

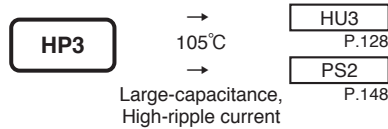
**UPGRADE!**

## HP3 Series Useful of 4,000 hours at 85°C

• Conform RoHS

### Features

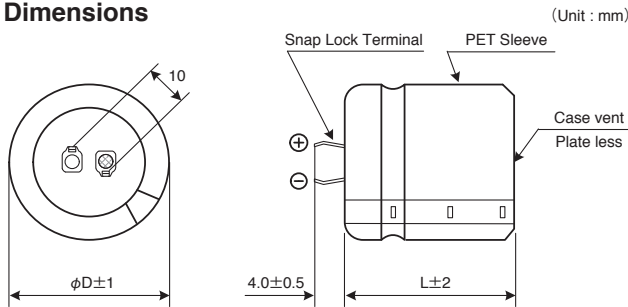
• The HP3 series is the standard products of 85°C .



### Product Specifications

Items	Specifications
Temperature range	-40°C ~ +85°C
Rated voltage	16 ~ 450V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.02CV (µA) or 3 mA, whichever is smaller or less (20°C, after 5 minutes) [C = nominal capacitance (µF), V = rated voltage (V)]
Dissipation factor	Less than the value specified in the standard products table. (20°C, 120Hz)
Permissible ripple current	As specified in the standard products table. (85°C, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 85°C for 2,000 hours : 16 ~ 350V.DC / Capacitance change : Within ±15% of the initial value measured Dissipation factor : 175% or less than the initial value specified Leakage current : Less than or equal to the initial value specified 400 ~ 450V.DC/ Capacitance change : Within ±20% of the initial value measured Dissipation factor : 200% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Shelf life	The following specification shall be meet when the capacitor are restored to 20°C after storage of 500 hours at 85°C with no voltage applied. Before the measurement, the capacitor shall be preconditioned by applying the voltage treatment according to Item 4.1 of JIS C 5101-4. Capacitance change : Within ±15% of the initial value measured Dissipation factor : 175% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Others	JIS C 5101-4

### Dimensions



### Ripple current correction coefficient

Temperature (°C)	60	70	85			
Correction coefficient	1.4	1.2	1.0			
Frequency (Hz)	50/60	120	300	1K	≥10K	
Correction coefficient	16~100V	0.7	1.0	1.1	1.2	1.2
	160~450V	0.7	1.0	1.1	1.3	1.4

A continuous load should be avoided over 10 Arms at the terminal in accordance with the permissible current.  
Please consult us when the ripple voltage exceeds 70Vp-p .

### Product code

(Example) HP3 Series 16V 10,000µF ±20%

**HP3 1C 103 M C X WP EC**

- HP3: Type of series
- 1C: Case dia code
- 103: Terminal code
- M: Capacitance tolerance code
- C: Capacitance code
- X: Rated voltage code
- WP: Lead-Free and PVC-Free (standard)
- EC: Without plate (standard)

Refer to page 122-123 for other terminal shape available on request.

# SNAP MOUNT TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φ D × L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms)		ESR(typ.) (mΩ) 20°C, 100Hz	Product name
				85°C, 120Hz	20°C, 100Hz		
16	6,800	22×25	0.50	1.78	51	HP31C682MCXWPEC	
		10,000	22×30	0.50	1.94	41	HP31C103MCXWPEC
			25×25	0.50	1.92	41	HP31C103MCYWPEC
	15,000	22×40	0.50	2.65	28	HP31C153MCXWPEC	
		25×30	0.50	2.52	28	HP31C153MCYWPEC	
		30×25	0.50	2.52	28	HP31C153MCZWPEC	
	22,000	25×45	0.50	3.52	22	HP31C223MCYWPEC	
		30×30	0.50	3.23	22	HP31C223MCZWPEC	
		35×25	0.50	3.23	22	HP31C223MCAWPEC	
	33,000	30×45	0.50	4.28	17	HP31C333MCZWPEC	
		35×35	0.50	4.12	17	HP31C333MCAWPEC	
		25	4,700	22×25	0.40	1.48	88
6,800	22×30		0.40	1.89	70	HP31E682MCXWPEC	
	25×25		0.40	1.87	70	HP31E682MCYWPEC	
10,000	22×35		0.40	2.06	48	HP31E103MCXWPEC	
	25×30		0.40	2.06	48	HP31E103MCYWPEC	
	30×25		0.40	2.06	48	HP31E103MCZWPEC	
15,000	22×45		0.40	2.78	32	HP31E153MCXWPEC	
	25×35		0.40	2.67	32	HP31E153MCYWPEC	
	30×30		0.40	2.67	32	HP31E153MCZWPEC	
	35×25		0.40	2.67	32	HP31E153MCAWPEC	
22,000	25×45		0.40	3.52	22	HP31E223MCYWPEC	
	30×35		0.40	3.41	22	HP31E223MCZWPEC	
	35×30	0.40	3.41	22	HP31E223MCAWPEC		
	30×50	0.40	4.45	17	HP31E333MCZWPEC		
33,000	35×40	0.40	4.31	17	HP31E333MCAWPEC		
	35	3,300	22×25	0.35	1.38	165	HP31V332MCXWPEC
4,700		22×30	0.35	1.57	115	HP31V472MCXWPEC	
		25×25	0.35	1.56	115	HP31V472MCYWPEC	
6,800		22×35	0.35	2.01	80	HP31V682MCXWPEC	
		25×30	0.35	2.01	80	HP31V682MCYWPEC	
		30×25	0.35	2.01	80	HP31V682MCZWPEC	
10,000		22×45	0.35	2.27	55	HP31V103MCXWPEC	
		25×35	0.35	2.18	55	HP31V103MCYWPEC	
		30×30	0.35	2.18	55	HP31V103MCZWPEC	
		35×25	0.35	2.18	55	HP31V103MCAWPEC	
15,000		25×50	0.35	3.03	35	HP31V153MCYWPEC	
		30×35	0.35	2.82	35	HP31V153MCZWPEC	
	35×30	0.35	2.82	35	HP31V153MCAWPEC		
22,000	30×45	0.35	3.73	25	HP31V223MCZWPEC		
	35×40	0.35	3.76	25	HP31V223MCAWPEC		
33,000	35×50	0.40	4.67	20	HP31V333MCAWPEC		
50	2,200	22×25	0.30	1.13	108	HP31H222MCXWPEC	
		3,300	22×30	0.30	1.47	72	HP31H332MCXWPEC
			25×25	0.30	1.46	72	HP31H332MCYWPEC
	4,700	22×35	0.30	1.67	50	HP31H472MCXWPEC	
		25×30	0.30	1.67	50	HP31H472MCYWPEC	
		30×25	0.30	1.67	50	HP31H472MCZWPEC	
	6,800	22×50	0.30	2.31	35	HP31H682MCXWPEC	
		25×40	0.30	2.21	35	HP31H682MCYWPEC	
		30×30	0.30	2.13	35	HP31H682MCZWPEC	
	10,000	35×25	0.30	2.13	35	HP31H682MCAWPEC	
		25×50	0.35	2.48	32	HP31H103MCYWPEC	
		30×35	0.35	2.30	32	HP31H103MCZWPEC	
	15,000	35×30	0.35	2.30	32	HP31H103MCAWPEC	
		30×50	0.35	3.21	25	HP31H153MCZWPEC	
		35×40	0.35	3.10	25	HP31H153MCAWPEC	

Rated Voltage (V. DC)	Capacitance (μF)	Case size φ D × L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms)		ESR(typ.) (mΩ) 20°C, 100Hz	Product name
				85°C, 120Hz	20°C, 100Hz		
63	1,500	22×25	0.25	1.08	159	HP31J152MCXWPEC	
		22×30	0.25	1.20	108	HP31J222MCXWPEC	
	2,200	25×25	0.25	1.19	108	HP31J222MCYWPEC	
		22×35	0.25	1.56	80	HP31J332MCXWPEC	
	3,300	25×30	0.25	1.56	80	HP31J332MCYWPEC	
		30×25	0.25	1.56	80	HP31J332MCZWPEC	
		22×45	0.25	1.84	60	HP31J472MCXWPEC	
	4,700	25×35	0.25	1.77	60	HP31J472MCYWPEC	
		30×30	0.25	1.77	60	HP31J472MCZWPEC	
		35×25	0.25	1.77	60	HP31J472MCAWPEC	
		25×50	0.25	2.42	40	HP31J682MCYWPEC	
	6,800	30×35	0.25	2.25	40	HP31J682MCZWPEC	
35×30		0.25	2.25	40	HP31J682MCAWPEC		
10,000	30×45	0.35	2.52	35	HP31J103MCZWPEC		
	35×40	0.35	2.53	35	HP31J103MCAWPEC		
	35×50	0.35	3.36	30	HP31J153MCAWPEC		
80	1,000	22×25	0.20	0.88	230	HP31K102MCXWPEC	
		22×30	0.20	1.15	155	HP31K152MCXWPEC	
	1,500	25×25	0.20	1.13	155	HP31K152MCYWPEC	
		22×40	0.20	1.34	105	HP31K222MCXWPEC	
	2,200	25×30	0.20	1.28	105	HP31K222MCYWPEC	
		30×25	0.20	1.28	105	HP31K222MCZWPEC	
		22×50	0.25	1.80	70	HP31K332MCXWPEC	
	3,300	25×40	0.25	1.72	70	HP31K332MCYWPEC	
		30×30	0.25	1.65	70	HP31K332MCZWPEC	
		35×25	0.25	1.65	70	HP31K332MCAWPEC	
		25×50	0.25	2.01	50	HP31K472MCYWPEC	
	4,700	30×40	0.25	1.96	50	HP31K472MCZWPEC	
		35×30	0.25	1.87	50	HP31K472MCAWPEC	
		30×50	0.25	2.56	35	HP31K682MCZWPEC	
	6,800	35×40	0.25	2.47	35	HP31K682MCAWPEC	
		100	1,000	22×30	0.20	0.94	180
	25×25			0.20	0.93	180	HP32A102MCYWPEC
	1,500		22×35	0.20	1.22	120	HP32A152MCXWPEC
25×30			0.20	1.22	120	HP32A152MCYWPEC	
2,200	30×25		0.20	1.22	120	HP32A152MCZWPEC	
	22×50		0.20	1.47	82	HP32A222MCXWPEC	
	25×40		0.20	1.41	82	HP32A222MCYWPEC	
3,300	30×30		0.20	1.35	82	HP32A222MCZWPEC	
	35×25		0.20	1.35	82	HP32A222MCAWPEC	
	25×50		0.20	1.88	60	HP32A332MCYWPEC	
	30×40		0.20	1.83	60	HP32A332MCZWPEC	
4,700	35×30		0.20	1.75	60	HP32A332MCAWPEC	
	30×50	0.25	2.12	45	HP32A472MCZWPEC		
	35×40	0.25	2.05	45	HP32A472MCAWPEC		
6,800	35×50	0.25	2.68	35	HP32A682MCAWPEC		
160	390	22×25	0.15	1.50	365	HP32C391MCXWPEC	
		22×30	0.15	1.76	305	HP32C471MCXWPEC	
	470	25×25	0.15	1.74	305	HP32C471MCYWPEC	
		22×35	0.15	2.03	255	HP32C561MCXWPEC	
	560	25×30	0.15	2.02	255	HP32C561MCYWPEC	
		22×40	0.15	2.36	210	HP32C681MCXWPEC	
		25×30	0.15	2.24	210	HP32C681MCYWPEC	
	680	30×25	0.15	2.24	210	HP32C681MCZWPEC	
		22×45	0.15	2.72	175	HP32C821MCXWPEC	
		25×35	0.15	2.61	175	HP32C821MCYWPEC	
	820	30×30	0.15	2.61	175	HP32C821MCZWPEC	
		22×50	0.15	3.13	145	HP32C102MCXWPEC	
		25×40	0.15	3.00	145	HP32C102MCYWPEC	
	1,000	30×30	0.15	2.88	145	HP32C102MCZWPEC	
		35×25	0.15	2.88	145	HP32C102MCAWPEC	
		25×45	0.15	3.44	120	HP32C122MCYWPEC	
		30×35	0.15	3.34	120	HP32C122MCZWPEC	
	1,200	35×30	0.15	3.34	120	HP32C122MCAWPEC	
30×40		0.15	3.91	95	HP32C152MCZWPEC		
1,500	35×35	0.15	3.96	95	HP32C152MCAWPEC		
	1,800	30×45	0.15	4.47	80	HP32C182MCZWPEC	
35×35		0.15	4.34	80	HP32C182MCAWPEC		

ALUMINUM ELECTROLYTIC CAPACITORS

# SNAP MOUNT TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 85°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Product name
180	330	22×25	0.15	1.38	375	HP32P331MCXS2WPEC
		22×30	0.15	1.60	320	HP32P391MCXS3WPEC
	390	25×25	0.15	1.58	320	HP32P391MCYS2WPEC
		22×30	0.15	1.76	265	HP32P471MCXS3WPEC
	470	25×25	0.15	1.74	265	HP32P471MCYS2WPEC
		22×35	0.15	2.03	225	HP32P561MCXS4WPEC
	560	25×30	0.15	2.03	225	HP32P561MCYS3WPEC
		30×25	0.15	2.03	225	HP32P561MCZS2WPEC
		22×40	0.15	2.36	185	HP32P681MCXS5WPEC
	680	25×35	0.15	2.35	185	HP32P681MCYS4WPEC
		30×25	0.15	2.24	185	HP32P681MCZS2WPEC
		22×45	0.15	2.72	155	HP32P821MCXS6WPEC
	820	25×35	0.15	2.59	155	HP32P821MCYS4WPEC
		30×30	0.15	2.61	155	HP32P821MCZS3WPEC
		35×25	0.15	2.61	155	HP32P821MCAS2WPEC
		25×45	0.15	3.14	125	HP32P102MCYS6WPEC
	1,000	30×35	0.15	3.04	125	HP32P102MCZS4WPEC
		35×25	0.15	2.88	125	HP32P102MCAS2WPEC
		25×50	0.15	3.59	105	HP32P122MCYS7WPEC
	1,200	30×40	0.15	3.49	105	HP32P122MCZS5WPEC
35×30		0.15	3.34	105	HP32P122MCAS3WPEC	
30×45		0.15	4.08	85	HP32P152MCZS6WPEC	
1,500	35×35	0.15	3.96	85	HP32P152MCAS4WPEC	
	1,800	35×40	0.15	4.50	70	HP32P182MCAS5WPEC
200	330	22×25	0.15	1.53	325	HP32D331MCXS2WPEC
		22×30	0.15	1.92	275	HP32D391MCXS3WPEC
	470	22×30	0.15	1.94	230	HP32D471MCXS3WPEC
		25×25	0.15	1.92	230	HP32D471MCYS2WPEC
	560	22×35	0.15	2.25	190	HP32D561MCXS4WPEC
		25×30	0.15	2.23	190	HP32D561MCYS3WPEC
	680	22×40	0.15	2.61	160	HP32D681MCXS5WPEC
		25×35	0.15	2.86	160	HP32D681MCYS4WPEC
		30×25	0.15	2.45	160	HP32D681MCZS2WPEC
	820	25×40	0.15	3.26	130	HP32D821MCYS5WPEC
		30×30	0.15	3.13	130	HP32D821MCZS3WPEC
		35×25	0.15	3.13	130	HP32D821MCAS2WPEC
		25×45	0.15	3.46	110	HP32D102MCYS6WPEC
	1,000	30×35	0.15	3.64	110	HP32D102MCZS4WPEC
		35×30	0.15	3.66	110	HP32D102MCAS3WPEC
		30×40	0.15	4.19	90	HP32D122MCZS5WPEC
	1,200	35×30	0.15	3.67	90	HP32D122MCAS3WPEC
		1,500	35×35	0.15	4.31	75
	1,800	35×45	0.15	5.15	70	HP32D182MCAS6WPEC

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 85°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Product name
250	270	22×25	0.15	1.38	395	HP32E271MCXS2WPEC
		22×30	0.15	1.63	325	HP32E331MCXS3WPEC
	330	25×25	0.15	1.60	325	HP32E331MCYS2WPEC
		22×35	0.15	2.04	275	HP32E391MCXS4WPEC
	390	25×30	0.15	2.04	275	HP32E391MCYS3WPEC
		22×40	0.15	2.35	230	HP32E471MCXS5WPEC
		25×30	0.15	2.04	230	HP32E471MCYS3WPEC
	470	30×25	0.15	2.24	230	HP32E471MCZS2WPEC
		22×45	0.15	2.48	190	HP32E561MCXS6WPEC
		25×35	0.15	2.35	190	HP32E561MCYS4WPEC
	560	30×30	0.15	2.59	190	HP32E561MCZS3WPEC
		25×40	0.15	2.73	160	HP32E681MCXS5WPEC
		30×30	0.15	2.60	160	HP32E681MCZS3WPEC
	680	35×25	0.15	2.61	160	HP32E681MCAS2WPEC
		25×45	0.15	3.13	130	HP32E821MCYS6WPEC
		30×35	0.15	3.01	130	HP32E821MCZS4WPEC
		35×30	0.15	3.31	130	HP32E821MCAS4WPEC
	1,000	30×40	0.15	3.49	110	HP32E102MCZS5WPEC
		35×35	0.15	3.88	110	HP32E102MCAS4WPEC
		30×45	0.15	3.99	90	HP32E122MCZS6WPEC
1,200	35×40	0.15	4.40	90	HP32E122MCAS5WPEC	
	1,500	35×45	0.15	4.70	75	HP32E152MCAS6WPEC
350	120	22×25	0.15	0.84	885	HP32V121MCXS2WPEC
		150	22×30	0.15	0.99	710
	180	22×30	0.15	1.09	590	HP32V181MCXS3WPEC
		25×25	0.15	1.08	590	HP32V181MCYS2WPEC
	220	22×35	0.15	1.28	485	HP32V221MCXS4WPEC
		25×30	0.15	1.27	485	HP32V221MCYS3WPEC
	270	22×45	0.15	1.57	395	HP32V271MCXS6WPEC
		25×35	0.15	1.49	395	HP32V271MCYS4WPEC
		30×25	0.15	1.41	395	HP32V271MCZS2WPEC
	330	25×40	0.15	1.79	325	HP32V331MCYS5WPEC
		30×30	0.15	1.65	325	HP32V331MCZS3WPEC
		35×25	0.15	1.65	325	HP32V331MCAS2WPEC
		25×45	0.15	1.96	275	HP32V391MCYS6WPEC
	390	30×35	0.15	1.89	275	HP32V391MCZS4WPEC
		35×30	0.15	1.90	275	HP32V391MCAS3WPEC
		30×35	0.15	2.07	230	HP32V471MCZS4WPEC
	470	35×30	0.15	2.09	230	HP32V471MCAS3WPEC
		30×45	0.15	2.48	190	HP32V561MCZS6WPEC
	560	35×35	0.15	2.39	190	HP32V561MCAS4WPEC
		680	35×40	0.15	2.76	165

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Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φ D × L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms)		ESR(typ.) (mΩ) 20°C, 100Hz	Product name
				85°C, 120Hz	20°C, 100Hz		
400	100	20×25	0.20	0.89	1,070	HP32G101MCWS2WPEC	
		20×30	0.20	1.04	890	HP32G121MCWS3WPEC	
	120	22×25	0.20	1.00	890	HP32G121MCXS2WPEC	
		20×35	0.20	1.24	720	HP32G151MCWS4WPEC	
	150	22×30	0.20	1.31	600	HP32G181MCXS3WPEC	
		25×25	0.20	1.29	600	HP32G181MCYS2WPEC	
	220	22×35	0.20	1.54	490	HP32G221MCXS4WPEC	
		25×30	0.20	1.52	490	HP32G221MCYS3WPEC	
	270	22×40	0.20	1.79	400	HP32G271MCXS5WPEC	
		25×35	0.20	1.78	400	HP32G271MCYS4WPEC	
		30×25	0.20	1.69	400	HP32G271MCZS2WPEC	
	330	22×50	0.20	2.17	330	HP32G331MCXS7WPEC	
		25×40	0.20	2.07	330	HP32G331MCYS5WPEC	
		30×30	0.20	1.98	330	HP32G331MCZS3WPEC	
	390	25×45	0.20	2.36	280	HP32G391MCYS6WPEC	
		30×35	0.20	2.27	280	HP32G391MCZS4WPEC	
		35×25	0.20	2.16	280	HP32G391MCAS2WPEC	
	470	25×50	0.20	2.70	230	HP32G471MCYS7WPEC	
		30×40	0.20	2.61	230	HP32G471MCZS5WPEC	
		35×30	0.20	2.50	230	HP32G471MCAS3WPEC	
560	30×45	0.20	2.98	200	HP32G561MCZS6WPEC		
	35×35	0.20	2.87	200	HP32G561MCAS4WPEC		
680	30×50	0.20	3.41	160	HP32G681MCZS7WPEC		
	35×40	0.20	3.31	160	HP32G681MCAS5WPEC		
820	30×60*	0.20	3.45	140	HP32G821MCZS9WPEC		
	35×45	0.20	3.79	140	HP32G821MCAS6WPEC		
1,000	35×50	0.20	4.35	110	HP32G102MCAS7WPEC		
1,200	35×75	0.20	4.42	100	HP32G122MSAS12WPEC		
	40×56	0.20	3.91	100	HP32G122MSBS8WPEC		
1,500	35×100	0.20	5.57	80	HP32G152MSAS17WPEC		
	40×76	0.20	5.13	80	HP32G152MSBS12WPEC		
1,800	40×101	0.20	6.32	70	HP32G182MSBS17WPEC		
420	82	20×25	0.20	0.81	1,340	HP3420V820MCWS2WPEC	
		20×30	0.20	1.04	920	HP3420V121MCWS3WPEC	
	120	22×25	0.20	1.00	920	HP3420V121MCXS2WPEC	
		20×35	0.20	1.24	740	HP3420V151MCWS4WPEC	
	150	22×30	0.20	1.20	740	HP3420V151MCXS3WPEC	
		25×25	0.20	1.18	740	HP3420V151MCYS2WPEC	
	180	22×35	0.20	1.39	620	HP3420V181MCXS4WPEC	
		25×30	0.20	1.38	620	HP3420V181MCYS3WPEC	
	220	22×40	0.20	1.62	500	HP3420V221MCXS5WPEC	
		25×35	0.20	1.61	500	HP3420V221MCYS4WPEC	
		30×25	0.20	1.52	500	HP3420V221MCZS2WPEC	
	270	22×45	0.20	1.88	410	HP3420V271MCXS6WPEC	
		25×40	0.20	1.87	410	HP3420V271MCYS5WPEC	
		30×30	0.20	1.79	410	HP3420V271MCZS3WPEC	
	330	25×45	0.20	2.17	340	HP3420V331MCYS6WPEC	
		35×25	0.20	1.98	340	HP3420V331MCAS2WPEC	
		25×50	0.20	2.46	290	HP3420V391MCYS7WPEC	
	390	30×35	0.20	2.27	290	HP3420V391MCZS4WPEC	
		35×30	0.20	2.28	290	HP3420V391MCAS3WPEC	
	470	30×40	0.20	2.61	240	HP3420V471MCZS5WPEC	
35×35		0.20	2.63	240	HP3420V471MCAS4WPEC		
560	30×50	0.20	3.10	200	HP3420V561MCZS7WPEC		
	35×40	0.20	3.01	200	HP3420V561MCAS5WPEC		
680	30×60*	0.20	3.35	170	HP3420V681MCZS9WPEC		
	35×45	0.20	3.45	170	HP3420V681MCAS6WPEC		
820	35×50	0.20	3.94	140	HP3420V821MCAS7WPEC		
1,000	35×75	0.20	4.04	120	HP3420V102MSAS12WPEC		
	40×56	0.20	3.91	120	HP3420V102MSBS8WPEC		
1,200	35×100	0.20	4.99	100	HP3420V122MSAS17WPEC		
	40×76	0.20	4.59	100	HP3420V122MSBS12WPEC		
1,800	40×101	0.20	6.32	70	HP3420V182MSBS17WPEC		

Rated Voltage (V. DC)	Capacitance (μF)	Case size φ D × L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms)		ESR(typ.) (mΩ) 20°C, 100Hz	Product name
				85°C, 120Hz	20°C, 100Hz		
450	82	20×25	0.20	0.81	1,340	HP32W820MCWS2WPEC	
		100	20×30	0.20	0.95	1,100	HP32W101MCWS3WPEC
	120	20×35	0.20	1.11	920	HP32W121MCWS4WPEC	
		22×25	0.20	1.00	920	HP32W121MCXS2WPEC	
	150	22×30	0.20	1.20	740	HP32W151MCXS3WPEC	
		25×25	0.20	1.18	740	HP32W151MCYS2WPEC	
	180	22×35	0.20	1.39	620	HP32W181MCXS4WPEC	
		25×30	0.20	1.38	620	HP32W181MCYS3WPEC	
	220	22×40	0.20	1.62	500	HP32W221MCXS5WPEC	
		25×35	0.20	1.61	500	HP32W221MCYS4WPEC	
		30×25	0.20	1.52	500	HP32W221MCZS2WPEC	
	270	22×45	0.20	1.88	410	HP32W271MCXS6WPEC	
		25×40	0.20	1.87	410	HP32W271MCYS5WPEC	
		30×30	0.20	1.79	410	HP32W271MCZS3WPEC	
	330	25×45	0.20	2.17	340	HP32W331MCYS6WPEC	
		35×25	0.20	1.98	340	HP32W331MCAS2WPEC	
		25×50	0.20	2.46	290	HP32W391MCYS7WPEC	
	390	30×35	0.20	2.27	290	HP32W391MCZS4WPEC	
		35×30	0.20	2.28	290	HP32W391MCAS3WPEC	
		470	30×40	0.20	2.61	240	HP32W471MCZS5WPEC
560	35×35	0.20	2.63	240	HP32W471MCAS4WPEC		
	30×50	0.20	3.10	200	HP32W561MCZS7WPEC		
680	35×40	0.20	3.01	200	HP32W561MCAS5WPEC		
	30×60*	0.20	3.12	170	HP32W681MCZS9WPEC		
820	35×45	0.20	3.45	170	HP32W681MCAS6WPEC		
	35×50	0.20	3.94	140	HP32W821MCAS7WPEC		
1,000	35×75	0.20	4.04	120	HP32W102MSAS12WPEC		
	40×61	0.20	4.04	120	HP32W102MSBS9WPEC		
1,200	35×100	0.20	4.99	100	HP32W122MSAS17WPEC		
	40×76	0.20	4.59	100	HP32W122MSBS12WPEC		
1,500	40×101	0.20	5.76	80	HP32W152MSBS17WPEC		

\* When the capacitor is mounted on printed circuit board, reinforce it with any mounting adhesives.

## Life time graph

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I$  versus rated ripple current at 85°C, 120Hz

