



GV SERIES ▪ HIGH TEMP., AUTOMOTIVE 150°C TYPE

KEY FEATURES



- **ALUMINUM ELECTROLYTIC CAPACITOR ▪ SMD type**
- Endurance: 150°C ▪ 1 000 hours
- Especially for applications with highest ambient temperatures
- Vibration-proof (VP) version (up to 30g) available upon request
- AEC-Q200 version available



SPECIFICATIONS

Items		Performance Characteristics							
Operating Temperature Range		-40 ~ +150°C (∅ 8mm to ∅ 10mm)							
		-55 ~ +150°C (∅ 12.5mm to ∅ 18mm)							
Rated Voltage Range	V _R	10 ~ 50V DC							
Surge Voltage	V _S	V _S = 1.15·V _R							
Capacitance Range	C _R	33 ~ 3300μF							
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)							
Leakage Current (20°C ▪ V _R applied)	I _{LEAK}	≤ 0.03·C _R ·V _R or 4μA							
		Whichever is greater ▪ After 1 minute [I _{LEAK} (μA) ; C _R (μF) ; V _R (V)]							
Dissipation Factor % (20°C ▪ 120Hz)	tanδ	V _R (V DC)		10	16	25	35	50	
		tanδ (%)	∅ 8mm to ∅ 10mm		26	20	16	14	14
			∅ 12.5mm to ∅ 18mm		22	18	16	14	12
Low Temperature Characteristics at 120Hz	Z ratio max.	V _R (V DC)		10	16	25	35	50	
		Z-25°C/Z+20°C		10	8	6	4	4	
		Z-40°C/Z+20°C		8	6	4	4	4	
Lifetime Test									
Endurance 150°C (V _R applied)	Test	1 000 hours							
	ΔC/C _R	≤ ±30% of initial measured value							
	tanδ	≤ 300% of initial specified value							
	I _{Leak}	≤ the initial specified value							
Shelf Life 150°C (V _R = 0)	Test	1 000 hours							
	ΔC/C _R	≤ ±30% of initial measured value							
	tanδ	≤ 300% of initial specified value							
	I _{Leak}	≤ the initial specified value							
		Before measurement: Restore capacitor to 20°C, apply V _R for 30 min according JIS-C-5101-4							
Resistance to Soldering Heat	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								
	ΔC/C _R	Within ±10% of initial value							
	tanδ	Less than specified value							
	I _{Leak}	Less than specified value							

NEW PRODUCT SERIES



ALUMINUM ELECTROLYTIC CAPACITOR - GV SERIES

STANDARD RATINGS

Part number shows blister tape on paper reel

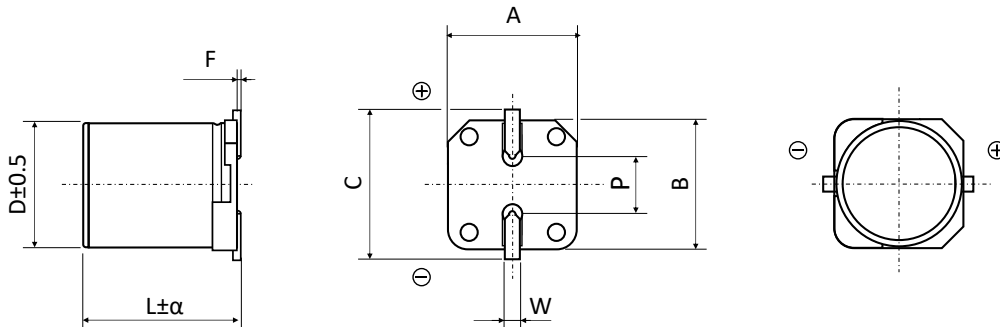
V _R (V)	Standard		C _R (μF)	ø D (mm)	L (mm)	I _R - Max. Ripple Current +150°C - 100kHz (mA rms)	CapXon Part Number
	Standard	Vibration-proof					
10	•	•	220	8	10.5	110	GV221M010F105ETR □□
	•	•	330	10	10.5	150	GV331M010G105ETR □□
	•	•	680	12.5	14	800	GV681M010Z140ETR □□
	•	•	1000	12.5	14	900	GV102M010Z140ETR □□
	•	•	2200	18	21.5	1350	GV222M010K215ETR □□
	•	•	3300	18	21.5	1400	GV332M010K215ETR □□
16	•	•	100	8	10.5	110	GV101M016F105ETR □□
	•	•	220	10	10.5	150	GV221M016G105ETR □□
	•	•	470	12.5	14	750	GV471M016Z140ETR □□
	•	•	680	12.5	14	800	GV681M016Z140ETR □□
	•	•	1000	16	17	850	GV102M016J170ETR □□
	•	•	2200	18	21.5	1350	GV222M016K215ETR □□
25	•	•	100	8	10.5	110	GV101M025F105ETR □□
	•	•	220	10	10.5	150	GV221M025G105ETR □□
	•	•	330	12.5	14	650	GV471M025Z140ETR □□
	•	•	470	12.5	14	700	GV471M025Z140ETR □□
	•	•	680	16	17	800	GV681M025J170ETR □□
	•	•	1000	16	21.5	1000	GV102M025J215ETR □□
35	•	•	47	8	10.5	80	GV470M035F105ETR □□
	•	•	100	10	10.5	120	GV101M035G105ETR □□
	•	•	220	12.5	14	550	GV221M035Z140ETR □□
	•	•	330	12.5	14	650	GV331M035Z140ETR □□
	•	•	470	16	17	750	GV471M035J170ETR □□
	•	•	680	16	21.5	950	GV681M035J215ETR □□
	•	•	1000	18	21.5	1150	GV102M035K215ETR □□
	•	•	330	18	21.5	1150	GV331M035K215ETR □□
50	•	•	33	8	10.5	70	GV330M050F105ETR □□
	•	•	47	10	10.5	100	GV470M050G105ETR □□
	•	•	100	12.5	14	420	GV101M050Z140ETR □□
	•	•	220	16	17	550	GV221M050J170ETR □□
	•	•	330	16	21.5	650	GV331M050J215ETR □□
	•	•	470	16	21.5	850	GV471M050J215ETR □□
	•	•	680	18	21.5	1000	GV681M050K215ETR □□

□□: Enter **blank** for Standard package
 □□: Enter **W** for Vibration proof version

□□: Enter **X** for AEC-Q200
 □□: Enter **XW** for AEC-Q200 and Vibration proof version

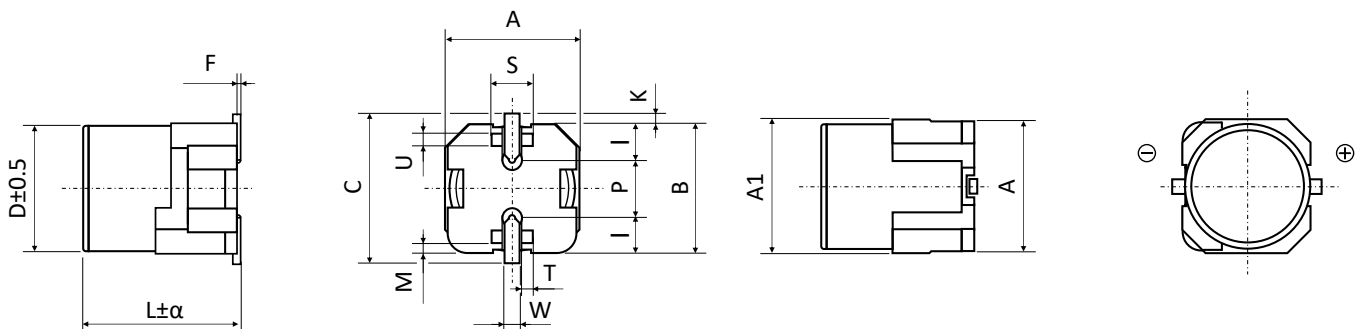


DIMENSIONS STANDARD PACKAGE ▪ All dimensions in mm



∅ D	L	α	A ± 0.2	B ± 0.2	C ± 0.2	F	P ± 0.2	W
8.0	10.5	Max	8.3	8.3	9.0	0.3 max.	3.1	0.7 to 1.1
10.0	10.5	Max	10.3	10.3	11.0	0.3 max.	4.5	0.7 to 1.1
12.5	14.0	Max	13.0	13.0	13.9	0 to 0.3	4.5	1.0 to 1.4
16.0	17.0	0.5	17.0	17.0	18.0	0 to 0.3	6.6	1.0 to 1.4
16.0	21.5	0.5	17.0	17.0	18.0	0 to 0.3	6.6	1.0 to 1.4
18.0	21.5	0.5	19.0	19.0	20.0	0 to 0.3	6.6	1.0 to 1.4

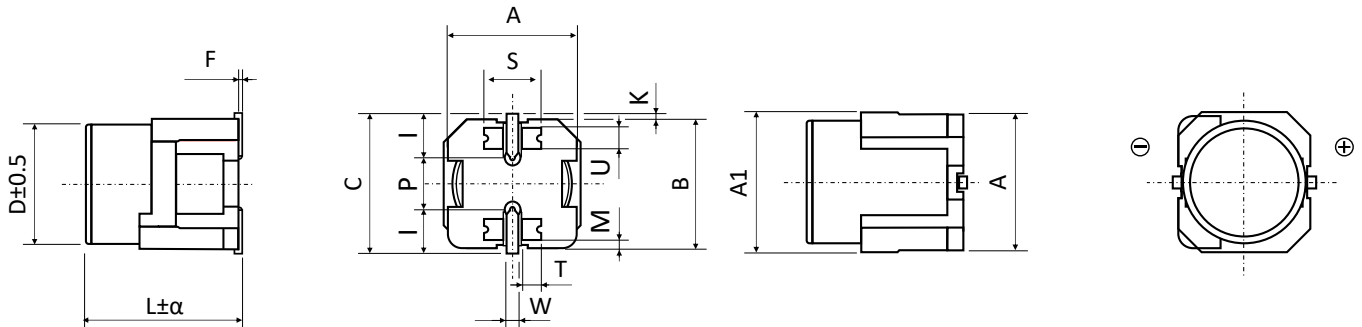
DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D8 and D10 ▪ All dimensions in mm



∅ D	L	α	A ± 0.2	A1 (max.)	B ± 0.2	C (max.)	F	K ± 0.2
8	10.5	0.5	8.3	8.8	8.3	10.0	0 to 0.15	0.7
10	10.5	0.5	10.3	10.8	10.3	12.0	0 to 0.15	0.7

∅ D	L	P ± 0.2	S ± 0.1	I ± 0.1	T ± 0.1	U ± 0.1	W ± 0.1	M ± 0.1
8	10.5	3.1	3	3.4	1.4	0.7	1.2	0.7
10	10.5	4.6	3.3	3.5	1.5	0.8	1.2	0.9

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D12.5, D16 and D18 ▪ All dimensions in mm



ø D	L	α	A ± 0.2	A1 (max.)	B ± 0.2	C (max.)	F	K ± 0.3
12.5	14.0	1.0	13.5	13.5	13.5	15.0	0 to 0.15	0.7
16.0	17.0	1.0	17.0	17.0	17.0	19.0	0 to 0.15	0.7
16.0	21.5	1.0	17.0	17.0	17.0	19.0	0 to 0.15	0.7
18.0	21.5	1.0	19.0	19.0	19.0	21.0	0 to 0.15	0.7

ø D	L	P ± 0.2	S ± 0.1	I ± 0.1	T ± 0.1	U ± 0.1	W ± 0.1	M ± 0.1
12.5	14.0	4.4	6.0	4.7	2.0	2.2	1.2	0.95
16.0	17.0	6.7	5.8	5.5	2.0	3.0	1.4	1.0
16.0	21.5	6.7	5.8	5.5	2.0	3.0	1.4	1.0
18.0	21.5	6.7	5.8	6.7	2.1	3.0	1.4	1.5

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

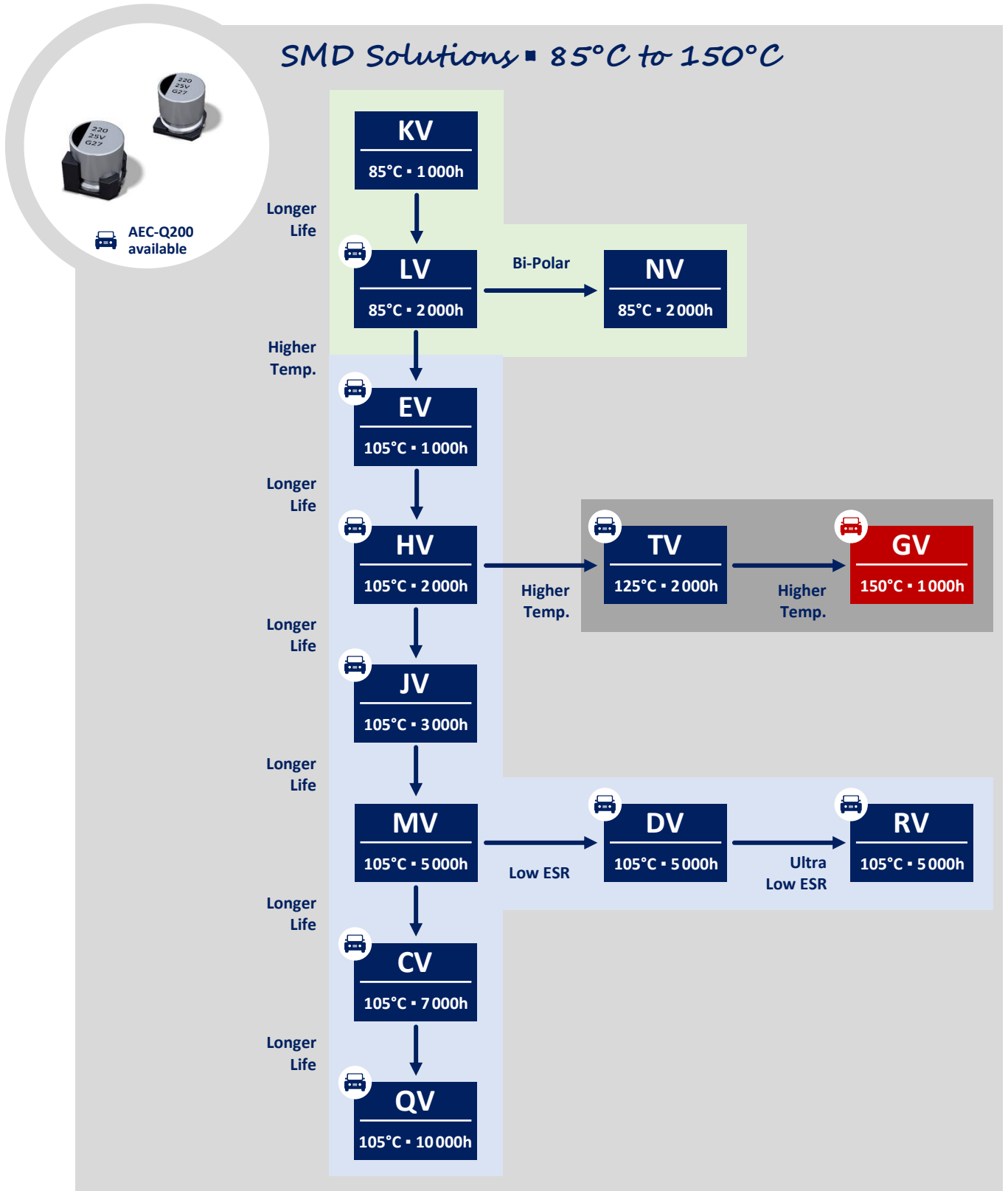
Frequency (Hz)	50/60	100/120	300	1k	10k ~ 100k
Multiplier K_f	0.56	0.67	0.79	0.91	1

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.

General Precautions & Guidelines	Packaging Information	Vibration Test Profiles	3D Models	Reliability Tests

GROUP CHART





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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