

### MV SERIES ■ LONG LIFE 105°C TYPE

#### KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ■ SMD type
- Endurance: 105°C ■ 5 000 hours
- Long life type
- Small dimensions
- Ideal for high density mounting



#### SPECIFICATIONS

Items		Performance Characteristics						
Operating Temperature Range		-40 ~ +105°C						
Rated Voltage Range	$V_R$	6.3 ~ 50V DC						
Surge Voltage	$V_S$	$V_S = 1.15 \cdot V_R$						
Capacitance Range	$C_R$	0.1 ~ 1000 $\mu$ F						
Cap. Tolerance	$\Delta C$	$\pm 20\%$ (120Hz ■ 20°C)						
Leakage Current (20°C ■ $V_R$ applied)	$I_{LEAK}$	$\leq 0.01 \cdot C_R \cdot V_R$ or 3 $\mu$ A, whichever is greater ■ After 2 minutes [ $I_{LEAK}$ ( $\mu$ A) ; $C_R$ ( $\mu$ F) ; $V_R$ (V) ]						
Dissipation Factor % (20°C ■ 120Hz)	tan $\delta$	$V_R$ (V DC)	6.3	10	16	25	35	50
		tan $\delta$	32	28	22	16	13	12
Low Temperature Characteristics at 120Hz	Z ratio max.	$V_R$ (V DC)	6.3	10	16	25	35	50
		Z-25°C/Z+20°C	4	3	2	2	2	2
		Z-40°C/Z+20°C	10	7	5	3	3	3
Lifetime Test								
Endurance 105°C ( $V_R$ applied)	Test	<b>5 000 hours</b>						
	$\Delta C/C_R$	$\leq \pm 30\%$ of initial measured value						
	tan $\delta$	$\leq 300\%$ of initial specified value						
	$I_{Leak}$	$\leq$ the initial specified value						
Shelf Life 105°C ( $V_R = 0$ )	Test	<b>1 000 hours</b>						
	$\Delta C/C_R$	$\leq \pm 30\%$ of initial measured value						
	tan $\delta$	$\leq 300\%$ of initial specified value						
	$I_{Leak}$	$\leq$ the initial specified value						
Resistance to Soldering Heat	Before measurement: Restore capacitor to 20°C, apply $V_R$ for 30 min according JIS-C-5101-4							
	The capacitors shall be kept on a hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed below							
	$\Delta C/C_R$	Within $\pm 10\%$ of initial value						
	tan $\delta$	Less than specified value						
	$I_{Leak}$	Less than specified value						

**STANDARD RATINGS**

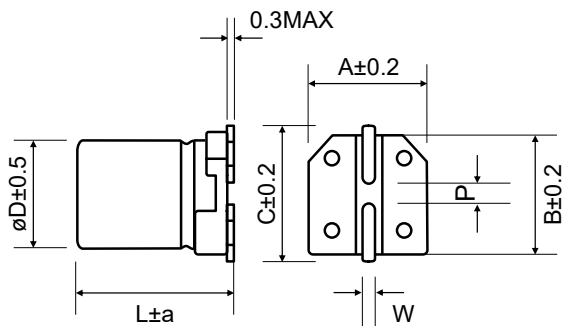
Part number shows blister tape on paper reel

$V_R$ (V)	$C_R$ ( $\mu F$ )	$\phi D$ (mm)	L (mm)	$I_R$ - Max. Ripple Current +105°C - 120Hz (mA rms)	CapXon Part Number
6.3	22	4	5.5	22	MV220M6R3B055ETR
	33	5	5.5	32	MV330M6R3C055ETR
	47	5	5.5	36	MV470M6R3C055ETR
	100	6.3	5.5	60	MV101M6R3E055ETR
	220	6.3	7.7	110	MV221M6R3E077ETR
	330	8	10.5	160	MV331M6R3F105ETR
	470	10	10.5	260	MV471M6R3G105ETR
	1000	10	10.5	340	MV102M6R3G105ETR
10	22	5	5.5	28	MV220M010C055ETR
	33	5	5.5	34	MV330M010C055ETR
	47	6.3	5.5	48	MV470M010E055ETR
	100	6.3	7.7	79	MV101M010E077ETR
	220	8	10.5	140	MV221M010F105ETR
	330	8	10.5	210	MV331M010F105ETR
	330	10	10.5	240	MV331M010G105ETR
	470	8	10.5	250	MV471M010F105ETR
	470	10	10.5	280	MV471M010G105ETR
	1000	10	10.5	410	MV102M010G105ETR
16	10	4	5.5	17	MV100M016B055ETR
	22	4	5.5	26	MV220M016B055ETR
	22	5	5.5	30	MV220M016C055ETR
	33	6.3	5.5	44	MV330M016E055ETR
	47	6.3	5.5	50	MV470M016E055ETR
	100	6.3	7.7	81	MV101M016E077ETR
	220	8	10.5	190	MV221M016F105ETR
	220	10	10.5	216	MV221M016G105ETR
	330	10	10.5	300	MV331M016G105ETR
	470	10	10.5	320	MV471M016G105ETR
25	4.7	4	5.5	13	MV4R7M025B055ETR
	10	4	5.5	23	MV100M025B055ETR
	22	5	5.5	35	MV220M025C055ETR
	22	6.3	5.5	40	MV220M025E055ETR
	33	6.3	5.5	48	MV330M025E055ETR
	47	6.3	7.7	63	MV470M025E077ETR
	100	6.3	7.7	88	MV101M025E077ETR
	100	8	10.5	116	MV101M025F105ETR
	220	10	10.5	240	MV221M025G105ETR
	330	10	10.5	375	MV331M025G105ETR
	470	10	10.5	450	MV471M025G105ETR
	35	4.7	4	5.5	15
10		5	5.5	25	MV100M035C055ETR
22		6.3	5.5	42	MV220M035E055ETR
33		6.3	7.7	57	MV330M035E077ETR
47		8	10.5	92	MV470M035F105ETR
100		8	10.5	130	MV101M035F105ETR

**STANDARD RATINGS**

Part number shows blister tape on paper reel

$V_R$ (V)	$C_R$ ( $\mu F$ )	$\phi D$ (mm)	L (mm)	$I_R$ - Max. Ripple Current +105°C - 120Hz (mA rms)	CapXon Part Number
35	100	10	10.5	150	MV101M035G105ETR
	220	10	10.5	280	MV221M035G105ETR
	330	10	10.5	390	MV331M035G105ETR
50	0.1	4	5.5	1	MV0R1M050B055ETR
	0.22	4	5.5	2.6	MVR22M050B055ETR
	0.33	4	5.5	3.2	MVR33M050B055ETR
	0.47	4	5.5	3.8	MVR47M050B055ETR
	1	4	5.5	6.2	MV010M050B055ETR
	2.2	4	5.5	11	MV2R2M050B055ETR
	3.3	4	5.5	14	MV3R3M050B055ETR
	4.7	5	5.5	19	MV4R7M050C055ETR
	10	6.3	5.5	30	MV100M050E055ETR
	22	6.3	7.7	52	MV220M050E077ETR
	33	8	10.5	80	MV330M050F105ETR
	47	8	10.5	95	MV470M050F105ETR
	100	10	10.5	160	MV101M050G105ETR

**DIMENSIONS STANDARD PACKAGE** ▪ All dimensions in mm


$\phi D$	L	a	A	B	C	W	P $\pm 0.2$
4	5.5	Max	4.3	4.3	4.9	0.5 to 0.8	1
5	5.5	Max	5.3	5.3	5.9	0.5 to 0.8	1.4
6.3	5.5	0.2	6.6	6.6	7.2	0.5 to 0.8	2.2
6.3	7.7	Max	6.6	6.6	7.2	0.5 to 0.8	2.2
8	10.5	Max	8.3	8.3	9	0.7 to 1.1	3.1
10	10.5	Max	10.3	10.3	11	0.7 to 1.1	4.5

**MULTIPLIER  $K_f$  for RIPPLE CURRENT vs. FREQUENCY**

$C_R$ ( $\mu F$ ) / Frequency (Hz)	50/60	100/120	500	1k	$\geq 10k$
$0.1 \leq C_R \leq 100$	0.8	1	1.2	1.3	1.5
$100 < C_R \leq 1000$	0.8	1	1.1	1.15	1.2

**PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION**

Unless otherwise agreed in individual specifications, all products are subject to our “General Precautions and Guidelines” as well as our “Packaging Information”. Please refer to the following links in the table.

<p><a href="#">General Precautions &amp; Guidelines</a></p>	<p><a href="#">Packaging Information</a></p>	<p><a href="#">Vibration Test Profiles</a></p>	<p><a href="#">3D Models</a></p>	<p><a href="#">Reliability Tests</a></p>

**DISCLAIMER**

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

CapXon products are designed and manufactured according to severe quality and safety standards. Under no circumstance, CapXon warrants that any CapXon product is suitable for the purposes intended for your application, even CapXon knows the application. It is customer's duty and obligation to check and make sure that CapXon products are suitable for the purposes intended and select the correct and proper CapXon product. Customers are requested to perform a sufficient validation and reliability evaluation to assure needed safety level and reliability performance by suitable designs and to apply proper safeguards (e.g. redundancies, protective circuits).

Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

For aerospace or military application, life-saving, life-sustaining, safety critical applications or any application where failure may cause severe personal injury or death, please consult us before design-in the capacitor in your application.

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