



## Specifications

Items	Specifications		
Size code	B2	D3L	D4
Category temperature range	-55 to +105 °C		
Rated voltage range	4.0 to 10 V.DC		
Rated capacitance range	33 to 68 $\mu$ F	150 to 330 $\mu$ F	220 to 470 $\mu$ F
Capacitance tolerance	$\pm$ 20(120 Hz/+20 °C)		
Leakage current	Please see the attached characteristics list		
Dissipation factor(tan $\delta$ )	Please see the attached characteristics list		
Surge voltage	Rated voltage x1.15		
Endurance	105°C 2,000h, (B2 size:1,000h) rated voltage applied *Rated temp. 85°C 1,000h rated voltage applied		
	$\Delta$ C/C	Within $\pm$ 20 % of the initial value	
	DF	$\leq$ 1.5 times of the initial limit	
	LC	Within the initial limit	
Damp heat (Steady State)	60°C, 90 to 95% RH 500h, No-applied voltage		
	$\Delta$ C/C	Within+40 %, -20 % of the initial value	
	DF	$\leq$ 1.5 times of the initial limit	
	LC	$\leq$ 3 times of the initial limit	

## Marking and dimensions

**B2 size**

**D3L size**

**D4 size**

(unit : mm)

Size code	L $\pm 0.3 \times 1$	W $\pm 0.2$	H $\pm 0.2 \times 2$	S $\pm 0.2$	W1 $\pm 0.1$
B2	3.5	2.8	1.9	0.8	2.2
D3L	7.3	4.3	2.8	1.3	2.4
D4	7.3	4.3	3.8	1.3	2.4

$\times 1 \pm 0.2 : B2$     $\times 2 \pm 0.1 : B2$

R. Voltage (V.DC)	4.0	6.3	10
Code	g	j	A

**B2 size**

R. Cap. ( $\mu F$ )	33	47	68
Code	N7	S7	W7

## Characteristics list

Series	Rated voltage (V <sub>DC</sub> )	Rated temp. (°C)	Category voltage (V <sub>DC</sub> )	Category temp. (°C)	Rated capacitance (μF)	Case size (mm)			Size code	Specifications				Standard	
						L	W	H		Maximum allowable ripple current (mA <sub>RMS</sub> ) 100 kHz ※1	ESR ※2 (mΩ max.)	tan δ ※3	LC ※4 (μA)	Part number	Min. Packaging Qty (pcs)
TPB	4.0	105	4.0	105	68	3.5	2.8	1.9	B2	1100	70	0.08	27.2	4TPB68M	2000
		105	4.0	105	330	7.3	4.3	2.8	D3L	2000	40	0.10	132.0	4TPB330ML	2500
	6.3	105	6.3	105	68	3.5	2.8	1.9	B2	1100	70	0.08	42.8	6TPB68M	2000
		105	6.3	105	220	7.3	4.3	2.8	D3L	2000	40	0.10	138.6	6TPB220ML	2500
		85	5.0	105	330	7.3	4.3	2.8	D3L	2000	40	0.10	207.9	6TPB330MAL	2500
		105	6.3	105		7.3	4.3	2.8		2000	40	0.10	207.9	6TPB330ML	2500
		105	6.3	105		7.3	4.3	3.8	D4	3000	40	0.10	207.9	6TPB330M	2000
		105	6.3	105		470	7.3	4.3	3.8	D4	3000	35	0.15	296.1	6TPB470M
		10	105	10.0	105	33	3.5	2.8	1.9	B2	1100	70	0.08	33.0	10TPB33M
	105		10.0	105	47	3.5	2.8	1.9	B2	1100	70	0.08	47.0	10TPB47M	2000
	105		10.0	105	150	7.3	4.3	2.8	D3L	2000	40	0.10	150.0	10TPB150ML	2500
	105		10.0	105	220	7.3	4.3	2.8	D3L	2000	40	0.10	220.0	10TPB220ML	2500
	105		10.0	105		7.3	4.3	3.8	D4	3000	40	0.10	220.0	10TPB220M	2000
	105		10.0	105		330	7.3	4.3	3.8	D4	3000	35	0.10	330.0	10TPB330M

※1:Ripple current (100 kHz/ +45 °C ), ※2:ESR (100 kHz/+20 °C) ※3:tan δ (120 Hz/+20 °C) ※4:After 5 minutes

◆Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".