



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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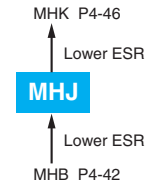
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# Alchip™-MHJ Series

- Endurance : 2,000 to 3,000 hours at 125°C
- Rated voltage range : 10 to 35V
- Nominal capacitance range : 47 to 470μF
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

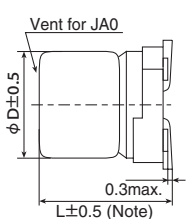


## ◆ SPECIFICATIONS

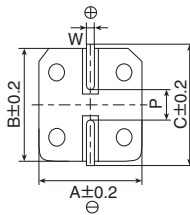
Items	Characteristics				
<b>Category</b>	-40 to +125°C				
<b>Temperature Range</b>	-40 to +125°C				
<b>Rated Voltage Range</b>	10 to 35V <sub>dc</sub>				
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C, 120Hz)				
<b>Leakage Current</b>	I=0.01CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)				
<b>Dissipation Factor (tan δ)</b>	Rated voltage(V <sub>dc</sub> )	10V	16V	25V	35V
	tan δ (Max.)	0.30	0.23	0.18	0.16
<b>Low Temperature Characteristics (Max. impedance Ratio)</b>	Rated voltage(V <sub>dc</sub> )	10V	16V	25V	35V
	Z(-25°C)/Z(+20°C)	3	2	2	2
	Z(-40°C)/Z(+20°C)	4	3	3	3
<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 (2,000 hours for F80 size) at 125°C.				
	Capacitance change	≤ ±30% of the initial value			
	D.F. (tan δ)	≤ 300% of the initial specified value			
	Leakage current	≤ The initial specified value			
	ESR after 2,000 hours (Ω max./100kHz)		F80	HA0	JA0
		20°C	3.5	0.60	0.40
-40°C	40	4.5	3.5		
<b>Shelf Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°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	≤ ±30% of the initial value			
	D.F. (tan δ)	≤ 300% of the initial specified value			
	Leakage current	≤ The initial specified value			

## ◆ DIMENSIONS [mm]

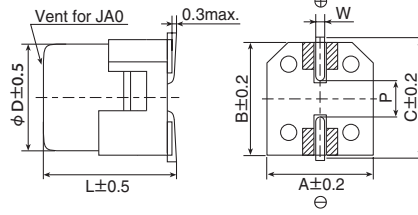
- Terminal Code : A
- Size code : F80 to JA0



Note : L±0.3 for F80



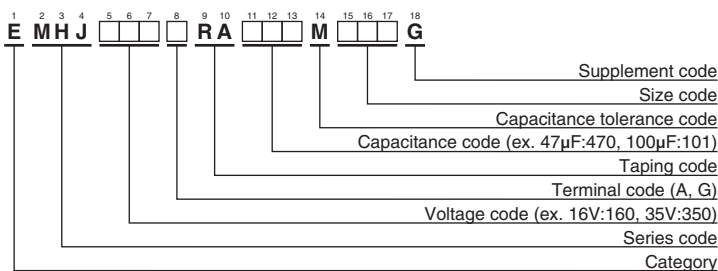
- Terminal Code : G(Vibration resistant structure)
- Size code : HA0 to JA0



▨ : Dummy terminals

Size code	φD	L	A	B	C	W	P
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
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

## ◆ PART NUMBERING SYSTEM



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

## ◆ MARKING

EX) 16V100μF



- Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	Symbol
10	A
16	C
25	E
35	V

Alchip™-MHJ Series

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (Ω max./100kHz)		Rated ripple current (mA <sub>rms</sub> /125°C, 100kHz)	Part No.
			20°C	-40°C		
10	220	HA0	0.15	3.0	350	EMHJ100□RA221MHA0G
	330	HA0	0.15	3.0	350	EMHJ100□RA331MHA0G
	330	JA0	0.12	2.0	550	EMHJ100□RA331MJA0G
	470	JA0	0.12	2.0	550	EMHJ100□RA471MJA0G
16	100	F80	0.45	5.0	220	EMHJ160ARA101MF80G
	100	HA0	0.15	3.0	350	EMHJ160□RA101MHA0G
	220	HA0	0.15	3.0	350	EMHJ160□RA221MHA0G
	330	JA0	0.12	2.0	550	EMHJ160□RA331MJA0G
	470	JA0	0.12	2.0	550	EMHJ160□RA471MJA0G
25	100	HA0	0.15	3.0	350	EMHJ250□RA101MHA0G
	220	JA0	0.12	2.0	550	EMHJ250□RA221MJA0G
	330	JA0	0.12	2.0	550	EMHJ250□RA331MJA0G
35	47	F80	0.45	5.0	220	EMHJ350ARA470MF80G
	47	HA0	0.15	3.0	350	EMHJ350□RA470MHA0G
	100	HA0	0.15	3.0	350	EMHJ350□RA101MHA0G
	220	JA0	0.12	2.0	550	EMHJ350□RA221MJA0G

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF)	Frequency(Hz)	120	1k	10k	100k
47 to 100		0.40	0.75	0.90	1.00
220 to 470		0.50	0.85	0.94	1.00

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.