

## T-HA Series 105°C, 3000 hours

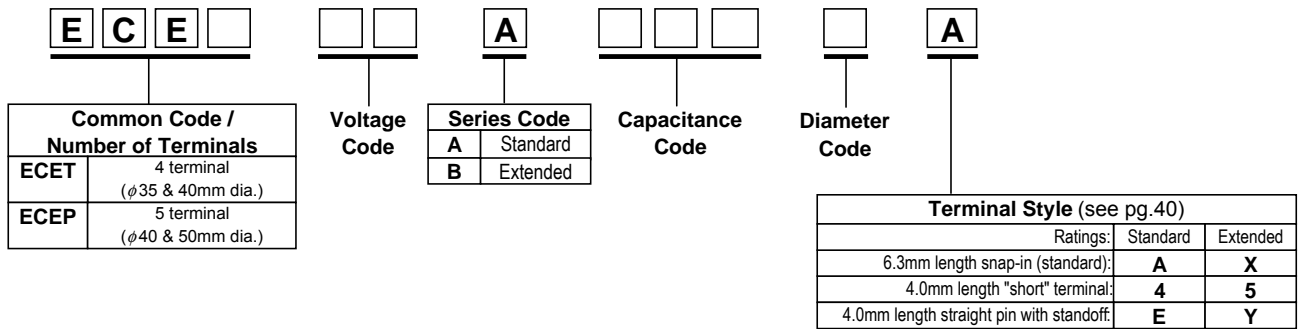
- Long Life - endurance rating of 3000 hours at 105°C
- 4 or 5 terminal mounting provides stability and keyed polarity
- Extended higher CV ratings
- Can vent construction



Rated Working Voltage:	16 ~ 250 VDC	350 ~ 450 VDC
Operating Temperature:	-40 ~ +105°C	-25 ~ +105°C
Nominal Capacitance:	1000~ 250000μF (±20% tolerance)	330 ~ 2700μF (±20% tolerance)
Leakage Current:	3√CV (μA) max. after 5 minutes; C = Capacitance in μF, V = WV	
Ripple Current Multipliers:	Frequency(Hz):	50    60    100~120    500    1k    10k~
	16~100WV:	0.93    0.95    1.0    1.05    1.08    1.15
	160~450WV:	0.75    0.8    1.0    1.2    1.25    1.4
Endurance:	3000 hours at +105°C with maximum specified ripple current (see page 6)	

\*Use of temperature ripple current multipliers may limit life to the hours specified for the maximum operating temperature.

### Part Number System



### T-HA Standard Ratings

Cap. (μF)	Size (mm) D x L	Max 105°C R.C. (A <sub>max</sub> )		Max 20°C ESR (Ω)		Panasonic Part Number
		120Hz	10kHz~	120Hz	20kHz	
<b>16 VDC Working, 20 VDC Surge</b>						
39000	35 x 40	5.10	5.87	0.022	0.020	ECET1CA393EA
47000	40 x 40	5.50	6.33	0.020	0.018	ECET1CA473FA
56000	35 x 50	6.00	6.90	0.019	0.017	ECET1CA563EA
68000	35 x 63	6.62	7.61	0.017	0.015	ECET1CA683EA
	40 x 50	7.29	8.38	0.015	0.014	ECET1CA683FA
82000	40 x 63	7.66	8.81	0.017	0.015	ECET1CA823FA
100000	35 x 80	8.03	9.23	0.015	0.013	ECET1CA104EA
120000	35 x 105	8.71	10.02	0.014	0.012	ECET1CA124EA
	40 x 80	8.79	10.11	0.014	0.012	ECET1CA124FA
	50 x 50	9.02	10.37	0.015	0.014	ECET1CA124HA
150000	40 x 105	9.88	11.36	0.013	0.012	ECET1CA154FA
	50 x 63	10.15	11.67	0.014	0.013	ECEP1CA154HA
180000	50 x 80	11.02	12.67	0.013	0.012	ECEP1CA184HA
220000	50 x 92	11.71	13.47	0.012	0.011	ECEP1CA224HA
250000	50 x 105	12.31	14.16	0.011	0.010	ECEP1CA254HA
<b>25 VDC Working, 32 VDC Surge</b>						
27000	35 x 40	4.80	5.52	0.018	0.017	ECET1EA273EA
33000	35 x 50	5.50	6.33	0.018	0.016	ECET1EA333EA
	40 x 40	5.50	6.33	0.018	0.016	ECET1EA333FA
47000	35 x 63	6.56	7.54	0.017	0.015	ECET1EA473EA
	40 x 50	6.47	7.44	0.015	0.014	ECET1EA473FA
	50 x 50	7.25	8.34	0.015	0.013	ECET1EA563EA
56000	40 x 63	7.17	8.25	0.014	0.013	ECET1EA563FA
	50 x 50	8.58	9.87	0.013	0.012	ECET1EA823EA
82000	40 x 80	8.68	9.98	0.013	0.012	ECET1EA823FA
	50 x 50	9.20	10.58	0.016	0.015	ECEP1EA823HA
	100000	40 x 105	9.76	11.22	0.012	0.010
120000	50 x 63	10.02	11.52	0.015	0.013	ECEP1EA104HA
	50 x 80	10.93	12.57	0.013	0.012	ECEP1EA124HA
150000	50 x 92	11.70	13.46	0.012	0.011	ECEP1EA154HA
180000	50 x 105	12.42	14.28	0.010	0.009	ECEP1EA184HA
<b>35 VDC Working, 44 VDC Surge</b>						
18000	35 x 40	4.30	4.95	0.028	0.021	ECET1VA183EA
22000	35 x 50	5.00	5.75	0.023	0.017	ECET1VA223EA
	40 x 40	5.00	5.75	0.023	0.017	ECET1VA223FA
27000	35 x 63	5.53	6.36	0.025	0.018	ECET1VA273EA
	40 x 50	5.44	6.26	0.020	0.015	ECET1VA273FA
33000	40 x 63	6.61	7.60	0.019	0.014	ECET1VA333FA
39000	35 x 80	6.52	7.50	0.019	0.014	ECET1VA393EA
47000	35 x 105	8.07	9.28	0.017	0.013	ECET1VA473EA
	40 x 80	7.79	8.96	0.018	0.013	ECET1VA473FA
	50 x 50	8.25	9.49	0.021	0.016	ECEP1VA473HA
56000	50 x 63	9.07	10.43	0.019	0.014	ECEP1VA563HA
68000	40 x 105	9.27	10.66	0.016	0.012	ECET1VA683FA
	50 x 80	10.07	11.58	0.017	0.013	ECEP1VA683HA
82000	50 x 92	10.89	12.52	0.015	0.011	ECEP1VA823HA
100000	50 x 105	11.75	13.51	0.013	0.010	ECEP1VA104HA
<b>50 VDC Working, 63 VDC Surge</b>						
10000	35 x 40	4.00	4.60	0.033	0.025	ECET1HA103EA
15000	35 x 50	4.80	5.52	0.022	0.018	ECET1HA153EA
	40 x 40	4.80	5.52	0.022	0.018	ECET1HA153FA
18000	35 x 63	5.27	6.06	0.020	0.016	ECET1HA183EA
22000	40 x 50	5.15	5.92	0.016	0.013	ECET1HA223FA
27000	35 x 80	6.16	7.08	0.015	0.012	ECET1HA273EA
	40 x 63	6.05	6.96	0.015	0.012	ECET1HA273FA
33000	35 x 105	7.23	8.31	0.013	0.010	ECET1HA333EA
	50 x 50	7.75	8.91	0.018	0.014	ECEP1HA333HA
	39000	40 x 80	7.55	8.68	0.014	0.011
47000	50 x 63	8.40	9.66	0.016	0.013	ECEP1HA393HA
	40 x 105	8.18	9.41	0.012	0.010	ECET1HA473FA
56000	50 x 80	9.19	10.57	0.014	0.011	ECEP1HA473HA
	50 x 92	9.79	11.26	0.012	0.009	ECEP1HA563HA
68000	50 x 105	10.42	11.98	0.011	0.009	ECEP1HA683HA

