



BZ 系列  
Ratings for BZ Series

85°C 2000小时      2000h at 85°C  
 • 85°C 标准品      • Standard 85°C



项目 Item	特性 Characteristics																									
使用温度范围(°C) Operating Temperature Range	-40~+85	-25~+85																								
额定电压范围(V) Voltage Range	10~400	450~600																								
标称容量范围(µF) Capacitance Range	68~82000																									
标称容量允许偏差 Capacitance Tolerance(20°C, 120Hz)	± 20%																									
漏电流(µA) Leakage Current	I ≤ 0.01CV 或 1.5mA, 取较小者 (20°C, 5分钟) I ≤ 0.01CV or 1.5mA whichever is smaller (at 20°C, after 5 minutes) C: 标称容量 (µF) V: 额定电压 (V) C: Nominal Capacitance (µF) V: Rated Voltage (V)																									
损耗角正切值 (tg δ) Dissipation Factor(20°C, 120Hz)	<table border="1"> <tr> <td>额定电压 Rated Voltage(V)</td> <td>10~16</td> <td>25</td> <td>35</td> <td>50</td> <td>63~100</td> <td>160~500</td> <td>575~600</td> </tr> <tr> <td>损耗角正切值 Tan δ (Max)</td> <td>0.50</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </table>		额定电压 Rated Voltage(V)	10~16	25	35	50	63~100	160~500	575~600	损耗角正切值 Tan δ (Max)	0.50	0.40	0.35	0.30	0.20	0.15	0.20								
额定电压 Rated Voltage(V)	10~16	25	35	50	63~100	160~500	575~600																			
损耗角正切值 Tan δ (Max)	0.50	0.40	0.35	0.30	0.20	0.15	0.20																			
低温特性 Stability at Low Temperature ( Impedance Ratio at 120Hz )	<table border="1"> <tr> <td>额定电压 Rated Voltage(V)</td> <td>10</td> <td>10~35</td> <td>50~100</td> <td>160~200</td> <td>250~400</td> <td>450~500</td> <td>575~600</td> </tr> <tr> <td>Z-25°C / Z +20°C</td> <td>5</td> <td>4</td> <td></td> <td>3</td> <td></td> <td>4</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z +20°C</td> <td>18</td> <td>15</td> <td>10</td> <td>6</td> <td>8</td> <td></td> <td>—</td> </tr> </table>		额定电压 Rated Voltage(V)	10	10~35	50~100	160~200	250~400	450~500	575~600	Z-25°C / Z +20°C	5	4		3		4	6	Z-40°C / Z +20°C	18	15	10	6	8		—
额定电压 Rated Voltage(V)	10	10~35	50~100	160~200	250~400	450~500	575~600																			
Z-25°C / Z +20°C	5	4		3		4	6																			
Z-40°C / Z +20°C	18	15	10	6	8		—																			

SNAP-IN/LUG

项目 Item	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	4000h	>65000h	2000h	2000h	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 ± 15%以内 Within ± 15% of initial Value	初始值 ± 20%以内 Within ± 20% of initial Value	初始值 ± 15%以内 Within ± 15% 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1.5倍 Not more than 150% of specified value	≤ 初始规定值的2倍 Not more than 200% of specified value	≤ 初始规定值的1.5倍 Not more than 150% 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	Ur Ir 85°C	Ur 1.2×Ir 40°C	Ur Ir 85°C	Ur Ir=0 85°C	Ur=0 Ir=0 85°C  试验后: 施加额定电压30分 钟后恢复24小时 After test: Ur to be applied for 30min >24h before measurement

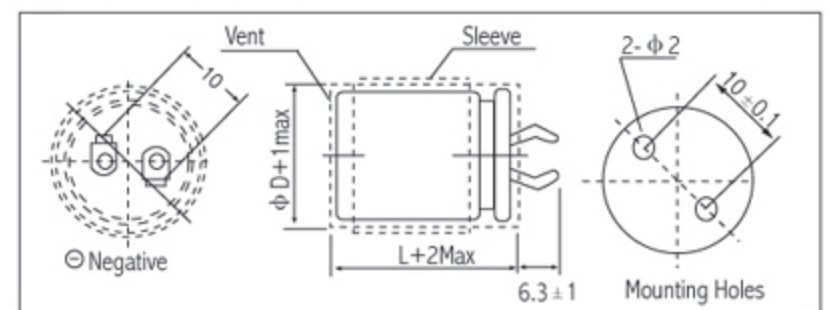
CD 293 系列

Ratings for CD 293 Series

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C 120HZ	Typ ESR 20°C 120HZ	Rated Ripple Current 85°C 120HZ	Size Φ DXL
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
10 (13) 1A	10000	54	43	2.5	22×25
	12000	45	36	2.9	22×25
	15000	36	29	3.2	22×30
		36	29	3.1	25×25
	18000	30	24	3.6	22×35
		30	24	3.6	25×30
	22000	25	20	4	22×40
		25	20	4.1	25×35
		25	20	4.1	30×25
	33000	17	13	4.6	25×40
		17	13	4.8	30×30
		17	13	4.8	35×25
	39000	14	10.9	5.2	25×45
		14	10.9	5.2	30×35
	47000	12	9.1	5.8	25×50
		12	9.1	6	30×40
		12	9.1	6	35×30
	56000	9.5	7.6	6.7	30×45
9.5		7.6	6.8	35×35	
68000	7.9	6.3	7.5	30×50	
	7.9	6.3	7.7	35×40	
82000	6.5	5.2	8.7	35×45	
16 (20) 1C	8200	65	52	2.2	22×25
	10000	54	43	2.6	22×30
		54	43	2.6	25×25
	12000	45	36	2.9	22×35
		36	29	3.3	22×40
	15000	36	29	3.3	25×30
		36	29	3.4	30×25
	18000	30	24	3.8	22×45
		30	24	3.7	25×35
	22000	25	20	4.2	22×50
		25	20	4.2	25×40
		25	20	4.2	30×30
	27000	20	16	5	25×45
		20	16	5	30×35
		20	16	5	35×25
	33000	17	13	5.6	30×40
		17	13	5.6	35×30
	39000	14	11	6.2	30×45
14		11	6.3	35×35	
47000	12	9.1	7	30×50	
	12	9.1	7.2	35×40	
	12	9.1	7.2	40×30	
56000	9.5	7.6	8	35×45	
	9.5	7.6	8	40×35	
25 (32) 1E	5600	83	67	2	22×25
	6800	69	55	2.3	22×30
		69	55	2.3	25×25
	8200	57	46	2.6	22×35
		47	38	2.9	22×40
	10000	47	38	2.8	25×30
47		38	3	30×25	

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C 120HZ	Typ ESR 20°C 120HZ	Rated Ripple Current 85°C 120HZ	Size Φ DXL
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)
25 (32) 1E	12000	39	31	3.3	22×45
		39	31	3.2	25×35
		39	31	3.4	30×30
	15000	31	25	3.7	25×40
		31	25	3.9	35×25
	18000	26	21	4.3	22×50
		26	21	4.2	30×35
		26	21	4.4	35×30
	22000	22	17	4.8	35×40
		22	17	5	35×35
	33000	15	12	6.5	35×40
	39000	12	10	7.5	35×45
35 (44) 1V	3300	100	81	1.8	22×25
	3900	86	69	2.1	22×30
	4700	71	57	2.2	25×25
	5600	72	57	2.3	22×35
		72	57	2.3	25×30
	6800	59	47	2.9	22×40
		59	47	2.6	25×35
		59	47	2.7	30×25
	8200	57	46	2.8	22×50
		57	46	2.8	25×40
		57	46	2.8	30×30
	50 (63) 1H	10000	47	38	3.1
47			38	3.2	30×35
47			38	3.2	35×25
12000		39	31	3.5	25×50
		39	31	3.5	30×40
		39	31	3.6	35×30
15000	31	25	4.1	30×45	
	31	25	4.1	35×35	
	31	25	4.1	40×25	
18000	26	21	4.6	30×50	
	26	21	4.7	35×40	
	26	21	4.7	40×30	
22000	22	17	5.3	35×45	
27000	18	14	7	35×50	
50 (63) 1H	2200	120	97	1.7	22×25
		100	79	1.9	22×30
	2700	100	79	1.9	25×25
		100	79	1.9	25×35
	3900	86	69	2.1	22×35
86		69	2.1	25×30	
86		69	2.4	30×25	

外形图尺寸表 Dimensions



频率系数 Frequency Coefficient

额定电压 Rated voltage(V)	频率 Frequency	50Hz	120Hz	1KHz	10KHz	100KHz
≤50		0.95	1.00	1.10	1.15	1.15
63~100		0.95	1.00	1.16	1.30	1.33
≥160		0.95	1.00	1.20	1.35	1.40

# CD 293 Series



**THREECON**  
新三能电子 SUNION ELECTRONIC

## CD 293 系列

Ratings for CD 293 Series

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
50 (63) 1H	4700	71	57	2.4	22×40
		71	57	2.4	25×35
	5600	72	57	2.5	22×50
		72	57	2.5	25×40
		72	57	2.5	30×30
		72	57	2.6	35×25
	6800	59	47	2.8	25×45
		59	47	2.8	30×35
	8200	57	46	3.2	25×50
		57	46	3	30×40
		57	46	3	35×30
	10000	47	38	3.4	30×45
		47	38	3.4	35×35
	12000	39	31	3.8	30×50
39		31	3.8	35×40	
15000	31	25	4.5	35×50	
63 (79) 1J	1500	135	107	1.6	22×25
	1800	110	89	1.8	22×30
	2200	91	73	2	22×30
		91	73	2	25×25
	2700	74	59	2.2	22×35
		74	59	2.3	25×30
	3300	81	65	2.3	22×40
		81	65	2.3	25×35
		81	65	2.3	30×25
	3900	69	55	2.5	22×45
		69	55	2.6	25×40
		69	55	2.6	30×30
		69	55	2.7	35×25
	5600	48	38	3.1	25×45
		48	38	3.2	30×35
		48	38	3.3	35×30
	6800	40	32	3.6	30×40
		40	32	3.7	35×35
	8200	41	33	3.7	30×50
		41	33	3.8	35×40
	10000	34	27	4.3	35×45
	12000	28	23	4.8	35×50
80 (100) 1K	1000	200	160	1.3	22×25
	1200	165	133	1.5	22×30
	1500	133	107	1.7	25×25
	1800	111	89	1.9	22×35
		111	89	1.9	25×30
	2200	91	73	2.1	22×40
		91	73	2.2	25×35
		91	73	2.2	30×25
	2700	74	59	2.5	22×50
		74	59	2.5	25×40
		74	59	2.5	30×30
		74	59	2.5	35×25
	3300	61	49	2.8	25×45
		61	49	2.8	30×35
	3900	52	41	3.1	25×50
		52	41	3.2	30×40
		52	41	3.2	35×30
	4700	43	34	3.6	30×45
		43	34	3.6	35×35
	5600	48	38	3.5	30×50
		48	38	3.5	35×40
	6800	40	32	4.1	35×50
100 (125) 2A	680	293	235	1.1	22×25
	820	243	195	1.2	22×30
	1000	200	160	1.4	25×25
	1200	166	133	1.6	22×35
		166	133	1.6	25×30
1500	133	107	1.8	22×40	

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
100 (125) 2A	1500	133	107	1.7	25×35
		133	107	1.8	30×25
	1800	111	89	2.1	22×50
		111	89	2	25×40
		111	89	2.1	30×30
		111	89	2.2	35×25
		111	89	2.2	35×25
	2200	91	73	2.2	25×45
		91	73	2.3	30×35
		91	73	2.5	35×30
	2700	74	59	2.6	25×50
		74	59	2.7	30×40
	3300	61	49	3	30×45
		61	49	3.1	35×35
3900	52	41	3.4	30×50	
	52	41	3.4	35×40	
4700	43	34	4	35×50	
160 (200) 2C	220	600	483	1.1	22×25
	270	490	393	1.2	22×25
	330	400	322	1.3	22×25
	390	341	273	1.5	22×30
		341	273	1.5	25×25
	470	283	226	1.6	25×30
		237	190	1.9	22×35
	560	237	190	1.9	25×30
		237	190	2	30×25
		237	190	2	30×25
	680	196	157	2.1	22×40
		196	157	2.2	25×35
	820	162	130	2.5	22×50
		162	130	2.4	25×40
		162	130	2.5	30×30
		195	156	2.4	35×25
	1000	133	107	2.7	25×45
		133	107	2.8	30×35
		160	128	2.7	35×30
	1200	111	89	3.1	25×50
		111	89	3.2	30×40
		133	107	3.0	35×35
1500	89	71	3.7	30×45	
	107	85	3.5	35×40	
1800	89	71	3.9	35×45	
2200	73	58	4.5	35×50	
180 (225) 2K	270	495	393	1.2	22×25
	330	400	322	1.4	22×30
	390	340	273	1.5	25×25
	470	283	226	1.7	22×35
		283	226	1.7	25×30
		283	226	1.8	30×25
	560	237	190	1.9	22×40
		237	190	2.0	25×35
	680	196	157	2.3	22×50
		196	157	2.2	25×40
		196	157	2.3	30×30
		235	188	2.2	35×25
	820	162	130	2.5	25×45
		162	130	2.6	30×35
		195	156	2.5	35×30
	1000	133	107	2.9	25×50
		133	107	2.9	30×40
	1200	111	89	3.3	30×45
		133	107	3.1	35×35
	1500	107	85	3.6	35×45
	1800	89	71	4.1	35×50
	200 (250) 2D	220	600	483	1.1
270		492	393	1.2	22×30
		402	322	1.4	22×30
330	402	322	1.5	25×25	

SNAP-IN/LUG

CD 293 系列  
Ratings for CD 293 Series

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
200 (250) 2D	390	341	273	1.6	22×35
		341	273	1.6	25×30
	470	283	226	1.8	22×40
		283	226	1.9	30×25
	560	237	190	2.0	22×45
		237	190	2.0	25×35
		237	190	2.1	30×30
		285	228	2.0	35×25
	680	196	157	2.3	25×40
		196	157	2.4	30×35
	820	162	130	2.6	25×50
		162	130	2.7	30×40
		195	156	2.5	35×30
	1000	133	107	3.1	30×45
		160	128	2.8	35×35
1200	111	89	3.4	30×50	
	133	107	3.2	35×40	
1500	107	85	3.8	35×50	
250 (300) 2E	100	1990	1592	0.68	22×25
	180	1106	885	0.94	22×25
	220	905	724	1.1	22×30
		905	724	1.1	25×25
	270	737	590	1.2	22×35
		603	483	1.4	22×40
	330	603	483	1.4	25×30
		603	483	1.4	30×25
	390	511	409	1.6	22×45
		511	409	1.6	25×35
	470	424	339	1.8	22×50
		424	339	1.8	25×40
		424	339	1.8	30×30
		424	339	2.4	35×25
	560	356	285	2.0	25×45
		356	285	2.0	30×35
	680	293	235	2.3	30×40
		293	235	2.6	35×30
820	243	195	2.6	30×45	
	243	195	2.6	35×35	
1000	199	160	3.0	35×40	
1200	166	133	3.4	35×45	
315 (365) 2F	100	1990	1592	0.67	22×25
	150	1327	1062	0.85	22×30
		1327	1062	0.85	25×25
	180	1106	885	0.96	22×35
		1106	885	0.96	25×30
	220	905	724	1.1	22×40
		905	724	1.1	25×35
		905	724	1.1	30×25
	270	737	590	1.2	22×45
		737	590	1.3	25×40
		737	590	1.3	30×30
		737	590	1.3	35×25
	330	603	483	1.4	25×45
		603	483	1.4	30×35
	390	511	409	1.6	25×50
		511	409	1.6	30×40
		511	409	1.6	35×30
	470	424	339	1.8	30×45
424		339	1.8	35×35	
560	356	285	2.0	30×50	
	356	285	2.0	35×40	
680	293	235	2.3	35×45	
350 (400) 2V	82	2427	1941	0.64	22×25
	100	1990	1592	0.80	22×25
	120	1658	1372	0.82	22×30
		1658	1372	0.81	25×25

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
350 (400) 2V	150	1327	1062	0.94	22×35
		1327	1062	0.94	25×30
	180	1106	885	1.1	22×40
		1106	885	1.1	30×25
	220	905	724	1.2	22×45
		905	724	1.2	25×35
		905	724	1.2	30×30
		905	724	1.3	35×25
	270	737	590	1.4	25×45
		737	590	1.4	30×35
	330	603	483	1.6	25×50
		603	483	1.6	35×30
	390	511	409	1.7	30×40
		511	409	1.8	35×35
	470	424	339	2.0	35×35
		424	339	2.0	35×40
	560	356	285	2.3	35×45
	680	293	235	2.6	35×50
820	243	195	2.8	35×60	
400 (450) 2G	68	2926	2341	0.55	22×25
	82	2427	1941	0.65	22×25
	100	1990	1592	0.70	22×30
		1990	1592	0.70	25×25
	120	1658	1327	0.79	22×35
	150	1327	1062	0.90	25×30
		1327	1062	0.90	22×40
		1327	1062	0.90	30×25
	180	1106	885	1.0	22×45
		1106	885	1.0	25×35
		1106	885	1.1	30×30
		1106	885	1.2	35×25
	220	905	724	1.1	22×50
		905	724	1.2	25×40
		905	724	1.2	30×35
	270	737	590	1.3	25×45
		737	590	1.4	25×50
		737	590	1.5	30×40
737		590	1.5	30×40	
330	603	483	1.6	35×30	
	603	483	1.7	30×45	
390	511	409	1.8	35×35	
	511	409	1.8	30×50	
470	422	339	2.1	35×45	
560	356	285	2.3	35×50	
680	293	195	2.88	35×50	
820	243	162	3.42	35×60	
	243	162	3.42	40×50	
1000	199	133	3.91	35×65	
	199	133	3.91	40×60	
1200	166	111	4.7	35×80	
	166	111	4.4	40×70	
1500	133	88	5.6	40×80	
	133	88	5.2	45×70	
1800	111	74	6.5	40×90	
	111	74	6.2	45×80	
2200	90	60	7.6	40×100	
	90	60	7.2	45×90	
450 (500) 2W	68	2926	2341	0.57	22×30
	82	2427	1941	0.68	25×35
	100	1990	1592	0.72	22×35
		1990	1592	0.73	25×30
	120	1658	1327	0.8	22×40
		1658	1327	0.83	25×35
	150	1327	1062	0.95	25×40
		1327	1062	0.95	30×30
		1327	1062	0.98	35×25
	180	1106	885	1.1	25×45



CD 293 系列  
Ratings for CD 293 Series

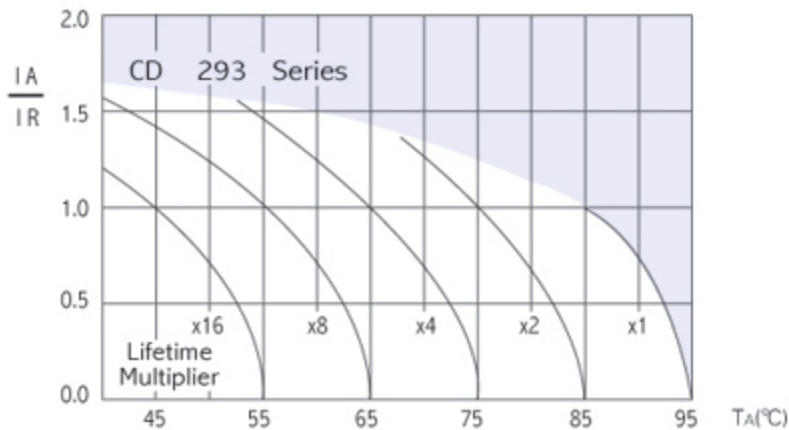
U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
450 (500) 2W	180	1106	885	1.1	30×35
		1106	885	1.2	35×25
	220	905	724	1.2	25×50
		905	724	1.3	30×40
		905	724	1.3	35×30
	270	737	590	1.4	30×45
		737	590	1.5	35×35
	330	603	483	1.7	30×50
	390	511	409	1.9	35×45
	470	424	339	2.2	35×50
	560	355	237	2.61	35×50
	680	293	195	3.00	35×55
	820	243	162	3.54	35×65
	1000	199	133	4.04	35×70
		199	133	3.90	40×60
	1200	166	111	4.7	35×80
		166	111	4.50	40×70
	1500	133	88	5.9	40×90
		133	88	5.6	45×70
	1800	111	74	6.8	40×100
111		74	6.8	45×90	
2200	90	60	8.1	45×100	
500 (550) 2H	100	1990	1592	0.9	30×25
		1658	1327	1	30×30
	120	1658	1327	1	35×25
		1327	1062	1.2	30×35
	180	1106	885	1.4	30×40
		1106	885	1.3	35×30
	220	905	724	1.6	30×45
		905	724	1.5	35×35
	270	737	590	1.8	30×50
		737	590	1.7	35×40
	330	603	483	2.0	35×45
	390	511	409	2.3	35×50
	470	424	296	2.6	35×60
	560	355	249	2.9	35×70
		355	249	2.9	40×60
	680	293	205	3.2	35×80
		293	205	3.2	40×70
	820	243	170	3.5	35×90
		243	170	3.5	40×80
	1000	199	139	3.9	40×80
199		139	3.9	45×70	
1200	166	116	4.3	40×90	
1500	133	93	4.8	40×100	

U <sub>R</sub> (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 120HZ (mΩ)	Typ ESR 20°C 120HZ (mΩ)	Rated Ripple Current 85°C 120HZ (Arms)	Size Φ DXL (mm)
575 (625) 2Z	180	1106	627	1.15	30×45
		905	513	1.30	30×50
	270	737	418	1.55	30×60
		737	418	1.55	35×45
	330	603	342	1.75	30×70
		603	342	1.75	35×50
		603	342	1.75	40×45
	390	510	289	1.95	30×85
		510	289	1.95	35×60
		510	289	1.95	40×55
	470	423	240	2.15	35×70
		423	240	2.15	40×60
		423	240	2.15	45×50
	560	355	201	2.40	35×80
		355	201	2.40	40×70
	680	355	201	2.40	45×55
		293	166	2.72	35×95
		293	166	2.72	40×80
	820	293	166	2.72	45×65
		243	138	3.05	40×100
1000	243	138	3.05	45×75	
	199	113	3.20	45×90	
1200	199	113	3.20	50×75	
	166	94	3.35	45×105	
1500	166	94	3.35	50×85	
	133	75	3.50	50×100	
600 (650) 2S	150	1327	752	0.95	30×45
		1106	627	1.10	30×50
	220	905	495	1.22	30×60
		737	403	1.25	30×70
	330	603	330	1.35	30×80
		603	330	1.35	40×50
	390	510	279	1.48	40×60
	470	423	232	1.65	40×70
		423	232	1.65	45×55
	560	355	194	1.75	40×80
		355	194	1.75	45×60
	680	293	160	1.83	40×90
		293	160	1.83	45×70
	820	243	133	2.00	45×85
		243	133	2.00	50×70
	1000	199	109	2.25	45×100
		199	109	2.25	50×80
	1200	166	91	2.45	50×95

SNAP-IN/LUG

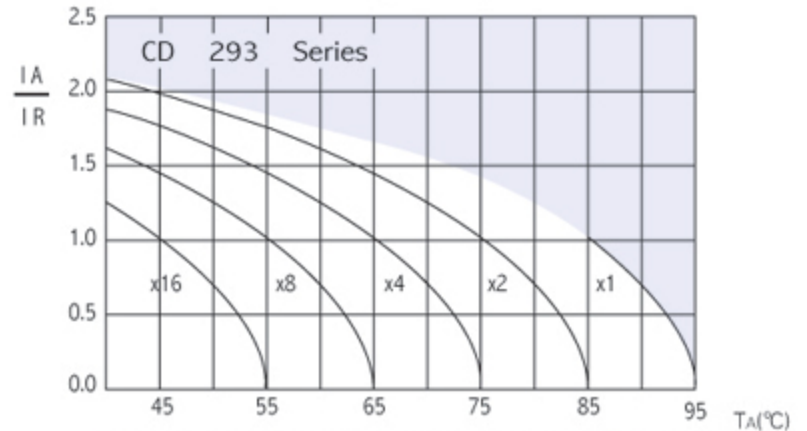
寿命曲线 Lifetime Diagram

Lifetime Diagram U<sub>R</sub> ≥ 160V



I<sub>A</sub> = actual ripple current at 120HZ, I<sub>R</sub> = rated ripple current at 120HZ, 85°C  
Multiplier of Useful Life as a function of ambient temperature and ripple current load

Lifetime Diagram U<sub>R</sub> < 160V



I<sub>A</sub> = actual ripple current at 120HZ, I<sub>R</sub> = rated ripple current at 120HZ, 85°C  
Multiplier of Useful Life as a function of ambient temperature and ripple current load