

## 长寿命 / 高 CV 值 (CD29L)

- 85°C 5000 小时大型品, 长寿命, 高纹波, 适合于工业电源。  
5000h at 85°C, Larger size components, Long useful life, High ripple current, Industrial power supplies.

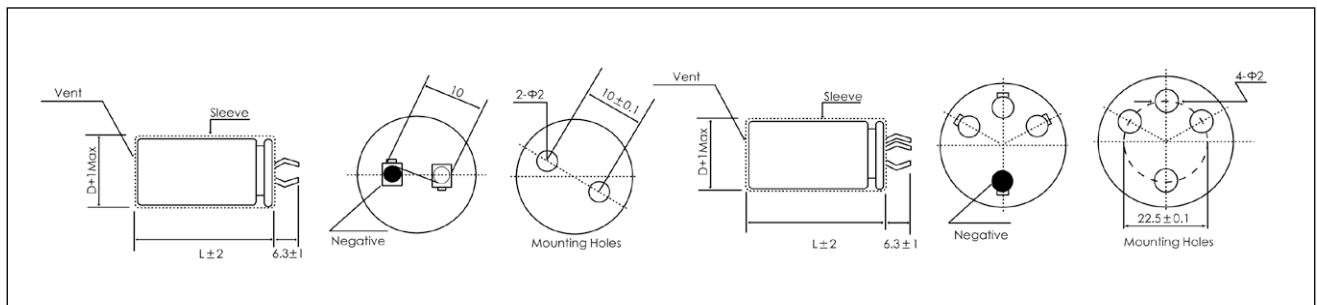


### 主要技术性能 Specifications

项目 Item	特性 Performance Characteristics								
使用温度范围 Operating Temperature Range	-40~+85°C		-25~+85°C						
额定电压范围 Rated Voltage Range	16~400V <sub>dc</sub>		450~500V <sub>dc</sub>						
标称电容量范围 Nominal Capacitance Range	390~120000 μF								
标称电容量允许偏差 Capacitance Tolerance	±20% (+20°C, 120Hz)								
漏电流 Leakage Current	I ≤ 0.01CV 或 1.5mA (20°C 5 分钟) 取较小值 (after 5 minutes at 20°C, Whichever is smaller) C: 标称容量 Nominal Capacitance(μF) V: 标称电压 Rated Voltage(V)								
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	Rated Voltage (V)	16	25	35	50	63~100	160~250	350~450	500
	tgδ (max)	0.60	0.50	0.40	0.30	0.20	0.15		
低温特性 Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	16~35	50~100	160~200	250~400	450	500		
	Z-25°C / +20°C	4	3		4				
	Z-40°C / +20°C	15	10	6	8	-			
项目 Items	使用寿命 Useful Life		负载寿命 Load Life		耐久试验 Endurance Test		高温贮存 Shelf Life		
寿命 Lifetime	7000h	>100000h	5000h		5000h		1000h		
漏电流 Leakage Current	≤初始规定值 Not more than specified value		≤初始规定值 Not more than specified value		≤初始规定值 Not more than specified value		≤初始规定值 Not more than specified value		
容量变化率 Capacitance Change	初始值 ±30% 以内 Within ±30% of initial value		初始值 ±20% 以内 Within ±20% of initial value		初始值 ±20% 以内 Within ±20% of initial value		初始值 ±20% 以内 Within ±20% of initial value		
损耗变化率 Dissipation Factor	≤初始规定值的 3 倍 Not more than 300% of specified value		≤初始规定值的 2 倍 Not more than 200% of specified value		≤初始规定值的 2 倍 Not more than 200% of specified value		≤初始规定值的 2 倍 Not more than 200% of specified value		
使用条件 Condition: 使用电压 Applied Voltage 使用电流 Applied Current 使用温度 Applied Temperature	U <sub>R</sub> I <sub>R</sub> 85°C	U <sub>R</sub> 1.2×I <sub>R</sub> 40°C	U <sub>R</sub> I <sub>R</sub> 85°C		U <sub>R</sub> I <sub>R</sub> =0 85°C		U <sub>R</sub> =0 I <sub>R</sub> =0 85°C 试验后: 施加额定电压 30 分钟后恢复 24 小时 After test U <sub>R</sub> to be applied for 30min, >24h before measurement		

### 外形图及尺寸 Diagram of Dimensions

Unit: mm



### 纹波电流修正系数 Multiplier for Ripple Current

温度系数 Temperature coefficient

Temperature (°C)	+40	+55	+70	+85
Coefficient	≤ 160V: 2.1	1.8	1.5	1.0
	≥ 160V: 1.7	1.5	1.3	1.0

频率系数 Frequency coefficient

Frequency (Hz)	50/60	120	300	1k	10k	≥ 50k
U(V) ≤ 50	0.90	1.00	1.07	1.15	1.15	1.15
63~100	0.90	1.00	1.17	1.32	1.45	1.50
≥ 160	0.80	1.00	1.16	1.30	1.41	1.45

标准品一览表 *Standard Ratings*

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Cap. (μF)	Max ESR 20°C 120Hz (mΩ)	Type ESR 20°C 120Hz (mΩ)	Rated ripple current 85°C 120Hz (Arms)	Size ΦD×L (mm)	U <sub>R</sub> (Surge Voltage) Code (V)	Rated Cap. (μF)	Max ESR 20°C 120Hz (mΩ)	Type ESR 20°C 120Hz (mΩ)	Rated ripple current 85°C 120Hz (Arms)	Size ΦD×L (mm)	
16 (20) 1C	56000	14	10	10.4	30x45	80 (100) 1K	8200	32	23	6.9	35x50	
		14	10	9.8	40x40		10000	27	19	8.7	35x60	
	68000	12	8	10.8	35x50		12000	22	16	9.7	35x70	
		12	8	11.5	40x50			22	16	9.0	40x50	
	82000	10	7	11.8	35x60		15000	18	12	10.5	35x80	
		10	7	11.8	40x50			18	12	10.2	40x60	
	100000	8	6	13.2	35x80		18000	15	10	12.3	40x80	
		8	6	13.5	40x60			100 (125) 2A	5600	47	33	7.0
	120000	7	5	15.3	35x105		47			33	7.4	40x40
		7	5	14.8	40x80		6800		39	27	8.0	35x50
33000	20	14	8.1	35x40	39	27			8.9	40x50		
	20	14	8.7	40x40	8200	32	23		9.6	35x70		
39000	17	12	9.0	35x45		32	23		9.6	40x60		
	17	12	9.6	40x40	10000	27	19		10.4	35x80		
47000	14	10	9.6	35x50		27	19		10.2	40x60		
	56000	12	8	10.3	35x60	12000	22		16	12.3	40x80	
12		8	10.8	40x50	160 (200) 2C		2200		91	63	4.9	35x45
68000	10	7	11.3	35x80		2700		74	52	5.3	35x50	
	10	7	11.8	40x60		3300	60	42	5.5	35x70		
82000	8	6	13.5	40x80			60	42	5.5	40x60		
	35 (44) 1V	27000	20	14		8.2	35x45	3900	51	36	5.9	35x80
20			14	8.0		40x40	4700		42	30	7.3	40x80
33000		16	11	8.7		35x50		200 (250) 2D	1500	133	93	4.3
		14	10	10.3		35x60	1800			111	77	4.7
39000		14	10	9.6		40x50	2200		91	63	5.4	35x50
		11	8	11.4		35x80			91	63	5.4	40x40
47000		11	8	10.8	40x60	2700	74		52	5.9	35x60	
		11	8	10.8	40x60		74		52	5.9	40x50	
56000	10	7	12.1	40x70	3300	60	42		6.5	35x80		
	8	6	14.2	40x80		60	42		6.5	40x60		
50 (63) 1H	15000	27	19	7.7	35x40	3900	51		36	7.0	40x80	
		27	19	8.1	40x40		4700		42	30	9.2	40x90
	18000	22	16	8.3	35x45	250 (300) 2E		1000	199	139	3.7	35x40
		22	16	8.3	40x40		1200		166	116	3.8	35x45
	22000	18	13	9.1	35x50		1500	133	93	4.4	35x50	
		18	13	9.4	40x50			133	93	4.5	40x40	
	27000	15	10	11.2	35x80		1800	111	77	5.0	35x70	
		15	10	10.8	40x60			111	77	5.0	40x50	
	33000	12	8	13.4	35x80		2200	91	63	5.4	35x70	
		12	8	13.4	40x70			2700	74	52	6.9	40x80
39000	10	7	15.5	40x80	63 (79) 1J		12000		22	16	8.7	35x50
	10	7	15.5	40x80				22	16	8.6	40x40	
12000	18	12	10.2	35x70		15000	18	12	9.5	40x50		
	18	12	9.5	40x50			18000	15	10	11.2	35x80	
15000	15	10	11.2	35x80		27000		15	10	10.7	40x60	
	15	10	10.7	40x60			10	7	12.7	40x80		

## 标准品一览表 Standard Ratings

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Cap. (μF)	Max ESR 20°C 120Hz (mΩ)	Type ESR 20°C 120Hz (mΩ)	Rated ripple current 85°C 120Hz (Arms)	Size ΦD×L (mm)
350 (400) 2V	680	293	205	3.6	35x45
		293	205	3.6	40x40
	820	243	170	4.5	35x60
		243	170	4.3	40x50
	1000	199	139	5.2	35x70
		199	139	4.9	40x60
	1200	166	116	5.5	35x80
		166	116	5.6	40x70
	1500	133	93	6.5	40x80
		133	93	6.2	45x70
	1800	111	77	7.9	40x100
		111	77	7.1	45x70
2200	91	63	8.7	40x100	
400 (450) 2G	560	355	249	3.2	35x50
		355	249	2.8	40x40
	680	293	205	3.7	35x60
		293	205	3.8	40x50
	820	243	170	4.2	35x60
		243	170	4.1	40x50
	1000	199	139	4.9	35x70
		199	139	4.8	40x60
		199	139	4.6	45x50
	1200	166	116	5.8	35x75
		166	116	5.5	40x60
	1500	133	93	6.9	40x100
		133	93	6.6	45x70
		133	93	6.8	45x80
	1800	111	77	7.9	40x100
		111	77	7.3	45x80
	2200	91	63	8.8	40x110
		91	63	8.3	45x90
450 (500) 2W	470	424	296	3.0	35x50
		424	296	3.0	40x40
	560	355	249	3.1	35x50
		355	249	3.3	35x60
		355	249	3.4	40x50
	680	293	205	3.5	35x60
		293	205	3.8	35x70
		293	205	3.8	40x60
	820	243	170	4.6	35x80
		243	170	4.4	40x60

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Cap. (μF)	Max ESR 20°C 120Hz (mΩ)	Type ESR 20°C 120Hz (mΩ)	Rated ripple current 85°C 120Hz (Arms)	Size ΦD×L (mm)
450 (500) 2W	1000	199	139	5.7	35x80
		199	139	5.2	40x60
	1200	166	116	5.9	40x70
		166	116	6.2	45x70
	1500	133	93	7.3	40x100
		133	93	7.0	45x80
1800	111	77	7.9	45x100	
500 (550) 2H	390	510	357	1.9	35x50
	470	424	296	2.3	35x60
	560	355	249	2.5	35x60
		355	249	2.7	40x60
	680	293	205	3.1	35x80
		293	205	2.8	40x70
	820	243	170	3.4	35x90
		243	170	3.3	40x70
	1000	199	139	3.9	40x80
		199	139	3.9	45x70
	1200	166	116	4.3	40x90
	1500	133	93	4.8	40x100

可根据客户需要定制产品 Customer products are available on request.

## 产品编码体系 Part Number System

