Topdiode Manufacturing Company
Diode | Capacitors
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TPB RADIAL LEAD TYPE, HIGHER CAPACITANCE

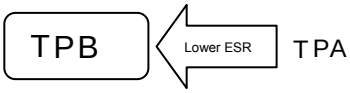
CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

Operating with wide temperature range -55~+105°C

Higher capacitance, ultra-low ESR, high ripple current

Load life of 2000 hours

RoHS & REACH compliant, Halogen-free



SPECIFICATIONS

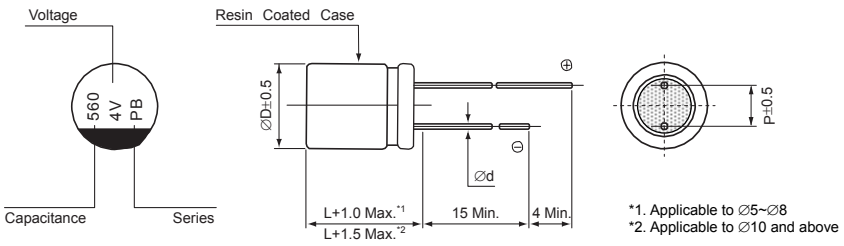
Items	Characteristics
Operation Temperature Range	-55 ~ +105°C
Voltage Range	2.5 ~ 16V
Capacitance Range	100 ~ 2200μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	≤Specified value (after 2 minutes application of rated voltage at 20°C).
Dissipation Factor (tan δ)	≤Specified value at 120Hz, 20°C.
ESR	≤Specified value at 100KHz, 20°C.
Stability at Low Temperature	Measurement frequency: 100KHz Impedance Ratio ZT/Z20 (max.): Z(+105°C)/Z(20°C) ≤1.25; Z(-55°C)/Z(20°C) ≤1.25
Damp Heat (Steady State)	When the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90% RH, they meet the characteristics listed below. Capacitance Change: Within ±20% of initial value Dissipation Factor: 150% or less of initial specified value ESR: 150% or less of initial specified value Leakage Current: Initial specified value or less
Endurance	After 2000 hours application of the rated voltage at 105°C, they meet the characteristics listed below. Capacitance Change: Within ±20% of initial value Dissipation Factor: 150% or less of initial specified value ESR: 150% or less of initial specified value Leakage Current: Initial specified value or less
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below. Capacitance Change: Within ±10% of initial value Dissipation Factor: 130% or less of initial specified value ESR: 130% or less of initial specified value Leakage Current: Initial specified value or less
Marking	Red print on the case top.

(*1) If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

(*2) Should be measured at both of the terminal ends closest to the capacitor body.

(*3) The value before test of examination of resistance to soldering.

DRAWING (Unit: mm)



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DIMENSIONS (Unit: mm)

ØD × L	5 × 8/9	5 × 12	5.5 × 9	6.3 × 8/9	6.3 × 11/12	8 × 8/9	8 × 11/12	10 × 12/16
P	2.0	2.0	2.0	2.5	2.5	3.5	3.5	5.0
Ød	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
L	8.0/9.0	12.0	9.0	8.0/9.0	11.0/12.0	8.0/9.0	11.0/12.0	12.0/16.0

DIMENSIONS & STANDARD RATINGS

WV (V) / Parameter / Cap. (µF)		2.5					4				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
560	567	6.3 × 8	0.08	280	7	5900	6.3 × 8	0.08	448	9	5900
680	687						6.3 × 8	0.08	544	9	5900
820	827	6.3 × 8 (8 × 8)	0.08 (0.08)	410 (410)	7 (7)	5900 (5900)	6.3 × 11	0.08	656	7	6150
1000	108	6.3 × 8	0.08	500	7	5900					
1200	128						6.3 × 11	0.08	960	7	6150
1500	158	8 × 8	0.08	750	7	6100					

WV (V) / Parameter / Cap. (µF)		6.3					10				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
270	277	5 × 8	0.08	340	10	3200	6.3 × 8	0.08	540	10	4100
330	337	5 × 8 (6.3 × 5) (6.3 × 6) (6.3 × 8)	0.08 (0.08) (0.08) (0.08)	415 (415) (415) (415)	10 (9) (9) (9)	3200 (4800) (4800) (5000)	6.3 × 8 (8 × 8)	0.08 (0.08)	660 (660)	12 (12)	4500 (4620)
390	397	6.3 × 8 (8 × 8)	0.08 (0.08)	491 (491)	12 (12)	3100 (3300)					
470	477	5 × 9 (6.3 × 8)	0.08 (0.08)	592 (592)	12 (9)	3600 (5900)	6.3 × 8 (8 × 8)	0.08 (0.08)	940 (940)	9 (10)	5400 (5600)
560	567	6.3 × 8 (8 × 8)	0.08 (0.08)	705 (705)	9 (8)	5900 (5900)	8 × 8	0.08	1120	9	5600
680	687	5 × 12 (6.3 × 8)	0.08 (0.08)	857 (857)	15 (9)	5500 (5900)	6 × 12 (8 × 8) (8 × 11)	0.08 (0.08) (0.08)	1360 (1360) (1360)	13 (9) (9)	3650 (5600) (6100)
820	827	6.3 × 9 (6.3 × 11) (8 × 8) (8 × 11)	0.08 (0.08) (0.08) (0.08)	1033 (1033) (1033) (1033)	9 (7) (9) (9)	5900 (6150) (5900) (6150)	8 × 11	0.08	1640	9	6100
1000	108	6 × 11 (8 × 8) (8 × 11)	0.08 (0.08) (0.08)	1260 (1260) (1260)	12 (10) (9)	6150 (6000) (6150)	8 × 11	0.08	2000	9	6200
1200	128	6.3 × 12 (8 × 12)	0.08 (0.08)	1512 (1512)	9 (9)	6100 (6150)					
1500	158	8 × 12 (10 × 12)	0.08 (0.08)	1890 (1890)	9 (9)	6150 (6200)	8 × 12 (10 × 12)	0.08 (0.08)	3000 (3000)	10 (9)	5700 (6100)
2200	228	10 × 12	0.08	2772	9	6200	10 × 12	0.08	4400	9	6500

WV (V) / Parameter / Cap. (µF)		7.5					12				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (µA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
330	337						5 × 9 (5.5 × 9) (6.3 × 8)	0.08 (0.08) (0.08)	792 (792) (792)	14 (14) (12)	3800 (3800) (2690)
500	507	5 × 9 (6.3 × 9)	0.08 (0.08)	750 (750)	11 (9)	3800 (5900)					
560	567	5 × 9 (6.3 × 9)	0.08 (0.08)	840 (840)	11 (9)	4000 (5900)					
680	687	6.3 × 9	0.08	1020	9	5900					
820	827	6.3 × 9	0.08	1230	9	5900					

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DIMENSIONS & STANDARD RATINGS

WV (V) / Parameter / Cap. (μF)		16				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
100	107	6.3 × 7	0.08	320	16	3250
270	277	6 × 8 (8 × 8) (8 × 11)	0.08 (0.08) (0.08)	864 (864) (864)	10 (10) (10)	4100 (5000) (5000)
330	337	6.3 × 9 (6.3 × 11) (8 × 8) (10 × 12)	0.08 (0.08) (0.08) (0.08)	1056 (1056) (1056) (1056)	12 (12) (10) (9)	4500 (4300) (5000) (6100)
390	397	8 × 8	0.08	1248	10	5000
470	477	6.3 × 11 (6.3 × 12) (8 × 8) (8 × 11) (10 × 12)	0.08 (0.08) (0.08) (0.08) (0.08)	1504 (1504) (1504) (1504) (1504)	12 (10) (13) (10) (9)	4100 (5200) (5000) (5400) (5800)
560	567	8 × 9 (8 × 11)	0.08 (0.08)	1792 (1792)	12 (10)	5200 (5400)
680	687	8 × 11	0.08	2176	10	5400
820	827	8 × 12 (10 × 12)	0.08 (0.08)	2624 (2624)	10 (10)	5700 (5800)
1000	108	8 × 12 (10 × 12)	0.08 (0.08)	3200 (3200)	10 (9)	6000 (6500)
1200	128	10 × 12	0.08	3840	9	6500
1500	158	10 × 12 (10 × 16)	0.08 (0.08)	4800 (4800)	9 (9)	6500 (6500)

How to order

TPB	A	108	M	0016	B	0025
↓	↓	↓	↓	↓	↓	↓
Type	Material Code	Capacitance code	Tolerance	Rated DC Voltage	Package	Pitch size
TPB	A: Polymer electrolytic cap	pF Code: 1st two digits represent significant figures 3rd digit represents mulitplier (number of zeros to follow) 108 = 1000uF 158 = 1500uF	M: +/-20%	Code 0004 : 4VDC 0002 = 2.5VDC 0006 = 6.3VDC 0007 = 7.5VDC 0010 = 10VDC 0012 = 12VDC 0016 = 16VDC	B: Bulk	0020: pitch size 2.0mm 0025: pitch size 2.5mm 0035: pitch size 3.5mm 0050: pitch size 5.0mm