CHIP TYPE TANTALUM SOLID ELECTROLYTIC CAPACITORS

Upgrade!
MCM Series

- ●Resin molded chip type
- ●Extended capacitance range (1～2 rank) than MCS series
- ●Smaller than MCS series

New!
MCE Series

- ●Resin molded chip type
- ●Lead free type
- ●Extended capacitance range (1～2 rank) than MCS series
- ●Low profile, small-sized and large Capacitance

◆SPECIFICATIONS

Items	Requirements	Test Conditions
Category temperature range	–55 to +125℃(+85℃ max. without voltage derating)	
Rated Voltage range	4 to 35Vdc	
Rated Capacitance range	1.0 to 330μF	f=120Hz, 20℃
Rated Capacitance tolerance	±20%(M)	
Leakage current (L.C.)	I≦0.01CV or 0.5(μA) Whichever is greater. I : Leakage current (μA), C : Rated Capacitance (μF), V : Rated voltage (Vdc)	Refer JIS C 5102. 7.7 . After 5 minutes of applying rated voltage at 20℃
Dissipation factor (tanδ)	Rated Voltage (V): 1.0 | 1.5 to 10 | 15 to 68 | 100 to 330 D.F. (%) max.: 4 (6) | 6 (8) | 8 | 10 (11) The following specifications shall be satisfied for P size. Rated Capacitance (μF): 4V | 6.3 to 16V D.F. (%) max.: 10 | 8	Refer JIS C 5102. 7.9 . f=120Hz, 20℃ ( ) : Applies for R.V. 4Vdc and A to D size
Characteristics at high and Low temperature	Temperature (℃): –55 | +85 | +125 Cap. change(%): ≦±10 | ≦±10 | ≦±15 D.F. (%) max. C=1.0μF: 6(8) | 4(6) | 6(8) D.F. (%) max. C=1.5 to 10μF: 8(10) | 6(8) | 8(10) D.F. (%) max. C=15 to 68μF: 10 | 8 | 10 D.F. (%) max. C=100 to 330μF: 12(13) | 10(11) | 12(13) Leakage current (μA) max.: | ≦0.1CV or 5(μA) Whichever is greater. | ≦0.125CV or 6.25(μA) Whichever is greater. The following specifications shall be satisfied for P size. Temperature (℃): –55 | +85 | +125 Cap. change(%): ≦±15 | ≦±15 | ≦±20 D.F. (%) max. 4V: 12 | 10 | 12 D.F. (%) max. 6.3 to 16V: 10 | 8 | 10 Leakage current (μA) max.: | ≦0.1CV or 5(μA) Whichever is greater. | ≦0.25CV or 6.25(μA) Whichever is greater.	Shall meet the table values. Refer JIS C 5102. 7.12 . ( ) : Applies for R.V. 4Vdc and A to D size
Damp heat, steady state	Cap. change: less than ± 10% D.F.: Shall not exceed the value in Dissipation factor Leakage current (L.C.): Shall not exceed the value in Leakage current The following specifications shall be satisfied for P size. Cap. change (%): less than ± 20% D.F. (%) max.: 4V : 15, 6.3 to 10V : 12 Leakage current (L.C.): Shall not exceed the initial limit Leakage current	Refer JIS C 5102. 9.5. 40℃ 90～95%RH 500hrs.
Surge	Cap. change: 4 to 6.3V Within ± 12% | 10 to 16V Within ± 8% (Within ±12%) | 20 to 35V Within ± 5% 1) D.F.: Shall not exceed 150% of the initial limit Leakage current (L.C.): Shall not exceed the initial limit Leakage current ( ) : Applies for P size	Refer JIS C 5102. 7.14 . 85℃ Surge voltage 1000cycles (30sec-on, 330sec-off).
Rated ripple voltage	See Rated ripple voltage page, please.	
Resistance to soldering heat	Cap. change: 4 to 10V Within ± 8% (Within ±20%) | 16 to 35V Within ± 5% (Within ±10%) D.F.: Shall not exceed the initial limit Dissipation factor Leakage current (L.C.): Shall not exceed the initial limit Leakage current ( ) : Applies for P size	Refer JIS C 5143 Appendix 1. 260℃ 5 sec.
Endurance	Cap. change: 4 to 6.3V Within ± 12% | 10 to 35V Within ± 10% D.F. (%) max.: 4V : 15, 6.3 to 10V : 12 Leakage current (L.C.): Shall not exceed the initial limit Leakage current The following specifications shall be satisfied for P size. Cap. change: 4V Within ± 20% | 6.3 to 10V Within ± 12% D.F. (%) max.: 4V : 15, 6.3 to 16V : 12 Leakage current (L.C.): Shall not exceed 125% of the initial limit	Refer JIS C 5102. 9.10 page. 85℃, Rated voltage, 1,000hrs.
Failure rate	1%/1000h	85℃, Rated voltage, 1Ω/V (power source impedance)
Standard	JIS C 5143 characteristics LB	

Note 1) Cap change of 25V-2.2μF(A size) and 25V-4.7μF (B2 size) is within±10%.

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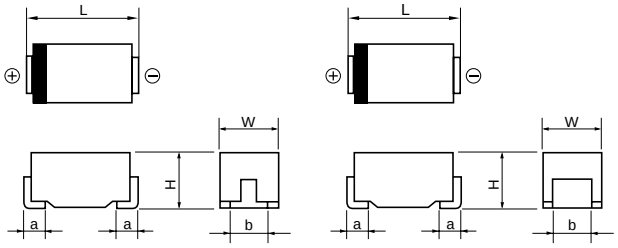
◆DIMENSIONS



case code P, A2, A　　case code B2, C, D2, D

Unit : mm

Case code	L	W	H	a	b
P	2.0±0.2	1.25±0.2	1.2max.	0.5±0.5	0.9±0.2
A2	3.2±0.2	1.6 ±0.2	1.2max.	0.8±0.3	1.2±0.2
A	3.2±0.2	1.6 ±0.2	1.6±0.2	0.8±0.3	1.2±0.2
B2	3.5±0.2	2.8 ±0.2	1.9±0.2	0.8±0.3	2.2±0.2
C	6.0±0.2	3.2 ±0.2	2.5±0.2	1.3±0.3	2.2±0.2
D2	5.8±0.2	4.6 ±0.2	3.2±0.2	1.3±0.3	2.4±0.2
D	7.3±0.2	4.3 ±0.2	2.8±0.2	1.3±0.3	2.4±0.2

◆PART NUMBERING SYSTEM

10　MCE　107　M　D　TER

- TER — Taping code
- D — Case code
- M — Cap tolerance
- 107 — Rated cap code
- MCE — Series name
- 10 — Rated voltage code

Capacitance (pF)	Code
1,500,000	155
22,000,000	226
330,000,000	337

●Rated voltage code table

Rated voltage(Vdc)	2.5	4	6.3	10	16	20	25	35
code	2R5	4	6	10	16	20	25	35

◆STANDARD RATINGS

R.V(Vdc) (Code) / S.V.(Vdc) / µF (Code)	4 (4) 5	6.3 (6) 8	10 (10) 13	16 (16) 20	20 (20) 26	25 (25) 32	35 (35) 44
1.0 (105)		A2	A2	P, A2			A
1.5 (155)		A2	A2	A2		A	
2.2 (225)	A2	A2	P, A2	A2	A	A	B2
3.3 (335)	A2	A2	P, A2		A		B2
4.7 (475)	A2	P, A2	P, A2	A	A	B2	
6.8 (685)	A2	P, A2	A2, A	A	B2		C
10.0 (106)	P, A2	P, A2, A	A2, A	A, B2	B2	C	
15 .0 (156)	P, A2, A	A2, A	A, B2	B2	C	C	
22.0 (226)	A2, A	A, B2	B2	B2, C	C	D, D2	
33.0 (336)	A, B2	B2	B2	C	D, D2		
47.0 (476)	B2	B2	C	C, D, D2	D		
68.0 (686)	B2	C	C	D			
100.0 (107)	C	C	D, D2	D			
150.0 (157)	C	D, D2	D				
220.0 (227)	D, D2	D					
330.0 (337)	D						