



- Small size, Low profile (L3.2xW1.6xH0.9 mm)
- Face down terminal type
- RoHS compliance, Halogen free

Specifications

Items	Specifications	
Size code	A09	A14
Category temperature range	-55 to +105 / -55 to +85 (Rated temp. 85 °C)	
Rated voltage range	2.5 to 10 V.DC	
Rated capacitance range	33 to 100 μ F	100 to 220 μ F
Capacitance tolerance	± 20 % (120 Hz/+20 °C)	
Leakage current	Please see the attached characteristics list	
Dissipation factor(tan δ)	Please see the attached characteristics list	
Surge voltage	Rated voltage x1.15	
Endurance	105 °C, 1,000 h rated voltage applied ※Rated temp, 85 °C Products: 85 °C, 1,000 h, rated voltage applied	
	$\Delta C/C$	Within ± 20 % of the initial value
	DF	≤ 1.5 times of the initial limit
	LC	Within the initial limit
Damp heat (Steady State)	60 °C, 90 to 95 %RH, 500 h, No-applied voltage	
	$\Delta C/C$	Within +50 %, -20 % of the initial value (ETPH220MABC)
		Within +40 %, -20 % of the initial value (Except for above model)
	DF	≤ 1.5 times of the initial limit
	LC	≤ 3 times of the initial limit

Marking and dimensions

A09/A14 Size

Diagram illustrating the marking and dimensions for A09/A14 size capacitors. The marking includes Polarity marking (+), R.Cap. code, Year, Week, and R. Voltage code. Dimensions shown are L, W, H, S, and W1.

(unit : mm)

Size code	L ± 0.2	W ± 0.2	H ± 0.1	S ± 0.2	W1 ± 0.1
A09	3.2	1.6	0.9	0.8	1.2
A14	3.2	1.6	1.4	0.8	1.2

A09 Size (6TPH100MAEA)

Diagram illustrating the marking and dimensions for A09 Size (6TPH100MAEA) capacitors. The marking includes Polarity marking (+), R.Cap. code, Year, Week, and R. Voltage code. Dimensions shown are L, W, H, S, and W1.

R. Voltage (V.DC)	2.5	4.0	6.3	10
Code	e	g	j	A

R. Cap. (μ F)	33	47	68	100	150	220
Code	N7	S7	W7	A8	E8	J8

Characteristics list

Series	Rated voltage (V.DC)	Rated temp. (°C)	Category voltage (V.DC)	Category temp. (°C)	Rated capacitance (μ F)	Case size (mm)			Size code	Specifications				Standard	
						L	W	H		Maximum allowable ripple current (mA rms) 100 kHz ※1	ESR ※2 (m Ω max.)	tan δ ※3	LC ※4 (μ A)	Part number	Min. Packaging Qty (pcs)
TPH	2.5	105	2.5	105	100	3.2	1.6	0.9	A09	510	150	0.10	25.0	ETPH100MHA	3000
		85	2.5	85	220	3.2	1.6	1.4	A14	740	70	0.10	110.0	ETPH220MABC	2500
	4	105	4.0	105	68	3.2	1.6	0.9	A09	510	150	0.10	27.2	4TPH68MHA	3000
		85	4.0	85	150	3.2	1.6	1.4	A14	740	70	0.10	120.0	4TPH150MABC	2500
	6.3	105	6.3	105	47	3.2	1.6	0.9	A09	510	150	0.10	29.6	6TPH47MHA	3000
		85	6.3	85	100	3.2	1.6	0.9	A09	670	100	0.10	63.0	6TPH100MAEA	3000
		85	6.3	85	100	3.2	1.6	1.4	A14	740	70	0.10	126.0	6TPH100MABC	2500
	10	85	10.0	85	33	3.2	1.6	0.9	A09	510	150	0.10	33.0	ATPH33MAHA	3000

※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".

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.

Should a safety concern arise regarding this product, please be sure to contact us immediately.

※: Please contact us about rated temperature of each models.