

# TS13E CDHCP

**FEATURES**

- Functional Polymer are used
- Low ESR at high frequency range
- High ripple current capability
- Long life and high reliability

**FEATURES**

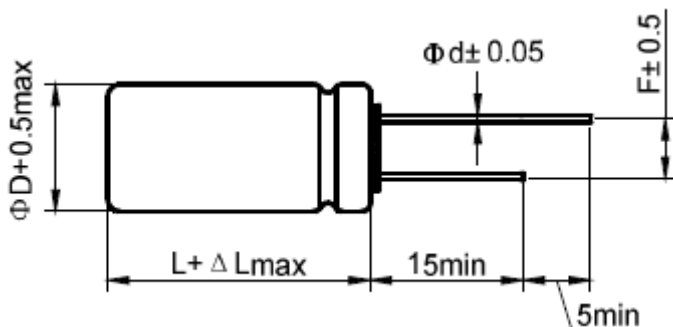
- Switching Power Supply, DC/DC Converter
- Back-up Power supply (VRM, ect)

◆ Specifications

I T E M S		C H A R A C T E R I S T I C S	
Operating Temperature Range(°C)	-55~+105		
Capacitance Range ( μF)	68~1200		
Capacitance Tolerance (20°C, 120Hz)	±20%		
Rated Voltage Range (V)	4~16		
Dissipation Factor (20°C, 120Hz)	Less than the specification (20°C, 120Hz)		
Leakage Current ( μA)	Less than the specification (20°C, 2min)		
Surge Voltage (V)	Rated Voltage X1.15		
Equivalent Series Resistance	Less than the specification (20°C, 120Hz)		
Temperature Characteristics (100Hz)	Z (105°C) / Z (20°C) ≥ 0.75 Z (-55°C) / Z (20°C) ≤ 1.25		
Loading Life 105°C, 2000h Rated Voltage Applied	Capacitance change rate	Less than ±20% of the initial value	
	Dissipation Factor	Less than 150% of the specified value	
	ESR	Less than 150% of the specified value	
	Leakage Current	Less than the specified value	
Moisture Resistance 50°C, 90%-95%RH, 100h Rated Voltage Applied	Capacitance change rate	Less than ±20% of the initial valre	
	Dissipation Factor	Less than 150% of the specified value	
	ESR	Less than 150% of the specified value	
	Leakage Current	Less than the specified value	
Surge Voltage Characteristic 105°C, 1000cycles	Capacitance change rate	Less than ±20% of the initial value	
	Dissipation Factor	Less than 150% of the specified value	
	ESR	Less than 150% of the specified value	
	Leakage Current	Less than the specified value	

◆ Dimensions

mm



Size Code	ØD x L	ΔL	Ød	F
B12	8x11.5	1.5	0.6	3.5
C13	10x12.5	1.5	0.6	5.0

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## ◆ STANDARD RATINGS

Rated Voltage (V)	Capacitance ( $\mu$ F)	Leakage Current ( $\mu$ A)	Tan $\delta$ (120Hz)	ESR (100KHz) (m $\Omega$ )	Max Ripple Current 100KHz 105°C (mA, rms)	ØDxL (mm)
4.0	510	408.0	0.080	16	4080	Ø8x11.5
	560	448.0	0.080	14	4080	Ø8x11.5
	620	496.0	0.080	13	4260	Ø8x11.5
	680	544.0	0.080	13	4840	Ø10x12.5
	750	600.0	0.080	12	5040	Ø10x12.5
	820	656.0	0.080	12	5040	Ø10x12.5
	1000	800.0	0.080	12	5040	Ø10x12.5
	1200	960.0	0.150	12	5040	Ø10x12.5
6.3	150	189.0	0.070	30	2780	Ø8x11.5
	220	277.2	0.070	30	3000	Ø8x11.5
	330	415.8	0.080	25	3500	Ø8x11.5
	390	491.4	0.080	16	3810	Ø8x11.5
	470	592.2	0.080	16	3810	Ø8x11.5
	560	705.6	0.080	14	4330	Ø10x12.5
	680	856.8	0.080	13	4840	Ø10x12.5
	820	1033.2	0.150	12	5040	Ø10x12.5
10	100	200.0	0.070	30	2670	Ø8x11.5
	150	300.0	0.070	29	3020	Ø10x12.5
	220	440.0	0.070	27	3370	Ø10x12.5
	330	660.0	0.080	21	4140	Ø10x12.5
	390	780.0	0.080	18	4510	Ø10x12.5
	470	940.0	0.080	15	4510	Ø10x12.5
16	68	217.6	0.060	36	2700	Ø8x11.5
	100	320.0	0.060	30	2740	Ø8x11.5
	150	480.0	0.060	28	3260	Ø10x12.5
	330	1056.0	0.060	14	5050	Ø10x12.5

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