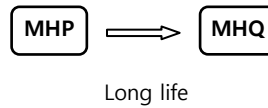


MHQ series

Long life RoHS Compliant

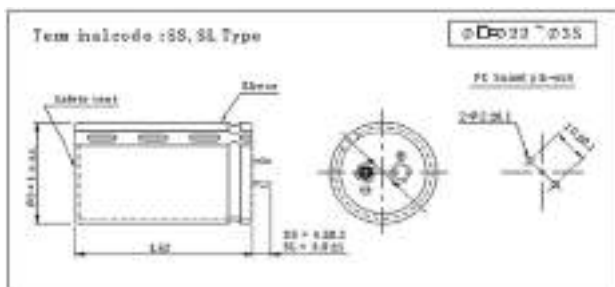
- 105°C 10,000Hrs assured.
- Long life
- For SMPS, Inverter
- RoHS compliant
- Halogen-free capacitors are also available.



Specifications

Item	Characteristics	
Rated Voltage Range	200 ~ 250 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)	Rated voltage (Vdc)	200 ~ 250 400 ~ 450
	Z(-25°C)/Z(20°C)	3 8
	Z(-40°C)/Z(20°C)	12 -
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°C10,000hrs. 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	

Dimensions

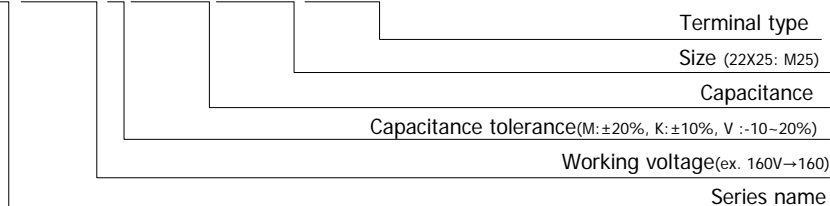
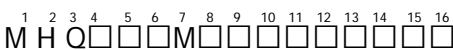


- Printed white color letter on brown sleeve
- The standard design has no bottom plate

Rated ripple current multipliers

Vdc \ Freq.(Hz)	50	60	120	1K	10K	100K
16 ~ 100	0.88	0.90	1.00	1.15	1.15	1.15
160 ~ 250	0.81	0.85	1.00	1.32	1.45	1.50
350 ~ 450	0.77	0.82	1.00	1.30	1.41	1.43

Code numbering system



Terminal type	Size (22X25: M25)
Ø22	M
Ø25	N
Ø30	O
Ø35	P

MHQ series

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

VV (Vdc)	Cap (µF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
200	220	25 x 25	0.15	1,000	MHQ200□221M25□□□
		22 x 30	0.15	1,100	MHQ200□271M30□□□
	270	25 x 25	0.15	1,100	MHQ200□271N25□□□
		22 x 30	0.15	1,200	MHQ200□331M30□□□
	330	25 x 25	0.15	1,200	MHQ200□331N25□□□
		22 x 35	0.15	1,300	MHQ200□391M35□□□
	390	25 x 30	0.15	1,300	MHQ200□391N30□□□
		30 x 25	0.15	1,300	MHQ200□391O25□□□
	470	22 x 40	0.15	1,400	MHQ200□471M40□□□
		25 x 35	0.15	1,400	MHQ200□471N35□□□
		30 x 30	0.15	1,400	MHQ200□471O30□□□
	560	22 x 45	0.15	1,500	MHQ200□561M45□□□
		25 x 35	0.15	1,500	MHQ200□561N35□□□
		30 x 30	0.15	1,500	MHQ200□561O30□□□
	680	25 x 40	0.15	1,700	MHQ200□681N40□□□
		30 x 35	0.15	1,700	MHQ200□681O35□□□
	820	25 x 50	0.15	2,000	MHQ200□821N50□□□
		30 x 40	0.15	2,000	MHQ200□821O40□□□
		35 x 30	0.15	2,000	MHQ200□821P30□□□
	1,000	30 x 45	0.15	2,200	MHQ200□102O45□□□
35 x 35		0.15	2,200	MHQ200□102P35□□□	
1,200	30 x 50	0.15	2,300	MHQ200□122O50□□□	
	35 x 40	0.15	2,300	MHQ200□122P40□□□	
1,500	35 x 50	0.15	2,500	MHQ200□152P50□□□	
250	180	22 x 30	0.15	900	MHQ250□181M30□□□
		25 x 25	0.15	900	MHQ250□181N25□□□
	220	22 x 30	0.15	1,000	MHQ250□221M30□□□
		25 x 25	0.15	1,000	MHQ250□221N25□□□
	270	22 x 35	0.15	1,100	MHQ250□271M35□□□
		25 x 30	0.15	1,100	MHQ250□271N30□□□
	330	30 x 25	0.15	1,100	MHQ250□271O25□□□
		22 x 40	0.15	1,200	MHQ250□331M40□□□
	390	25 x 35	0.15	1,200	MHQ250□331N35□□□
		30 x 25	0.15	1,200	MHQ250□331O25□□□
	390	22 x 45	0.15	1,300	MHQ250□391M45□□□
		25 x 35	0.15	1,300	MHQ250□391N35□□□
		30 x 30	0.15	1,300	MHQ250□391O30□□□
	470	25 x 45	0.15	1,400	MHQ250□471M45□□□
		30 x 35	0.15	1,400	MHQ250□471N35□□□
		35 x 30	0.15	1,400	MHQ250□471P30□□□
	560	25 x 50	0.15	1,500	MHQ250□561N50□□□
		30 x 35	0.15	1,500	MHQ250□561O35□□□
	680	35 x 30	0.15	1,500	MHQ250□561P30□□□
		30 x 45	0.15	1,700	MHQ250□681O45□□□
820	35 x 35	0.15	1,700	MHQ250□681P35□□□	
	30 x 50	0.15	2,000	MHQ250□821O50□□□	
1,000	35 x 40	0.15	2,000	MHQ250□821P40□□□	
	35 x 45	0.15	2,200	MHQ250□102P45□□□	
1,200	35 x 50	0.15	2,300	MHQ250□122P50□□□	
400	56	22 x 25	0.15	510	MHQ400□560M25□□□
		22 x 30	0.15	560	MHQ400□680M30□□□
	68	25 x 25	0.15	560	MHQ400□680N25□□□
		22 x 35	0.15	640	MHQ400□820M35□□□
	82	25 x 25	0.15	640	MHQ400□820N25□□□
		22 x 35	0.15	690	MHQ400□101M35□□□
	100	25 x 30	0.15	690	MHQ400□101N30□□□
		22 x 40	0.15	750	MHQ400□121M40□□□
	120	25 x 35	0.15	750	MHQ400□121N35□□□
		30 x 25	0.15	750	MHQ400□121O25□□□

VV (Vdc)	Cap (µF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
400	150	22 x 50	0.15	820	MHQ400□151M50□□□
		25 x 40	0.15	820	MHQ400□151N40□□□
		30 x 30	0.15	820	MHQ400□151O30□□□
	180	25 x 45	0.15	900	MHQ400□181N45□□□
		30 x 25	0.15	900	MHQ400□181O35□□□
		35 x 35	0.15	900	MHQ400□181P25□□□
	220	25 x 50	0.15	1,000	MHQ400□221N50□□□
		30 x 40	0.15	1,000	MHQ400□221O40□□□
		35 x 30	0.15	1,000	MHQ400□221P30□□□
	270	30 x 45	0.15	1,100	MHQ400□271O45□□□
		35 x 35	0.15	1,100	MHQ400□271P35□□□
		30 x 50	0.15	1,200	MHQ400□331O50□□□
	330	35 x 40	0.15	1,200	MHQ400□331P40□□□
		35 x 45	0.15	1,300	MHQ400□391P45□□□
	470	35 x 50	0.15	1,400	MHQ400□471P50□□□
450	39	22 x 25	0.20	370	MHQ450□390M25□□□
		22 x 30	0.20	400	MHQ450□470M30□□□
	56	22 x 35	0.20	470	MHQ450□560M35□□□
		25 x 25	0.20	470	MHQ450□560N25□□□
	68	22 x 40	0.20	530	MHQ450□680M40□□□
		25 x 30	0.20	530	MHQ450□680N30□□□
	82	22 x 45	0.20	560	MHQ450□820M45□□□
		25 x 35	0.20	560	MHQ450□820N35□□□
		30 x 25	0.20	560	MHQ450□820O25□□□
	100	22 x 50	0.20	640	MHQ450□101M50□□□
		25 x 40	0.20	640	MHQ450□101N40□□□
		30 x 30	0.20	640	MHQ450□101O30□□□
	120	25 x 45	0.20	720	MHQ450□121N45□□□
		30 x 30	0.20	720	MHQ450□121O30□□□
	150	25 x 50	0.20	790	MHQ450□151N50□□□
30 x 40		0.20	790	MHQ450□151O40□□□	
35 x 30		0.20	790	MHQ450□151P30□□□	
180	30 x 45	0.20	870	MHQ450□181O45□□□	
	35 x 35	0.20	870	MHQ450□181P35□□□	
220	30 x 50	0.20	1,000	MHQ450□221O50□□□	
	35 x 40	0.20	1,000	MHQ450□221P40□□□	
270	35 x 45	0.20	1,190	MHQ450□271P45□□□	
330	35 x 50	0.20	1,380	MHQ450□331P50□□□	