

## M5 series

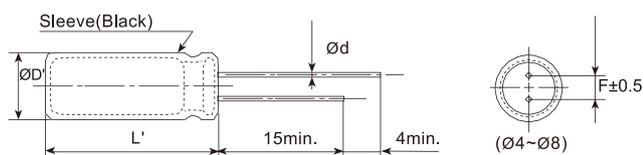
- Low profile with 5mm height
- Endurance: +85°C 1,000 hours
- RoHS Compliant



### SPECIFICATIONS

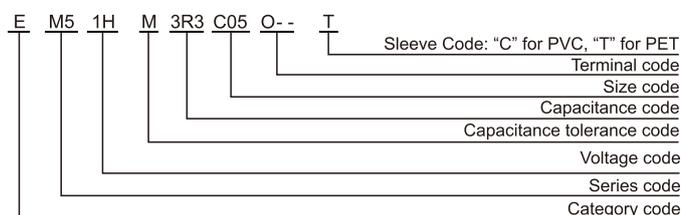
Items	Characteristics								
Category Temperature Range	-40~+85°C								
Rated Voltage Range	4~50 V <sub>dc</sub>								
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)								
Leakage Current	I 0.01CV or 3μA, whichever is greater. Where, I: Max.leakage current (μA), C: Nominal capacitance (μF), V: 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	(at 20°C, 120Hz)
	tanδ (max.)	Φ4-Φ6.3	0.35	0.26	0.22	0.18	0.16	0.14	
		Φ8	0.39	0.28	0.24	0.18	0.16	0.14	0.12
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(V <sub>dc</sub> )	4	6.3	10	16	25	35	50	(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	≤±25% 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	0.45	0.45
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.

# M5 series

■ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size D×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /85°C,120Hz)	Part Number
4(0G)	22	4×5	0.35	25	EM50GM220C05OT
	33	4×5	0.35	30	EM50GM330C05OT
	47	4×5	0.35	35	EM50GM470C05OT
	100	5×5	0.35	60	EM50GM101D05OT
	220	6.3×5	0.35	105	EM50GM221E05OT
	330	8×5	0.39	150	EM50GM331F05OT
	470	8×5	0.39	180	EM50GM471F05OT
6.3(0J)	10	4×5	0.26	20	EM50JM100C05OT
	22	4×5	0.26	30	EM50JM220C05OT
	33	5×5	0.26	40	EM50JM330D05OT
	47	5×5	0.26	50	EM50JM470D05OT
	100	6.3×5	0.26	85	EM50JM101E05OT
	220	8×5	0.28	145	EM50JM221F05OT
	330	8×5	0.28	175	EM50JM331F05OT
10(1A)	10	4×5	0.22	22	EM51AM100C05OT
	22	5×5	0.22	35	EM51AM220D05OT
	33	5×5	0.22	45	EM51AM330D05OT
	47	6.3×5	0.22	65	EM51AM470E05OT
	100	6.3×5	0.22	95	EM51AM101E05OT
	220	8×5	0.24	155	EM51AM221F05OT
16(1C)	4.7	4×5	0.18	17	EM51CM470C05OT
	10	4×5	0.18	25	EM51CM100C05OT
	22	5×5	0.18	40	EM51CM220D05OT
	33	6.3×5	0.18	60	EM51CM330E05OT
	47	6.3×5	0.18	70	EM51CM470E05OT
	100	8×5	0.18	125	EM51CM101F05OT
25(1E)	3.3	4×5	0.16	15	EM51EM330C05OT
	4.7	4×5	0.16	18	EM51EM470C05OT
	10	5×5	0.16	30	EM51EM100D05OT
	22	6.3×5	0.16	50	EM51EM220E05OT
	33	6.3×5	0.16	65	EM51EM330E05OT
	47	8×5	0.16	95	EM51EM470F05OT
	100	8×5	0.16	135	EM51EM101F05OT
35(1V)	2.2	4×5	0.14	8.4	EM51VM220C05OT
	3.3	4×5	0.14	17	EM51VM330C05OT
	4.7	5×5	0.14	20	EM51VM470D05OT
	10	5×5	0.14	30	EM51VM100D05OT
	22	6.3×5	0.14	50	EM51VM220E05OT
	33	8×5	0.14	80	EM51VM330F05OT
	47	8×5	0.14	100	EM51VM470F05OT
50(1H)	0.1	4×5	0.12	1	EM51HMR10C05OT
	0.22	4×5	0.12	2	EM51HMR22C05OT
	0.33	4×5	0.12	2.8	EM51HMR33C05OT
	0.47	4×5	0.12	4	EM51HMR47C05OT
	1	4×5	0.12	8.4	EM51HM010C05OT
	2.2	4×5	0.12	13	EM51HM220C05OT
	3.3	4×5	0.12	18	EM51HM330C05OT
	4.7	5×5	0.12	25	EM51HM470D05OT
	10	6.3×5	0.12	40	EM51HM100E05OT
	22	8×5	0.12	75	EM51HM220F05OT
	33	8×5	0.12	90	EM51HM330F05OT