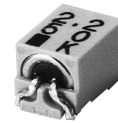# Alchip-**MFK** Series

- Wide variety of case sizes (6 sizes)
- Suitable to fit for downsized equipment
- From 3.5mm height
- Solvent-proof type
- Pb-free design

◆**SPECIFICATIONS**

Items	Characteristics							
Category Temperature Range	−40 to +105℃							
Rated Voltage Range	6.3 to 50Vdc							
Capacitance Tolerance	±20% (M)						(at 20℃, 120Hz)	
Leakage Current	I=0.01CV or 3μA, whichever is greater.							
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)						(at 20℃ after 2 minutes)	
Dissipation Factor (tanδ)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V
	tanδ (Max.)	B50 & C50	0.40	0.30	0.24	0.18	0.16	0.14
		D50 to DC5	0.32	0.28	0.24	0.16	0.14	0.12

(at 20℃,120Hz)

Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V
	Z(−25℃)/Z(+20℃)	B50 & C50	6	4	3	2	2	2
		D50 to DC5	4	3	2	2	2	2
	Z(−40℃)/Z(+20℃)	B50 & C50	12	9	7	5	4	4
		D50 to DC5	10	8	6	4	3	3

(at 120Hz)

Endurance

The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 1000 hours at 105℃.

Case code	B50 & C50	D50 to DC5
Capacitance change	≦±30% of the initial value	≦±20% of the initial value
D.F. (tanδ)	≦200% of the initial specified value	≦200% of the initial specified value
Leakage current	≦The initial specified value	≦The initial specified value

Shelf Life

The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500 hours at 105℃ without voltage applied.

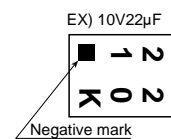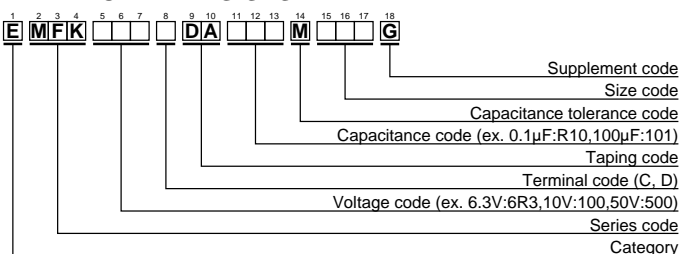| Size code	B50 & C50	D50 to DC5
Capacitance change	≦±25% of the initial value	≦±15% of the initial value
D.F. (tanδ)	≦200% of the initial specified value	≦150% of the initial specified value
Leakage current	≦The initial specified value	≦The initial specified value

◆**DIMENSIONS [mm]**

- Terminal Code : C or D <dummy terminal>
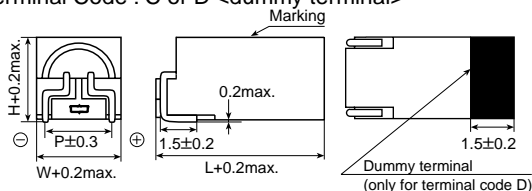
Size code	L	W	H	P
B50	6.3	3.6	3.5	3.0
C50	6.3	4.1	4.0	3.5
D50	6.3	4.6	4.5	4.0
D70	8.3	4.6	4.5	4.0
D90	10.3	4.6	4.5	4.0
DC5	13.3	4.6	4.5	4.0

◆**MARKING**

EX) 10V22μF

Negative mark

◆**PART NUMBERING SYSTEM**

```
  1  2 3 4  5 6 7  8  9 10  11 12 13  14  15 16 17  18
  E  M F K  [ ][ ][ ]  D A  [ ][ ][ ]  M  [ ][ ][ ]  G
```

- Supplement code
- Size code
- Capacitance tolerance code
- Capacitance code (ex. 0.1μF:R10,100μF:101)
- Taping code
- Terminal code (C, D)
- Voltage code (ex. 6.3V:6R3,10V:100,50V:500)
- Series code
- Category

Specifications in this bulletin are subject to change without notice.

Alchip- **MFK** Series

◆**STANDARD RATINGS**

WV(Vdc)	Cap(μF)	Size code	tan𝛿	Rated ripple current (mArms/105℃, 120Hz)	Part No.
6.3	10	B50	0.40	11	EMFK6R3□DA100MB50G
	15	C50	0.40	15	EMFK6R3□DA150MC50G
	22	D50	0.32	20	EMFK6R3□DA220MD50G
	33	D70	0.32	27	EMFK6R3□DA330MD70G
	68	D90	0.32	44	EMFK6R3□DA680MD90G
	100	DC5	0.32	63	EMFK6R3□DA101MDC5G
10	6.8	B50	0.30	10	EMFK100□DA6R8MB50G
	15	D50	0.28	19	EMFK100□DA150MD50G
	22	D70	0.28	25	EMFK100□DA220MD70G
	47	D90	0.28	41	EMFK100□DA470MD90G
	68	DC5	0.28	58	EMFK100□DA680MDC5G
16	4.7	B50	0.24	9.0	EMFK160□DA4R7MB50G
	6.8	C50	0.24	12	EMFK160□DA6R8MC50G
	10	C50	0.24	14	EMFK160□DA100MC50G
	15	D70	0.24	23	EMFK160□DA150MD70G
	33	D90	0.24	37	EMFK160□DA330MD90G
	47	DC5	0.24	53	EMFK160□DA470MDC5G
25	3.3	B50	0.18	8.3	EMFK250□DA3R3MB50G
	4.7	C50	0.18	11	EMFK250□DA4R7MC50G
	6.8	D50	0.16	16	EMFK250□DA6R8MD50G
	10	D70	0.16	21	EMFK250□DA100MD70G
	22	D90	0.16	34	EMFK250□DA220MD90G
	33	DC5	0.16	51	EMFK250□DA330MDC5G
35	2.2	B50	0.16	7.2	EMFK350□DA2R2MB50G
	3.3	C50	0.16	9.7	EMFK350□DA3R3MC50G
	4.7	D50	0.14	14	EMFK350□DA4R7MD50G
	6.8	D70	0.14	18	EMFK350□DA6R8MD70G
	15	D90	0.14	30	EMFK350□DA150MD90G
	22	DC5	0.14	43	EMFK350□DA220MDC5G
50	0.10	B50	0.14	1.3	EMFK500□DAR10MB50G
	0.15	B50	0.14	2.0	EMFK500□DAR15MB50G
	0.22	B50	0.14	2.4	EMFK500□DAR22MB50G
	0.33	B50	0.14	3.0	EMFK500□DAR33MB50G
	0.47	B50	0.14	3.5	EMFK500□DAR47MB50G
	0.68	B50	0.14	4.3	EMFK500□DAR68MB50G
	1.0	B50	0.14	5.2	EMFK500□DA1R0MB50G
	1.5	B50	0.14	6.4	EMFK500□DA1R5MB50G
	2.2	C50	0.14	8.4	EMFK500□DA2R2MC50G
	3.3	D50	0.12	13	EMFK500□DA3R3MD50G
	4.7	D70	0.12	16	EMFK500□DA4R7MD70G
	6.8	D90	0.12	20	EMFK500□DA6R8MD90G
	10	D90	0.12	26	EMFK500□DA100MD90G
	15	DC5	0.12	38	EMFK500□DA150MDC5G

□ : Terminal code

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