

H7 SERIES

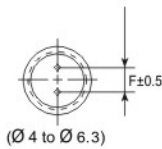
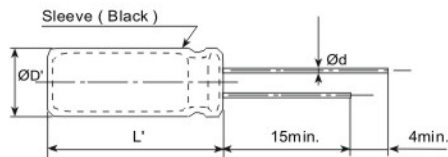
- Miniature series 7mm height
- Endurance: +105°C 1,000 hours
- Wide temperature range of -40°C +105°C
- RoHS Compliant



SPECIFICATIONS

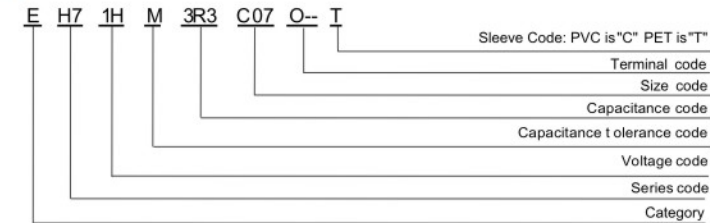
Items	Characteristics							
Category	- 40 to +105°C							
Temperature Range								
Rated Voltage Range	6.3 to 50Vdc							
Capacitance Tolerance	± 20%(M) (at 20°C, 120Hz)							
Leakage Current	I≤0.01CV or 3μA whichever is greater Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)							
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	6.3	10	16	25	35	50	(at 20°C, 120Hz)
	tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	6.3	10	16	25	35	50	
	Z(-25°C)/Z(+20°C)	3		2				
	Z(-40°C)/Z(+20°C)	8	5	4	3			
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000hours at 105°C.							
	Capacitance change	≤±20% of the initial value						
	D.F. (tanδ)	≤200% of the initial specified value						
	Leakage current	≤The initial specified value						
Shelf Life	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.							
	Capacitance change	≤ ± 20% of the initial value						
	D.F. (tanδ)	≤200% of the initial specified value						
	Leakage current	≤200%The initial specified value						

DIMENSIONS [mm]



Ø D	4	5	6.3
Ø d	0.45	0.45	0.5
F	1.5	2.0	2.5
Ø D'	Ø D + 0.5 max.		
L'	L + 2 max.		

PART NUMBERING SYSTEM



※ Sleeve Code and Terminal Code should follow the part number system

RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq. (Hz)	50/60	120	1K	10K-100K
WV(V _{dc})				
6.3 to 16	0.68	0.72	0.92	1.00
25 to 35	0.48	0.63	0.80	1.00
50	0.45	0.50	0.70	1.00

The endurance of capacitors is shortened 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.

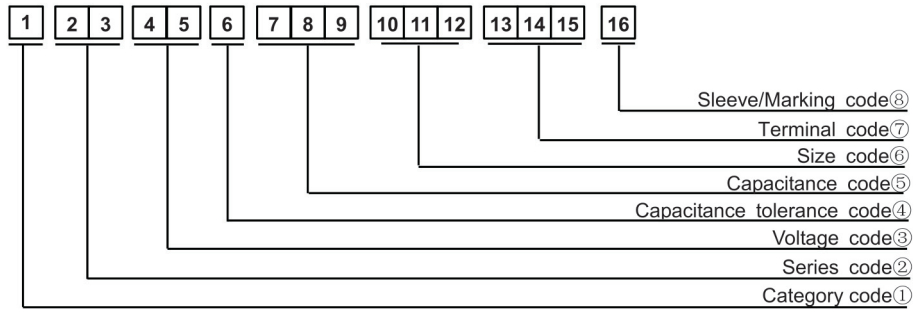
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◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size ΦD×L(mm)	tanδ	Ripple current (mA rms/105°C,120Hz)
6.3(0J)	22	4×7	0.22	34
	33	5×7	0.22	42
	47	5×7	0.22	50
	100	6.3×7	0.22	77
10(1A)	22	5×7	0.19	38
	33	5×7	0.19	47
	47	6.3×7	0.19	65
	100	6.3×7	0.19	87
16(1C)	10	4×7	0.16	29
	22	5×7	0.16	44
	33	6.3×7	0.16	60
	47	6.3×7	0.16	70
25(1E)	3.3	4×7	0.14	21
	4.7	4×7	0.14	25
	10	5×7	0.14	33
	22	6.3×7	0.14	51
	33	6.3×7	0.14	65

WV (Vdc)	Cap (μF)	Case size ΦD×L(mm)	tanδ	Ripple current (mA rms/105°C,120Hz)
35(1V)	3.3	4×7	0.12	23
	4.7	4×7	0.12	25
	10	5×7	0.12	36
	22	6.3×7	0.12	60
50(1H)	0.1	4×7	0.10	1.0
	0.22	4×7	0.10	2.3
	0.33	4×7	0.10	3.5
	0.47	4×7	0.10	5
	1	4×7	0.10	10
	2.2	4×7	0.10	19
	3.3	4×7	0.10	24
	4.7	5×7	0.10	29
	10	6.3×7	0.10	44
	22	6.3×7	0.10	60

Part Number System



① Category

Type	Code
	1
Electrolytic Capacitor	E
Conductive Polymer	S

② Series code

Series name	Code	
	2	3
WH	W	H
CD11GE	G	E
CD11GES	G	X
CD11GAS	G	W
CD11GHS	G	S
NR	N	R
PZ	P	Z

③ Voltage code

WV (V _{dc})	Code	
	4	5
2.5	0	E
3	0	D
4	0	G
6.3	0	J
6.8	0	C
7	0	Q
7.5	0	A
10	1	A
12	1	T
16	1	C
25	1	E
35	1	V
40	1	G
50	1	H
63	1	J
80	1	B
100	1	K
160	2	C
180	2	L
200	2	D
220	2	N
250	2	E
315	2	F
350	2	V
380	2	P
400	2	G
420	2	T
450	2	W
500	2	H
550	2	J
600	2	K

④ Capacitance tolerance

Tol. (%)	Code
	6
-10~+10	K
-20~+20	M
-10~+30	Q
-10~+20	V
-0~+20	A
-0~+30	
-5~+20	C
-10~-20	B
-5~+5	D
-0~+10	E
-5~-20	F
-15~+5	N

⑤ Capacitance code

Cap (μF)	Code		
	7	8	9
0.10	R	1	0
0.22	R	2	2
0.33	R	3	3
0.47	R	4	7
0.68	R	6	8
1	0	1	0
2.2	2	R	2
3.3	3	R	3
4.7	4	R	7
6.8	6	R	8
10	1	0	0
22	2	2	0
33	3	3	0
47	4	7	0
68	6	8	0
100	1	0	1
220	2	2	1
330	3	3	1
470	4	7	1
680	6	8	1
1000	1	0	2
2200	2	2	2
3300	3	3	2
4700	4	7	2
6800	6	8	2
10000	1	0	3
22000	2	2	3
33000	3	3	3
68000	6	8	3

⑥ Size code

Φ D (mm)	Code
	10
4	C
5	D
6.3	E
8	F
10	G
11	H
12	J
12.5	W
13	K
14	X
16	L
18	M
19	Z
20	N
22	O
25	P
30	Q
35	R
40	Y
51.6	S
64.3	T
76.9	U
91	V
100	A

L (mm)	Code	
	11	12
5	0	5
7	0	7
11	1	1
12	1	2
16	1	6
20	2	0
25	2	5
30	3	0
35	3	5
40	4	0
46	4	6
50	5	0
60	6	0
80	8	0
100	A	0
115	B	5
120	C	0
130	D	0
140	E	0
160	G	0
200	K	0
220	M	0
236	N	6
250	P	0

⑦ Terminal code

Specification	Code	Size	
	13	14	15
Bulk packing	O	-	
Φ4~8 Taping F=5.0mm	P	5	0
Φ10~12.5 Taping F=5.0mm	B	5	0
Lead Cut L=3.5mm	C	3	5
Lead Cut L=11.0mm	C	B	0
Lead Forming & Cut L=4.5mm	F	-	-
Kink & Cut L=4.5mm	J	-	-
Snap-in type Terminal 4.0mm in length	K	-	-
Three Terminal	T	-	-
Ring clip mounting standard design	A	0	0
Ring clip mounting special design	S	-	-

⑧ Sleeve/Marking code

Sleeve/Marking	Code
	16
PVC	C
PET	T
Dark blue	B
Big red	R
Sky-blue	S
Light blue	T
Pink	Z
Black	H
Purple-blue	V
Red	O