

**Alchip™-MKB Series**



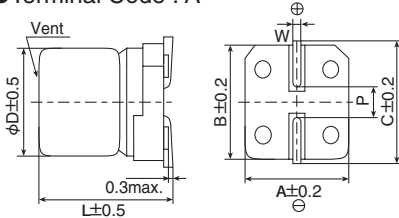
- Low ESR
- Endurance : 3,000 hours at 105°C
- Rated voltage 400V, Capacitance 2.2 to 4.7μF
- Vibration resistant structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

**◆ SPECIFICATIONS**

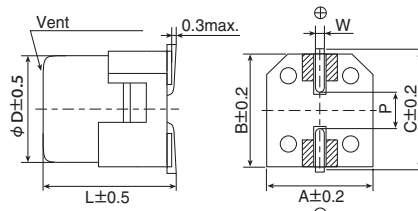
Items	Characteristics	
<b>Category</b>	-40 to +105°C	
<b>Temperature Range</b>	-40 to +105°C	
<b>Rated Voltage Range</b>	400V <sub>dc</sub>	
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C, 120Hz)	
<b>Leakage Current</b>	I=0.04CV+100(max.) Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 1 minute)	
<b>Dissipation Factor (tan δ)</b>	Rated voltage(V <sub>dc</sub> )	400V
	tan δ (Max.)	0.25 (at 20°C, 120Hz)
<b>Low Temperature Characteristics (Max. impedance Ratio)</b>	Rated voltage(V <sub>dc</sub> )	400V
	Z(-25°C)/Z(+20°C)	6
	Z(-40°C)/Z(+20°C)	10 (at 120Hz)
<b>Endurance</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 3,000 hours at 105°C.	
	Capacitance change	≤ ±20% of the initial value
	D.F. (tan δ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value
<b>Shelf life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.	
	Capacitance change	≤ ±20% of the initial value
	D.F. (tan δ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value

**◆ DIMENSIONS [mm]**

● Terminal Code : A



● Terminal Code : G(Vibration resistant structure)



Size code	D	L	A	B	C	W	P
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5

▨ : Dummy terminals

**◆ MARKING**

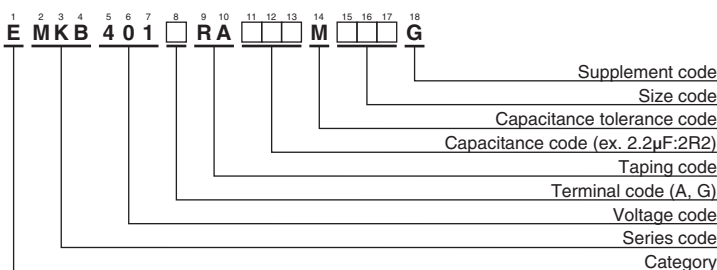
EX) 400V3.9μF



● Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	Symbol
400	2G

**◆ PART NUMBERING SYSTEM**



Please refer to "Product code guide (surface mount type)"

**◆ RATED RIPPLE CURRENT MULTIPLIERS**

● Frequency Multipliers

Frequency(Hz)	120	1k	10k	100k
400V <sub>dc</sub>	1.00	1.30	1.40	1.50

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise.

When long life performance is required in actual use, the rms ripple current has to be reduced.

**◆ STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (Ω max./120Hz)		Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.
			20°C	-40°C		
400	2.2	HA0	20	1,000	26	EMKB401□RA2R2MHA0G
	3.3	JA0	10	500	37	EMKB401□RA3R3MJA0G
	3.9	JA0	10	500	38	EMKB401□RA3R9MJA0G
	4.7	JA0	10	500	39	EMKB401□RA4R7MJA0G

□ : Enter the appropriate terminal code.