□□
	680	25 x 40	0.15	1,840	MHP200□681N40□□□
		30 x 30	0.15	1,840	MHP200□681O30□□□
	820	25 x 45	0.15	2,080	MHP200□821N45□□□
		30 x 35	0.15	2,040	MHP200□821O35□□□
	1,000	30 x 45	0.15	2,430	MHP200□102O45□□□
		35 x 30	0.15	2,300	MHP200□102P30□□□
	1,200	30 x 50	0.15	2,710	MHP200□122O50□□□
		35 x 45	0.15	2,700	MHP200□122P45□□□
1,500	35 x 45	0.15	3,120	MHP200□152P45□□□	
1,800	35 x 50	0.15	3,500	MHP200□182P50□□□	
2,200	35 x 60	0.15	3,850	MHP200□222P60□□□	
250	220	22 x 30	0.15	950	MHP250□221M30□□□
	270	22 x 35	0.15	1,080	MHP250□271M35□□□
		25 x 25	0.15	1,060	MHP250□271N25□□□
	330	22 x 40	0.15	1,230	MHP250□331M40□□□
		25 x 30	0.15	1,190	MHP250□331N30□□□
	390	22 x 45	0.15	1,370	MHP250□391M45□□□
		25 x 35	0.15	1,360	MHP250□391N35□□□
	470	22 x 50	0.15	1,500	MHP250□471M50□□□
		25 x 40	0.15	1,520	MHP250□471N40□□□
		30 x 30	0.15	1,490	MHP250□471O30□□□
	560	25 x 45	0.15	1,710	MHP250□561N45□□□
		30 x 35	0.15	1,690	MHP250□561O35□□□
	680	25 x 50	0.15	1,950	MHP250□681N50□□□
		30 x 40	0.15	1,940	MHP250□681O40□□□

V (Vdc)	Cap (uF)	Size ØxL(mm)	Tan δ	Ripple ¹⁾	Code No
250	680	35 x 30	0.15	1,910	MHP250□681P30□□□
	820	30 x 45	0.15	2,200	MHP250□821O45□□□
		35 x 35	0.15	2,150	MHP250□821P35□□□
	1,000	35 x 40	0.15	2,470	MHP250□102P40□□□
	1,200	35 x 50	0.15	2,870	MHP250□122P50□□□
1,500	35 x 60	0.15	3,250	MHP250□152P60□□□	
350	100	22 x 25	0.15	680	MHP350□101M25□□□
	120	22 x 30	0.15	780	MHP350□121M30□□□
		25 x 25	0.15	760	MHP350□121N25□□□
	150	22 x 35	0.15	880	MHP350□151M35□□□
		25 x 30	0.15	880	MHP350□151N30□□□
		30 x 25	0.15	860	MHP350□151O25□□□
	180	22 x 40	0.15	990	MHP350□181M40□□□
		25 x 30	0.15	960	MHP350□181N30□□□
	220	22 x 45	0.15	1,150	MHP350□221M45□□□
		25 x 35	0.15	1,140	MHP350□221N35□□□
		30 x 30	0.15	1,140	MHP350□221O30□□□
	270	25 x 40	0.15	1,280	MHP350□271N40□□□
		30 x 35	0.15	1,290	MHP350□271O35□□□
	330	25 x 45	0.15	1,420	MHP350□331N45□□□
		30 x 35	0.15	1,420	MHP350□331O35□□□
35 x 30		0.15	1,460	MHP350□331P30□□□	
390	30 x 40	0.15	1,600	MHP350□391O40□□□	
	35 x 35	0.15	1,610	MHP350□391P35□□□	
470	30 x 50	0.15	1,870	MHP350□471O50□□□	
	35 x 40	0.15	1,860	MHP350□471P40□□□	
560	35 x 40	0.15	2,040	MHP350□561P40□□□	
680	35 x 50	0.15	2,370	MHP350□681P50□□□	
820	35 x 60	0.15	2,680	MHP350□821P60□□□	
400	68	22 x 25	0.15	550	MHP400□680M25□□□
	82	22 x 30	0.15	640	MHP400□820M30□□□
	100	22 x 30	0.15	700	MHP400□101M30□□□
		25 x 25	0.15	700	MHP400□101N25□□□
	120	22 x 35	0.15	790	MHP400□121M35□□□
		25 x 30	0.15	790	MHP400□121N30□□□
	150	22 x 40	0.15	900	MHP400□151M40□□□
		25 x 30	0.15	880	MHP400□151N30□□□
		30 x 25	0.15	900	MHP400□151O25□□□
	180	22 x 45	0.15	990	MHP400□181M45□□□
		25 x 35	0.15	1,020	MHP400□181N35□□□
		30 x 30	0.15	1,020	MHP400□181O30□□□
	220	25 x 40	0.15	1,150	MHP400□221N40□□□
		30 x 35	0.15	1,150	MHP400□221O35□□□
		25 x 50	0.15	1,330	MHP400□271N50□□□
270	30 x 40	0.15	1,330	MHP400□271O40□□□	
	35 x 30	0.15	1,310	MHP400□271P30□□□	
330	30 x 45	0.15	1,530	MHP400□331O45□□□	
	35 x 35	0.15	1,490	MHP400□331P35□□□	
	30 x 50	0.15	1,690	MHP400□391O50□□□	
390	35 x 40	0.15	1,680	MHP400□391P40□□□	
470	35 x 45	0.15	1,910	MHP400□471P45□□□	
560	35 x 50	0.15	2,150	MHP400□561P50□□□	
680	35 x 60	0.15	2,360	MHP400□681P60□□□	
450	47	22 x 25	0.15	470	MHP450□470M25□□□
	56	22 x 30	0.15	530	MHP450□560M30□□□
		22 x 30	0.15	580	MHP450□680M30□□□
	68	25 x 25	0.15	580	MHP450□680N25□□□
		22 x 35	0.15	660	MHP450□820M35□□□
	82	25 x 30	0.15	660	MHP450□820N30□□□
		22 x 40	0.15	750	MHP450□101M40□□□
100	25 x 30	0.15	730	MHP450□101N30□□□	
	30 x 25	0.15	730	MHP450□101O25□□□	



MHP series

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

WV (Vdc)	Cap (µF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
450	120	22 x 45	0.15	830	MHP450□121M45□□□
		25 x 35	0.15	830	MHP450□121N35□□□
		30 x 30	0.15	830	MHP450□121O30□□□
	150	25 x 40	0.15	940	MHP450□151N40□□□
		30 x 35	0.15	960	MHP450□151O35□□□
		35 x 30	0.15	940	MHP450□151P30□□□
	180	25 x 45	0.15	1,070	MHP450□181N45□□□
		30 x 35	0.15	1,050	MHP450□181O35□□□
		35 x 30	0.15	1,070	MHP450□181P30□□□
	220	30 x 40	0.15	1,200	MHP450□221O40□□□
		35 x 35	0.15	1,210	MHP450□221P35□□□
	270	30 x 50	0.15	1,410	MHP450□271O50□□□
		35 x 40	0.15	1,400	MHP450□271P40□□□
	330	35 x 45	0.15	1,600	MHP450□331P45□□□
390	35 x 50	0.15	1,790	MHP450□391P50□□□	
470	35 x 60	0.15	1,980	MHP450□471P60□□□	
500	56	22 x 35	0.20	330	MHP500□560M35□□□
		22 x 40	0.20	390	MHP500□680M40□□□
	68	25 x 30	0.20	370	MHP500□680N30□□□
		22 x 45	0.20	450	MHP500□820M45□□□
	82	25 x 35	0.20	440	MHP500□820N35□□□
		22 x 50	0.20	520	MHP500□101M50□□□
	100	25 x 40	0.20	510	MHP500□101N40□□□
		30 x 30	0.20	500	MHP500□101O30□□□
		25 x 45	0.20	590	MHP500□121N45□□□
	120	30 x 35	0.20	580	MHP500□121O35□□□
		25 x 50	0.20	690	MHP500□151N50□□□
	150	30 x 40	0.20	690	MHP500□151O40□□□
		35 x 30	0.20	680	MHP500□151P30□□□
		30 x 45	0.20	800	MHP500□181O45□□□
	180	35 x 35	0.20	790	MHP500□181P35□□□
		30 x 50	0.20	920	MHP500□221O50□□□
	220	35 x 40	0.20	920	MHP500□221P40□□□
		30 x 60	0.20	1,110	MHP500□271O60□□□
270	35 x 50	0.20	1,120	MHP500□271P50□□□	
330	35 x 60	0.20	1,340	MHP500□331P60□□□	