MRV series

Long Life | High-Ripple current | RoHS compliant current

- 105℃8,000~12,000Hrs assured.
- Long life, High ripple
- For Ballaster, LED power
- RoHS compliant
- Halogen-free capacitors are also available.

MRU ⟹ MRV

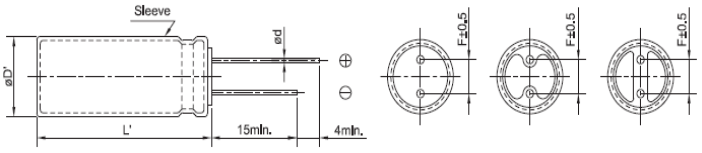
High ripple

■ Specifications

Item	Characteristics	
Rated Voltage Range	160 ~ 400 Vdc	450 ~ 500 Vdc
Operating Temperature Range	-40 ~ +105℃	-25 ~ +105℃
Capacitance Tolerance	±20% (M)	(at 20℃, 120Hz)
Leakage Current	I=0.01CV+40(μA) at CV ≤ 1,000, I=0.03CV+15(μA) at CV › 1,000 (at 20℃, 1min) I=0.04CV+100(μA) at CV ≤ 1,000, I=0.02CV+25(μA) at CV › 1,000 (at 20℃, 5min) Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(Vdc)	
Dissipation Factor(Tanδ)	Rated voltage (Vdc): 160 ~ 250 / 350 ~ 500 Tanδ (max.): 0.20 / 0.24	(at 20℃, 120Hz)
Temperature characteristics (Max,impedance ratio)	Rated voltage (Vdc): 160 ~ 250 / 350 ~ 400 / 450 ~ 500 Z(-25℃)/Z(20℃): 3 / 5 / 6 Z(-40℃)/Z(20℃): 6 / 6 / -	(at 120Hz)
Load life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for specified life times at 105℃12,000hrs. (8,000hrs for 8∅, 10,000hrs for 10∅) 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℃ after exposing them for 1,000 hours at 105℃ 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 ≤500%The initial specified value	

■ Dimensions

Unit(mm)



ØD	8	10	12.5	16	18	20
Ød	0.6	0.6	0.6	0.8	0.8	0.8
F	3.5	5.0	5.0	7.5	7.5	7.5
ØD'	ØD+0.5 max.					
L'	L+2.0 max					

- Printed black color letter on PET red sleeve

■ Code numbering system

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

M R V □ □ □ M □ □ □ □ □ □ □ □ □ □ □

- Taping, Cutting
- Terminal type
- Size (5X11: D11)
- Capacitance
- Capacitance tolerance(M:±20%, K:±10%, V :-10~20%)
- Working voltage(ex. 160V→160)
- Series name

Ø8	F
Ø10	G
Ø12.5	X
Ø16	J
Ø18	K
Ø20	L

MRV series

■Standard Ratings

Note1) Ripple current = mArms/105℃,100kHz

WV (Vdc)	Cap (uF)	Size ØxL(mm)	Tan δ	Ripple[1)]	Code No
160	3.3	8 x 12	0.20	88	MRV160□3R3F12CS□□□
	4.7	8 x 12	0.20	96	MRV160□4R7F12CS□□□
	5.6	8 x 16	0.20	102	MRV160□5R6F16CS□□□
	6.8	8 x 16	0.20	110	MRV160□6R8F16CS□□□
	8.2	8 x 16	0.20	180	MRV160□8R2F16CS□□□
	10	10 x 16	0.20	320	MRV160□100G16CS□□□
	22	10 x 16	0.20	450	MRV160□220G16CS□□□
	25	10 x 16	0.20	478	MRV160□250G16CS□□□
	27	10 x 16	0.20	502	MRV160□270G16CS□□□
	33	10 x 16	0.20	602	MRV160□330G16CS□□□
	39	10 x 16	0.20	610	MRV160□390G16CS□□□
	47	10 x 20	0.20	750	MRV160□470G20CS□□□
	56	10 x 20	0.20	786	MRV160□560G20CS□□□
	68	10 x 20	0.20	850	MRV160□680G20CS□□□
		12.5 x 20	0.20	950	MRV160□680X20CS□□□
	82	10 x 25	0.20	930	MRV160□820G25CS□□□
		12.5 x 25	0.20	1,026	MRV160□820X25CS□□□
	100	12.5 x 25	0.20	1,126	MRV160□101X25CS□□□
		16 x 20	0.20	1,126	MRV160□101J20CS□□□
	120	10 x 33	0.20	1,200	MRV160□121G33CS□□□
		16 x 25	0.20	1,340	MRV160□121J25CS□□□
	150	16 x 25	0.20	1,510	MRV160□151J25CS□□□
	220	16 x 31.5	0.20	1,932	MRV160□221J32CS□□□
		18 x 25	0.20	1,870	MRV160□221K256CS□□□
	270	16 x 35.5	0.20	2,189	MRV160□271J36CS□□□
	330	16 x 40	0.20	2,516	MRV160□331J40CS□□□
		18 x 31.5	0.20	2,446	MRV160□331K32CS□□□
	390	18 x 35.5	0.20	2,745	MRV160□391K36CS□□□
	470	18 x 40	0.20	3,064	MRV160□471K40CS□□□
200	2.8	8 x 12	0.20	80	MRV200□2R8F12CS□□□
	3.3	8 x 12	0.20	92	MRV200□3R3F12CS□□□
	4.7	8 x 12	0.20	100	MRV200□4R7F12CS□□□
	5.6	8 x 16	0.20	108	MRV200□5R6F16CS□□□
	6.8	8 x 16	0.20	118	MRV200□6R8F16CS□□□
	8.2	10 x 16	0.20	180	MRV200□8R2G16CS□□□
	10	10 x 16	0.20	320	MRV200□100G16CS□□□
	22	10 x 16	0.20	450	MRV200□220G16CS□□□
	25	8 x 20	0.20	466	MRV200□250F20CS□□□
		10 x 16	0.20	478	MRV200□250G16CS□□□
	27	10 x 16	0.20	500	MRV200□270G16CS□□□
	33	10 x 20	0.20	650	MRV200□330G20CS□□□
	39	10 x 20	0.20	670	MRV200□390G20CS□□□
	47	12.5 x 20	0.20	850	MRV200□470X20CS□□□
	56	12.5 x 25	0.20	1,014	MRV200□560X25CS□□□
	68	10 x 33	0.20	1,200	MRV200□680G33CS□□□
		12.5 x 25	0.20	1,070	MRV200□680X25CS□□□
	82	16 x 20	0.20	1,250	MRV200□820J20CS□□□
	100	16 x 25	0.20	1,300	MRV200□101J25CS□□□
	120	16 x 25	0.20	1,340	MRV200□121J25CS□□□
	150	16 x 31.5	0.20	1,680	MRV200□151J32CS□□□
	220	18 x 31.5	0.20	2,030	MRV200□221K32CS□□□
	270	18 x 35.5	0.20	2,300	MRV200□271K36CS□□□
	330	18 x 40	0.20	2,586	MRV200□331K40CS□□□
250	2.2	8 x 11.5	0.20	80	MRV250□2R2F12CS□□□
	2.8	8 x 11.5	0.20	90	MRV250□2R8F12CS□□□
	3.3	8 x 11.5	0.20	100	MRV250□3R3F12CS□□□
	4.7	8 x 11.5	0.20	160	MRV250□4R7F12CS□□□
	6.8	8 x 11.5	0.20	180	MRV250□6R8F12CS□□□
		10 x 12.5	0.20	250	MRV250□6R8G13CS□□□
	10	8 x 15	0.20	240	MRV250□100F15CS□□□
		10 x 16	0.20	350	MRV250□100G16CS□□□

WV (Vdc)	Cap (uF)	Size ØxL(mm)	Tan δ	Ripple[1)]	Code No
250	22	10 x 16	0.20	470	MRV250□220G16CS□□□
		10 x 20	0.20	500	MRV250□220G20CS□□□
	33	12.5 x 16	0.20	614	MRV250□330X16CS□□□
		12.5 x 20	0.20	688	MRV250□330X20CS□□□
	47	8 x 50	0.20	875	MRV250□470F50CS□□□
		12.5 x 20	0.20	850	MRV250□470X20CS□□□
	68	10 x 40	0.20	1,125	MRV250□680G40CS□□□
		12.5 x 25	0.20	1,070	MRV250□680X25CS□□□
	82	12.5 x 30	0.20	1,340	MRV250□820X30CS□□□
		16 x 20	0.20	1,340	MRV250□820J20CS□□□
	100	16 x 25	0.20	1,400	MRV250□101J25CS□□□
		18 x 20	0.20	1,400	MRV250□101K20CS□□□
	120	18 x 20	0.20	1,450	MRV250□121K20CS□□□
	150	18 x 25	0.20	1,740	MRV250□151K25CS□□□
	180	12.5 x 50	0.20	1,910	MRV250□181X50CS□□□
		18 x 31.5	0.20	1,960	MRV250□181K32CS□□□
	220	18 x 31.5	0.20	2,040	MRV250□221K32CS□□□
350	1.0	8 x 11.5	0.20	64	MRV350□1R0F12CS□□□
	1.5	8 x 11.5	0.20	70	MRV350□1R5F12CS□□□
	1.8	8 x 11.5	0.20	78	MRV350□1R8F12CS□□□
	2.2	8 x 16	0.20	88	MRV350□2R2F16CS□□□
	2.8	8 x 16	0.20	96	MRV350□2R8F16CS□□□
	3.3	8 x 16	0.20	110	MRV350□3R3F16CS□□□
	4.7	8 x 20	0.20	130	MRV350□4R7F20CS□□□
	5.6	8 x 20	0.20	180	MRV350□5R6F20CS□□□
	6.8	10 x 16	0.20	220	MRV350□6R8G16CS□□□
		10 x 20	0.20	232	MRV350□6R8G20CS□□□
	8.2	10 x 20	0.20	246	MRV350□8R2G20CS□□□
		12.5 x 20	0.20	280	MRV350□8R2X20CS□□□
	10	10 x 20	0.20	350	MRV350□100F20CS□□□
		12.5 x 20	0.20	330	MRV350□100G16CS□□□
	22	12.5 x 20	0.20	650	MRV350□220X20CS□□□
	33	10 x 33	0.20	702	MRV350□330G33CS□□□
		12.5 x 25	0.20	750	MRV350□330X25CS□□□
		16 x 20	0.20	750	MRV350□330J20CS□□□
	47	10 x 50	0.20	950	MRV350□470G50CS□□□
		16 x 20	0.20	950	MRV350□470J20CS□□□
	68	16 x 31.5	0.20	1,300	MRV350□680J32CS□□□
		18 x 25	0.20	1,300	MRV350□680K25CS□□□
	82	18 x 25	0.20	1,400	MRV350□820K25CS□□□
	100	18 x 31.5	0.20	1,550	MRV350□101K32CS□□□
400	1.0	8 x 11.5	0.20	60	MRV400□1R0F12CS□□□
	2.2	8 x 11.5	0.20	100	MRV400□2R2F12CS□□□
	3.3	8 x 11.5	0.20	130	MRV400□3R3F12CS□□□
		10 x 12.5	0.20	150	MRV400□3R3G13CS□□□
	4.7	8 x 11.5	0.20	145	MRV400□4R7F11CS□□□
		10 x 12.5	0.20	170	MRV400□4R7G13CS□□□
	6.8	8 x 15	0.20	180	MRV400□6R8F15CS□□□
		10 x 16	0.20	280	MRV400□6R8G16CS□□□
	10	8 x 20	0.20	350	MRV400□100F20CS□□□
		10 x 16	0.20	350	MRV400□100G16CS□□□
	15	10 x 20	0.20	410	MRV400□150G20CS□□□
		12.5 x 16	0.20	410	MRV400□150X16CS□□□
	22	10 x 25	0.20	500	MRV400□220G25CS□□□
		12.5 x 20	0.20	550	MRV400□220X20CS□□□
	33	12.5 x 25	0.20	780	MRV400□330X25CS□□□
		16 x 20	0.20	800	MRV400□330J20CS□□□
	47	16 x 25	0.20	980	MRV400□470J25CS□□□
		18 x 20	0.20	980	MRV400□470K20CS□□□
	68	18 x 25	0.20	1,350	MRV400□680K25CS□□□
	82	18 x 31.5	0.20	1,500	MRV400□820K32CS□□□

MRV series

■Standard Ratings

Note1) Ripple current = mArms/105℃,100kHz

WV (Vdc)	Cap (uF)	Size ØxL(mm)	Tan δ	Ripple[1)]	Code No
450	100	18 X 35.5	0.20	1,650	MRV400□101K36CS□□□
	120	18 X 40	0.20	1,850	MRV400□121K40CS□□□
	150	18 X 45	0.20	1,900	MRV400□151K45CS□□□
	180	18 X 45	0.20	2,000	MRV400□181K45CS□□□
	4.7	8 X 20	0.24	220	MRV450□4R7F20CS□□□
		10 X 16	0.24	220	MRV450□4R7G16CS□□□
	6.8	10 X 16	0.24	250	MRV450□6R8G16CS□□□
		10 X 20	0.24	280	MRV450□6R8G20CS□□□
	10	10 X 20	0.24	360	MRV450□100G20CS□□□
		12.5 X 20	0.24	420	MRV450□100X20CS□□□
	15	10 X 20	0.24	400	MRV450□150G20CS□□□
		12.5 X 20	0.24	450	MRV450□150X20CS□□□
	22	12.5 X 25	0.24	580	MRV450□220X25CS□□□
		16 X 20	0.24	725	MRV450□220G20CS□□□
	33	12.5 X 30	0.24	750	MRV450□330X30CS□□□
		16 X 25	0.24	920	MRV450□330J25CS□□□
	47	10 X 50	0.24	900	MRV450□470G50CS□□□
		12.5 X 40	0.24	920	MRV450□470X40CS□□□
		16 X 25	0.24	980	MRV450□470J25CS□□□
	68	18 X 25	0.24	1,100	MRV450□680K25CS□□□
	82	18 X 31.5	0.24	1,300	MRV450□820K32CS□□□
	100	18 X 35.5	0.24	1,400	MRV450□101K36CS□□□
	120	18 X 40	0.24	1,650	MRV450□121K40CS□□□
	150	18 X 45	0.24	1,800	MRV450□151K45CS□□□
		20 X 40	0.24	1,800	MRV450□151L40CS□□□
500	10	12.5 X 20	0.24	320	MRV500□100X20CS□□□
	15	12.5 X 25	0.24	440	MRV500□150X25CS□□□
		16 X 20	0.24	440	MRV500□150J20CS□□□
	22	12.5 X 30	0.24	560	MRV500□220X30CS□□□
		16 X 25	0.24	560	MRV500□220J25CS□□□
		18 X 20	0.24	560	MRV500□220K20CS□□□
	27	10 X 50	0.24	654	MRV500□270G50CS□□□
	33	16 X 31.5	0.24	700	MRV500□330J32CS□□□
		18 X 25	0.24	698	MRV500□330K25CS□□□
	40	12.5 X 50	0.24	860	MRV500□400X50CS□□□
	47	18 X 31.5	0.24	880	MRV500□470X32CS□□□
	60	12.5 X 60	0.24	1,180	MRV500□600X60CS□□□
	68	18 X 35.5	0.24	1,200	MRV500□680K36CS□□□
	82	18 X 40	0.24	1,300	MRV500□820K40CS□□□
	100	18 X 45	0.24	1,500	MRV500□101K45CS□□□
		20 X 40	0.24	1,500	MRV500□101L40CS□□□

■ Rated ripple current multipliers

Freq.(Hz) / Cap.(Uf)	120	1K	10K	50K	100K
1 ~ 5.6	0.20	0.40	0.80	0.90	1.00
6.8 ~ 15	0.30	0.60	0.90	0.95	1.00
22 ~ 82	0.40	0.70	0.90	0.95	1.00
100 ~	0.45	0.75	0.90	0.95	1.00