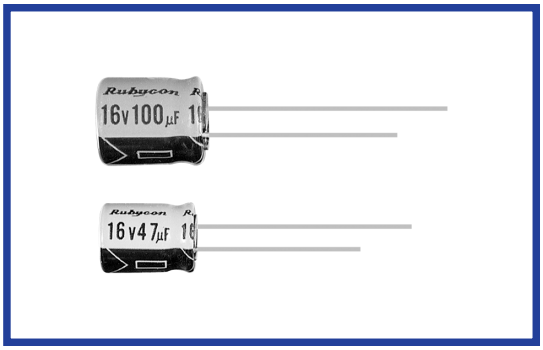
TWL SERIES

Low Leakage Current



◆FEATURES

・RoHS compliance.

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	−40～+85℃
Rated Voltage Range	6.3～50V.DC
Capacitance Tolerance	±20%(20℃,120Hz)
Leakage Current(MAX)	I=0.002CV or 0.4μA whichever is greater. (After 2 minutes application of rated voltage) I=Leakage Current(μA) C=Capacitance(μF) V=Rated Voltage(V)
Dissipation Factor(MAX) (tanδ)	〈L=7〉 (20℃,120Hz) 〈L≧11〉 (20℃,120Hz) When capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with increase of every 1000μF.
Endurance	After life test with rated ripple current at conditions stated in the table below at 85℃, the capacitors shall meet the following requirements.
Low Temperature Stability Impedance Ratio(MAX)	(120Hz)

〈L=7〉

Rated Voltage (V)	6.3	10	16	25	35	50
tanδ	0.24	0.20	0.16	0.14	0.12	0.10

〈L≧11〉

Rated Voltage (V)	6.3	10	16	25	35	50
tanδ	0.22	0.19	0.16	0.14	0.12	0.10

Capacitance Change	Within ±25% of the initial value.
Dissipation Factor	Not more than 200% of the specified value.
Leakage Current	Not more than the specified value.

Case Size	Life Time (hrs)
L=7	1000
L≧11	2000

Rated Voltage (V)	6.3	10	16	25	35	50
Z(−25℃)/Z(20℃)	4	3	2	2	2	2
Z(−40℃)/Z(20℃)	8	6	6	4	4	3

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

Frequency (Hz)		60(50)	120	500	1k	10k≦
Coefficient	0.47～1μF	0.50	1.00	1.20	1.30	1.50
	2.2～4.7μF	0.65	1.00	1.20	1.30	1.50
	10～47μF	0.80	1.00	1.20	1.30	1.50
	100～1000μF	0.80	1.00	1.10	1.15	1.20
	2200μF	0.80	1.00	1.05	1.10	1.15

◆OPTION

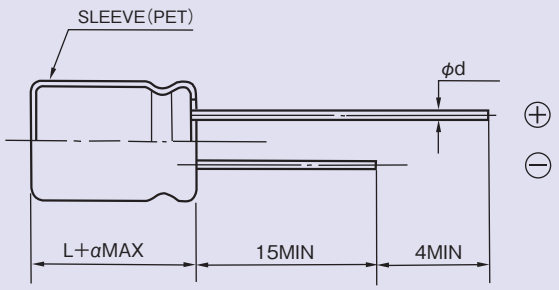
	Code
PET Sleeve	EFC

◆PART NUMBER

□□□	TWL	□□□□□	M	□□□	□□	D×L
Rated Voltage	Series	Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

◆DIMENSIONS

(mm)



〈L=7〉

φD	4	5	6.3	8
φd	0.45			
F	1.5	2.0	2.5	3.5
α	1.0			

〈L≧11〉

φD	5	6.3	8	10	12.5
φd	0.5		0.6		
F	2.0	2.5	3.5	5.0	
α	1.5				

◆STANDARD SIZE

Size φD×L(mm), Ripple Current (mA r.m.s./85℃, 120Hz)

定格電圧 WV(V.DC) / 定格静電容量 Cap(μF)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47											4×7	5.0
1											4×7	10
											5×11	13
2.2											4×7	16
											5×11	23
3.3											4×7	19
											5×11	35
4.7							4×7	21	4×7	22	5×7	29
							5×11	30	5×11	35	5×11	41
10					4×7	28	5×7	33	5×7	32	6.3×7	44
					5×11	40	5×11	50	5×11	55	5×11	60
22	4×7	34	5×7	38	5×7	44	6.3×7	55	6.3×7	60	8×7	65
	5×11	48	5×11	55	5×11	70	5×11	87	5×11	95	6.3×11	110
33	5×7	42	5×7	47	6.3×7	62	6.3×7	65	8×7	73	6.3×11	140
	5×11	55	5×11	74	5×11	90	5×11	110	6.3×11	120		
47	5×7	50	6.3×7	66	6.3×7	73	8×7	80	6.3×11	145	8×11.5	190
	5×11	79	5×11	90	5×11	120	6.3×11	130				
100	6.3×7	87	8×7	99	8×7	110	8×11.5	210	8×11.5	250	10×12.5	300
	5×11	100	6.3×11	150	6.3×11	185						
220	8×7	133	8×11.5	280	8×11.5	310	10×12.5	370	10×16	420	10×20	490
	6.3×11	220										
330	8×11.5	310	8×11.5	360	10×12.5	410	10×16	480	10×20	540	12.5×20	680
470	8×11.5	400	10×12.5	460	10×16	530	10×20	600	12.5×20	730		
1000	10×16	660	10×20	760	12.5×20	900	12.5×25	1000				
2200	12.5×20	1050	12.5×25	1200								