

TS13E CDHEB



FEATURES

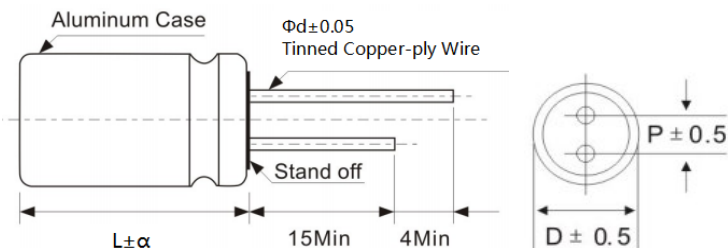
- Low ESR, high ripple current
- Load life of 2000 hours at 105°C

◆ Specifications

I T E M S		C H A R A C T E R I S T I C S									
Category Temperature Range (°C)	-55 ~ +105										
Rated Voltage Range	2.5 ~ 25V										
Capacitance Tolerance (20°C, 120Hz)	±20%										
Leakage Current	I ≤ 0.2CV or 500µA whichever is greater Less than or equal to the specified value. After 2 minutes application of rated Voltage at 20°C										
Dissipation Factor (20°C, 120Hz)	Rated Voltage (V)	2.5	4	6.3	6.8	7.5	10	12	16	20	25
	tanδ (Max.)	0.08					0.12				
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25°C)/Z(+20°C)	≤ 1.25								(100KHz)	
	Z(-55°C)/Z(+20°C)	≤ 1.25									
Endurance	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 2000 hours at 105°C.										
	Appearance	No significant damage									
	Capacitance change	≤ ±20% of the initial value									
	D.F.(tanδ)	≤ 150% of the specified value									
	ESR	≤ 150% of the specified value									
	Leakage current	≤ The specified value									
Damp Heat (Steady State)	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 1000 hours at 60°C, 90% ~ 95% RH.										
	Appearance	No significant damage									
	Capacitance change □	≤ ±20% of the initial value									
	D.F.(tanδ)	≤ 150% of the specified value									
	ESR	≤ 150% of the specified value									
	Leakage current	≤ The specified value									
Surge Voltage	Surge Voltage = Rated voltage × 1.15(V) The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through a protective resistor (Rc=1kΩ) and discharge for 5 minutes 30 seconds.										
	Appearance	No significant damage									
	Capacitance change	≤ ±20% of the initial value									
	D.F.(tanδ)	≤ 150% of the specified value									
	ESR	≤ 150% of the specified value									
	Leakage current	≤ The specified value									

Dimensions

mm



ΦD	5	6.3	8	10
P	2.0	2.5	3.5	5.0
Φd	0.5	0.6	0.6	0.6

α	(L < 16)	1.0
	(16 ≤ L < 22)	1.5
	(L ≥ 22)	2.0

* Markings: CDHEB, PB

TS13E CDHEB

◆ RATED RIPPLE CURRENT COEFFICIENT

Frequency(Hz)	$120\text{Hz} \leq f < 1\text{kHz}$	$1\text{kHz} \leq f < 10\text{kHz}$	$10\text{kHz} \leq f < 100\text{kHz}$	$100\text{kHz} \leq f < 500\text{kHz}$
Coefficient	0.05	0.30	0.70	1.00

◆ STANDARD RATINGS

Rated Voltage	Rated Capacitance (μF)	Case Size ΦDxL (mm)	ESR (mΩ) at 20°C, 100 KHz	Leakage Current (μA)	Rated Ripple Current (mArms/105°C/100kHz)
2.5	560	5x8	18	500	2900
		6.3x8	15	500	3500
	680	6.3x8	15	500	3500
		8x9	12	500	5200
	820	6.3x8	15	500	3500
		8x9	12	500	5200
	1000	8x9	12	500	5500
		8x12	12	500	5500
1200	8x9	12	600	5500	
	8x12	12	600	5500	
1500	8x12	12	750	5500	
	4	560	6.3x8	15	500
8x9			12	500	5100
680		6.3x8	15	544	3500
		8x9	12	544	5100
820		6.3x9	15	656	4100
		8x9	12	656	5100
1000		6.3x12	15	800	4100
		8x9	12	800	5100
1200	6.3x12	15	960	4500	
	8x9	12	960	5100	
6.3	220	5x7	18	500	2690
		5x8	18	500	2690
	270	5x8	18	500	2690
		5x9.5	18	500	2690
	330	6.3x8.5	15	500	3100
		5x9.5	16	500	3100
	390	6.3x8	15	500	3100
		5x9.5	15	592	3300
	470	6.3x8.5	15	592	4100
		5x11	15	706	3500
	560	6.3x8.5	15	706	4100
		8x9.5	12	706	5100
		5x12	15	857	4100
	680	6.3x8.5	15	857	4100
		8x9	12	857	5100
		6.3x9.5	15	1033	4500
820	6.3x11.5	15	1033	4800	
	8x9.5	12	1033	5100	

TS13E CDHEB

◆ STANDARD RATINGS

Rated Voltage	Rated Capacitance (μF)	Case Size ΦDxL (mm)	ESR (mΩ) at 20°C, 100 KHz	Leakage Current (μA)	Rated Ripple Current (mA _{rms} /105°C/100kHz)
6.3	1000	6.3x11.5	14	1260	4800
		8x9.5	12	1260	5100
		8x12	12	1260	5500
	1200	6.3x12	12	1512	4900
		8x9	12	1512	5100
		8x12	12	1512	5500
	1500	8x12	12	1890	5500
		10x12.5	12	1890	5900
2200	10x12.5	12	2772	5900	
	7.5	270	5x8	18	500
330		6.3x8	16	500	3100
390		6.3x8	16	585	3500
470		6.3x8	16	705	3500
560		6.3x8	16	840	3500
680		6.3x12	16	1020	3800
		8x9	12	1020	4800
820		6.3x12	16	1230	3800
		8x9	12	1230	4800
1000		8x9	12	1500	4800
		8x12	12	1500	5100
1200		8x12	12	1800	5100
		10x12.5	12	1800	5500
1500		10x12.5	12	2250	5500
10	100	5x8	20	500	1800
	150	5x8	20	500	1800
	220	5x8	20	500	2200
		6.3x8	16	500	2900
	270	6.3x8	16	540	2900
	330	5x8	20	660	2900
		6.3x8	16	660	3100
	390	6.3x8	16	780	3100
		6.3x12	16	780	3500
	470	6.3x8	16	940	3100
		8x9	14	940	4800
	560	6.3x9	16	1120	3500
		8x9	16	1120	4800
	680	6.3x11	16	1360	3500
		8x9	14	1360	4800
	820	8x9	14	1640	4800
		8x12	14	1640	5100
	1000	8x12	14	2000	5100
		10x12.5	14	2000	5500
	1500	8x12	14	3000	5300
		10x12.5	14	3000	5500

TS13E CDHEB

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Rated Voltage	Rated Capacitance (μF)	Case Size ΦDxL (mm)	ESR (mΩ) at 20°C, 100 KHz	Leakage Current (μA)	Rated Ripple Current (mA _{rms} /105°C/100kHz)
12	220	5x9	20	528	2690
		6.3x8	18	528	3160
	330	5x9.5	20	792	2800
		6.3x8	18	792	3200
	390	6.3x8	18	936	3200
	470	6.3x12	18	1128	3500
		8x9	15	1128	4100
	560	6.3x12	18	1344	3500
		8x9	15	1344	4100
	680	6.3x8.5	7	816	5100
		8x9	15	1632	4100
	820	8x12	15	1968	4500
8x12		15	2400	4500	
1000	10x12.5	12	2400	5200	
1200	10x12.5	12	2880	5200	
1500	10x12.5	12	3600	5200	
16	68	5x7	25	500	2100
	100	5x7.5	25	500	2100
		6.3x8	20	500	2100
	150	5x8	25	500	2100
	220	5x9	22	704	2690
		6.3x8.5	18	704	3100
		5x11	18	704	3100
		8x9	15	704	4100
	270	5x11	18	864	3100
		6.3x8.5	15	864	4100
		8x9	15	864	4500
	330	6.3x8.5	18	1056	3100
		6.3x11.5	18	1056	4100
		8x9	15	1056	4100
	470	6.3x11.5	18	1504	3500
		8x9.5	15	1504	4100
		8x12	15	1504	4200
		10x12	14	1504	4200
	560	8x9	18	1792	3500
		8x12	15	1792	4100
	680	8x12	15	2176	4500
		10x12	14	2176	4500
	820	8x12	15	2624	4500
		10x12	14	2624	4800
	1000	8x12	15	3200	4800
		10x12	14	3200	5200
	1200	10x12.5	14	4800	5200

Note: Specification are subject to change without notice. For more detail and update, please visit our website.

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◆ STANDARD RATINGS

Rated Voltage	Rated Capacitance (μF)	Case Size ΦDxL (mm)	ESR (mΩ) at 20°C, 100 KHz	Leakage Current (μA)	Rated Ripple Current (mA _{rms} /105°C/100kHz)
25	68	6.3x8	40	500	2100
		8x9	30	500	3500
	82	6.3x8	40	500	2150
		8x9	30	500	3800
	100	6.3x8.5	40	500	2200
		5x9	40	500	2150
	150	6.3x8	40	750	4200
		6.3x12	35	750	4300
	220	6.3x8	40	1100	3800
			35	1100	3800
		8x12	25	1100	4200
			25	1100	4800
	330	6.3x12	35	1650	3800
			25	1650	4200
		8x12	25	1650	4200
			20	1650	4800
	390	6.3x12	35	1950	4200
	470	8x12	25	2350	4200
20			2350	4800	
680	8x12	25	3400	4200	
		20	3400	4800	
820	10x12.5	20	4100	4800	
1000	10x12.5	20	5000	4800	
35	100	6.3x8.5	15	350	2900
	470	10x12	12	1645	4900

Note: Reflow soldering can only be used for SMD Conductive Polymer Aluminum Solid Electrolytic Capacitor.

Radial Conductive Polymer Aluminum Solid Electrolytic Capacitor are not suitable for reflow soldering, but only for wave soldering.

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