

## M7 series

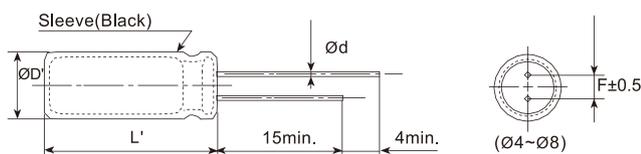
- Standard miniature series with 7mm height
- Endurance: +85°C 1,000 hours
- RoHS Compliant



### SPECIFICATIONS

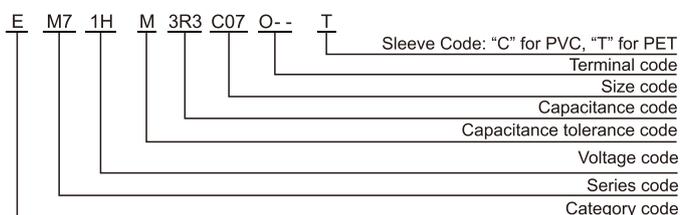
Items	Characteristics										
Category Temperature Range	-40~+85°C										
Rated Voltage Range	4~100 V <sub>dc</sub>										
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)										
Leakage Current	I ≤ 0.01CV or 3μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C after 2 minutes)										
Dissipation Factor (tanδ)	Rated Voltage(V <sub>dc</sub> )	4	6.3	10	16	25	35	50	63	100	(at 20°C, 120Hz)
	tanδ (max.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.08	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(V <sub>dc</sub> )	4	6.3	10	16	25	35	50	63	100	(at 120Hz)
	Z(-25°C)/Z(+20°C)	6	4	3	2						
	Z(-40°C)/Z(+20°C)	16	10	8	6	4					
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 85°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 85°C without voltage applied.										
	Capacitance Change	≤±20% of the initial value									
	D.F. (tanδ)	≤200% of the initial specified value									
	Leakage Current	≤200% of the initial specified value									

### DIMENSIONS[mm]



øD	4	5	6.3	8
ød	0.45	0.45	0.5	0.5
F	1.5	2.0	2.5	3.5
øD'	øD+0.5max.			
L'	L+1.5max.			

### PART NUMBERING SYSTEM



### RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

WV(V <sub>dc</sub> )	Freq.(Hz)			
	50/60	120	1k	10k-100k
4 to 16	0.80	1.00	1.10	1.20
25 to 35	0.80	1.00	1.50	1.70
≥50	0.80	1.00	1.60	1.90

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.

**M7 series**

■ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size D×L (mm)	tanδ	Rated ripple current (mArms/85°C, 120Hz)	Part Number
4(0G)	33	4×7	0.35	35	EM70GM330C07OT
	47	4×7	0.35	40	EM70GM470C07OT
	100	5×7	0.35	70	EM70GM101D07OT
	220	6.3×7	0.35	120	EM70GM221E07OT
	330	8×7	0.35	170	EM70GM331F07OT
6.3(0J)	22	4×7	0.24	35	EM70JM220C07OT
	33	4×7	0.24	40	EM70JM330C07OT
	47	4×7	0.24	50	EM70JM470C07OT
	100	5×7	0.24	80	EM70JM101D07OT
	220	6.3×7	0.24	140	EM70JM221E07OT
	330	8×7	0.24	205	EM70JM331F07OT
10(1A)	22	4×7	0.20	35	EM71AM220C07OT
	33	4×7	0.20	45	EM71AM330C07OT
	47	5×7	0.20	60	EM71AM470D07OT
	100	6.3×7	0.20	108	EM71AM101E07OT
	220	8×7	0.20	185	EM71AM221F07OT
16(1C)	10	4×7	0.16	35	EM71CM100C07OT
	22	4×7	0.16	40	EM71CM220C07OT
	33	5×7	0.16	55	EM71CM330D07OT
	47	5×7	0.16	70	EM71CM470D07OT
	100	6.3×7	0.16	120	EM71CM101E07OT
	220	8×7	0.16	205	EM71CM221F07OT
25(1E)	3.3	4×7	0.14	15	EM71EM3R3C07OT
	4.7	4×7	0.14	20	EM71EM4R7C07OT
	10	4×7	0.14	30	EM71EM100C07OT
	22	5×7	0.14	50	EM71EM220D07OT
	33	6.3×7	0.14	70	EM71EM330E07OT
	47	6.3×7	0.14	85	EM71EM470E07OT
	100	8×7	0.14	145	EM71EM101F07OT
35(1V)	3.3	4×7	0.12	15	EM71VM3R3C07OT
	4.7	4×7	0.12	20	EM71VM4R7C07OT
	10	4×7	0.12	30	EM71VM100C07OT
	22	5×7	0.12	55	EM71VM220D07OT
	33	6.3×7	0.12	75	EM71VM330E07OT
	47	8×7	0.12	110	EM71VM470F07OT
50(1H)	0.1	4×7	0.10	4	EM71HMR10C07OT
	0.22	4×7	0.10	5	EM71HMR22C07OT
	0.33	4×7	0.10	7	EM71HMR33C07OT
	0.47	4×7	0.10	8	EM71HMR47C07OT
	1	4×7	0.10	10	EM71HM010C07OT
	2.2	4×7	0.10	15	EM71HM2R2C07OT
	3.3	4×7	0.10	20	EM71HM3R3C07OT
	4.7	4×7	0.10	24	EM71HM4R7C07OT
	10	5×7	0.10	40	EM71HM100D07OT
	22	6.3×7	0.10	70	EM71HM220E07OT
33	8×7	0.10	100	EM71HM330F07OT	
63(1J)	0.1	4×7	0.08	4	EM71JMR10C07OT
	0.22	4×7	0.08	6	EM71JMR22C07OT
	0.33	4×7	0.08	7	EM71JMR33C07OT
	0.47	4×7	0.08	8	EM71JMR47C07OT
	1	4×7	0.08	10	EM71JM010C07OT
	2.2	4×7	0.08	15	EM71JM2R2C07OT
	3.3	4×7	0.08	23	EM71JM3R3C07OT
	4.7	5×7	0.08	30	EM71JM4R7D07OT
	10	6.3×7	0.08	50	EM71JM100E07OT
100(1K)	1	4×7	0.08	12	EM71KM010C07OT
	2.2	5×7	0.08	20	EM71KM2R2D07OT
	3.3	6.3×7	0.08	30	EM71KM3R3E07OT
	4.7	6.3×7	0.08	35	EM71KM4R7E07OT