

# TPB Series

## New Standard Products

TPB series are new standard products corresponding to the diversification of the needs.

\*The D3 size products of TPB series are planning to discontinue manufacturing. Please use the D3L size of TPB series when you design new products.



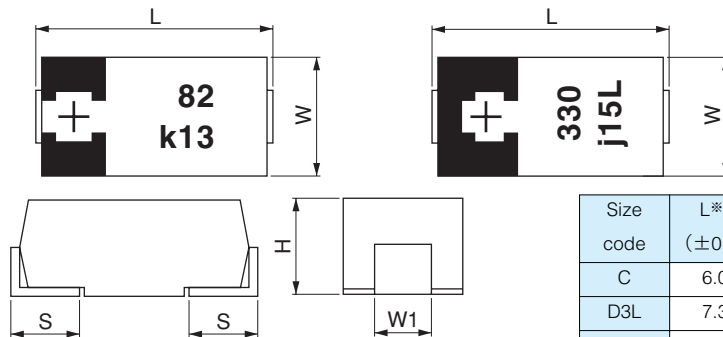
### Specifications

Operating Temperature range (°C)	-55 to +105		
Rated capacitance range (120Hz/20°C) (μF)	47 to 1000		
Capacitance tolerance (120Hz/20°C)	M:±20%		
Rated voltage (V.DC)	2.5 to 16		
Dissipation Factor (D.F.) (120Hz/20°C) (%)	≤8.0 or 10.0 or 15.0		
Leakage current (Rated voltage applied, after 5 minutes) (μA)	≤0.1CV		
Equivalent series resistance E.S.R (mQmax.), (100kHz/20°C)	Please see the attached characteristic list		
Temperature characteristics of Impedance ratio (100kHz/+20°C)	-55°C	Z/Z <sub>20°C</sub>	1.0 to 2.0
	+105°C	Z/Z <sub>20°C</sub>	0.6 to 1.0
Endurance (105°C,2000h, rated voltage applied)	ΔC/C		Within±20% of the initial value
	D.F.		≤1.5 times the initial value
	L.C.		≤The initial value
Damp heat (Steady state) (60°C,90 to 95%RH,500h, No voltage applied)	ΔC/C		Within+50%, -20% of the initial value (2R5TPB1000M,4TPB680M,6TPB470M,10TPB330M) Within+40%, -20% of the initial value (Except for the above model)
	D.F.		≤1.5 times the initial value
	L.C.		≤3 times the initial value
Surge (105°C, 1000 cycles, 1kΩ, surge voltage applied)	ΔC/C		Within±5% of the initial value
	D.F.		≤The initial value
	L.C.		≤3 times the initial value

### Dimensions (unit: mm)

(C,D3,D4 size)

(D3L size)



Size code	L*1 (±0.2)	W (±0.2)	H (±0.2)	S (±0.2)	W1 (±0.1)
C	6.0	3.2	2.8	1.3	1.8
D3L	7.3	4.3	2.8	1.3	2.4
D3	7.3	4.3	3.1	1.3	2.4
D4	7.3	4.3	3.8	1.3	2.4

※1 ±0.3:D3L,D4

### Size list

μF	RV (SV)						μF	RV (SV)					
	2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	8.0 (10.0)	10.0 (13.0)	16.0 (20.0)		2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	8.0 (10.0)	10.0 (13.0)	16.0 (20.0)
47					C	D3,D3L	220	C	C,D3,D3L	D3L		D3L,D4	
68					C		330	D3,D3L	D3L	D3L,D4		D4	
82				C			470	D3L	D4	D4			
100			C		D3,D3L		680	D4	D4				
150		C	C,D3,D3L		D3L		1000	D4					

## TPB Series

### Characteristics list

Size code	SANYO Part number	Rated Voltage (V)	Rated Capacitance ( $\mu$ F)	D.F. (%max.)	L.C. ( $\mu$ A) max./5min.	E.S.R. (m $\Omega$ max.) 100kHz/20°C	Maximum allowable ripple current (mA <sub>rms</sub> ) 100kHz*1
C	10TPB47MC	10.0	47	8.0	47.0	55	1500
	10TPB68MC	10.0	68	8.0	68.0	55	1500
	8TPB82MC	8.0	82	8.0	65.6	45	1700
	6TPB100MC	6.3	100	8.0	63.0	45	1700
	6TPB150MC	6.3	150	8.0	94.5	45	1700
	4TPB150MC	4.0	150	8.0	60.0	45	1700
	4TPB220MC	4.0	220	8.0	88.0	45	1700
	2R5TPB220MC	2.5	220	8.0	55.0	45	1700
D3L	16TPB47ML	16.0	47	10.0	75.2	70	1400
	10TPB100ML	10.0	100	8.0	100.0	55	1900
	10TPB150ML	10.0	150	10.0	150.0	40	2000
	10TPB220ML	10.0	220	10.0	220.0	40	2000
	6TPB150ML	6.3	150	8.0	94.5	55	1900
	6TPB220ML	6.3	220	10.0	138.6	40	2000
	6TPB330ML	6.3	330	10.0	207.9	40	2000
	4TPB220ML	4.0	220	8.0	88.0	55	1900
	4TPB330ML	4.0	330	10.0	132.0	40	2000
	2R5TPB330ML	2.5	330	8.0	82.5	55	1900
	2R5TPB470ML	2.5	470	10.0	117.5	40	2000
D3	16TPB47M	16.0	47	10.0	75.2	70	1400
	10TPB100M	10.0	100	8.0	100.0	55	1900
	6TPB150M	6.3	150	8.0	94.5	55	1900
	4TPB220M	4.0	220	8.0	88.0	65	1500
	2R5TPB330M	2.5	330	8.0	82.5	65	1500
D4	10TPB220M	10.0	220	10.0	220.0	40	3000
	10TPB330M	10.0	330	10.0	330.0	35	3000
	6TPB330M	6.3	330	10.0	207.9	40	3000
	6TPB470M	6.3	470	15.0	296.1	35	3000
	4TPB470M	4.0	470	10.0	188.0	40	3000
	4TPB680M	4.0	680	15.0	272.0	35	3000
	2R5TPB680M	2.5	680	10.0	170.0	40	3000
	2R5TPB1000M	2.5	1000	15.0	250.0	30	3000

\*1: 100k to 500kHz, 45°C