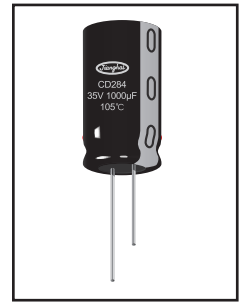
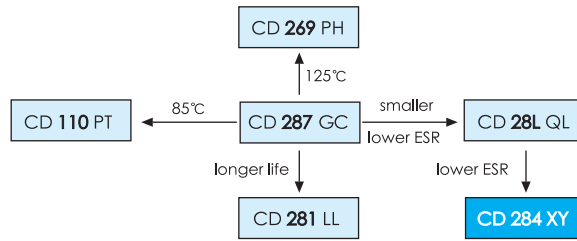


2000 - 5000h at 105°C

- Lowest Impedance
- High Ripple Current
- Switching Power Supplies

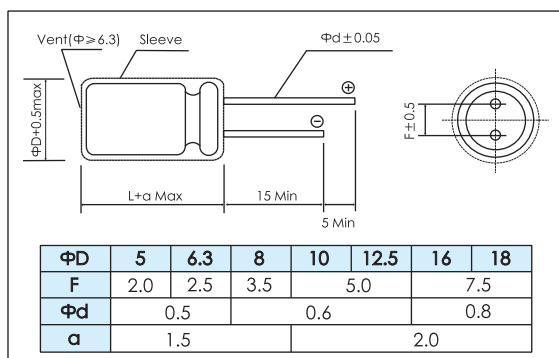


Items	Characteristics																														
Operating Temperature Range (°C)	-40 ~ +105																														
Voltage Range (V)	6.3 ~ 100																														
Capacitance Range (µF)	6.8 ~ 6800																														
Capacitance Tolerance (20°C, 120Hz)	± 20%																														
Leakage Current (µA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 3, whichever is greater. C: Nominal Capacitance (µF) V: Rated Voltage (V)																														
Dissipation Factor (20°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08												
	Rated Voltage (V)	6.3	10	16	25	35	50	63	100																						
Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																							
For Capacitances >1000µF add 0.02 to every 1000µF																															
Stability at Low Temperature (Impedance Ratio at 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Z<sub>-25°C</sub> / Z<sub>+20°C</sub></td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z<sub>-40°C</sub> / Z<sub>+20°C</sub></td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	63	80	100	Z <sub>-25°C</sub> / Z <sub>+20°C</sub>	4	3	2	2	2	2	2	2	2	Z <sub>-40°C</sub> / Z <sub>+20°C</sub>	12	10	8	6	4	3	3	3	3
	Rated Voltage (V)	6.3	10	16	25	35	50	63	80	100																					
	Z <sub>-25°C</sub> / Z <sub>+20°C</sub>	4	3	2	2	2	2	2	2	2																					
Z <sub>-40°C</sub> / Z <sub>+20°C</sub>	12	10	8	6	4	3	3	3	3																						

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	$\Phi \leq 6.3$ : 4000h $\Phi 8$ : 6000h $\Phi 10$ : 8000h $\Phi 12.5$ : 10000h	$\Phi \geq 8$ : > 250000h	$\Phi \leq 6.3$ : 2000h $\Phi 8$ : 3000h $\Phi 10$ : 4000h $\Phi 12.5$ : 5000h	$\Phi \leq 6.3$ : 2500h $\Phi 8$ : 3500h $\Phi 10$ : 5000h $\Phi 12.5$ : 6000h	1000h
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 50% of initial value		Within ± 25% of initial value	Within ± 25% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	$U_R$ $I_R$ 105°C	$U_R$ $1.4 \times I_R$ 40°C	$U_R$ $I_R$ 105°C	$U_R$ $I_R = 0$ 105°C	After test: $U_R$ to be applied for 30min >24h before measurement

## Dimensions

mm



## Frequency Coefficient

Cap (µF)	Frequency			
	120Hz	1kHz	10kHz	100kHz
6.8 ~ 33	0.42	0.70	0.90	1.00
39 ~ 270	0.50	0.73	0.92	1.00
330 ~ 680	0.55	0.88	0.98	1.00
820 ~ 1800	0.66	0.90	0.99	1.00
2200 ~ 6800	0.70	0.92	1.00	1.00

## Temperature Coefficient

Temperature(°C)	<65	+80	+105
Coefficient	2.0	1.7	1.0

# CD 284 XY SERIES



## Ratings for CD 284 XY Series

U <sub>k</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Max Imp 20°C, 100kHz	Max Imp -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(Ω)	(Ω)	(mA rms)	(mm)	-
6.3 (7.2) 0J	150	1.946	0.3	1.0	250	5×11.5	ECR0JXY151M□□050011
	330	0.885	0.13	0.41	405	6.3×11.5	ECR0JXY331M□□063011
	560	0.521	0.072	0.22	760	8×11.5	ECR0JXY561M□□080011
	820	0.356	0.056	0.17	995	8×16	ECR0JXY821M□□080016
	1000	0.292	0.053	0.16	1030	10×12.5	ECR0JXY102M□□100012
	1200	0.243	0.041	0.13	1250	8×20	ECR0JXY122M□□080020
		0.243	0.038	0.12	1430	10×16	ECR0JXY122M□□100016
	1500	0.195	0.023	0.069	1820	10×20	ECR0JXY152M□□100020
	2200	0.145	0.022	0.066	2150	10×25	ECR0JXY222M□□100025
	3300	0.105	0.021	0.053	2360	12.5×20	ECR0JXY332M□□125020
	3900	0.088	0.018	0.045	2770	12.5×25	ECR0JXY392M□□125025
	4700	0.079	0.016	0.041	3290	12.5×30	ECR0JXY472M□□125030
		5600	0.071	0.015	0.039	3400	12.5×35
			0.071	0.018	0.045	3140	16×20
6800	0.062	0.016	0.043	3460	16×25	ECR0JXY682M□□160025	
10 (13) 1A	100	2.521	0.30	1.0	250	5×11.5	ECR1AXY101M□□050011
	220	1.146	0.13	0.41	405	6.3×11.5	ECR1AXY221M□□063011
	470	0.536	0.072	0.22	760	8×11.5	ECR1AXY471M□□080011
	680	0.371	0.056	0.17	995	8×16	ECR1AXY681M□□080016
		0.371	0.053	0.16	1030	10×12.5	ECR1AXY681M□□100012
	1000	0.252	0.041	0.13	1250	8×20	ECR1AXY102M□□080020
		0.252	0.038	0.12	1430	10×16	ECR1AXY102M□□100016
	1200	0.210	0.023	0.069	1820	10×20	ECR1AXY122M□□100020
	1500	0.168	0.022	0.066	2150	10×25	ECR1AXY152M□□100025
	2200	0.127	0.021	0.053	2360	12.5×20	ECR1AXY222M□□125020
	3300	0.092	0.018	0.045	2770	12.5×25	ECR1AXY332M□□125025
	3900	0.078	0.016	0.041	3290	12.5×30	ECR1AXY392M□□125030
		0.078	0.018	0.045	3140	16×20	ECR1AXY392M□□160020
	4700	0.071	0.015	0.039	3400	12.5×35	ECR1AXY472M□□125035
5600	0.064	0.016	0.043	3460	16×25	ECR1AXY562M□□160025	
16 (20) 1C	56	3.791	0.30	1.0	250	5×11.5	ECR1CXY560M□□050011
	120	1.769	0.13	0.41	405	6.3×11.5	ECR1CXY121M□□063011
	330	0.643	0.072	0.22	760	8×11.5	ECR1CXY331M□□080011
	470	0.452	0.056	0.17	995	8×16	ECR1CXY471M□□080016
		0.452	0.053	0.16	1030	10×12.5	ECR1CXY471M□□100012
	680	0.312	0.041	0.13	1250	8×20	ECR1CXY681M□□080020
		0.312	0.038	0.12	1430	10×16	ECR1CXY681M□□100016
	1000	0.212	0.023	0.069	1820	10×20	ECR1CXY102M□□100020
	1200	0.177	0.022	0.066	2150	10×25	ECR1CXY122M□□100025
	1500	0.142	0.021	0.053	2360	12.5×20	ECR1CXY152M□□125020
	2200	0.109	0.018	0.045	2770	12.5×25	ECR1CXY222M□□125025
	2700	0.088	0.016	0.041	3290	12.5×30	ECR1CXY272M□□125030
		0.088	0.018	0.045	3140	16×20	ECR1CXY272M□□160020
	3300	0.080	0.015	0.039	3400	12.5×35	ECR1CXY332M□□125035
3900	0.068	0.016	0.043	3460	16×25	ECR1CXY392M□□160025	

U <sub>k</sub> (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Max Imp 20°C, 100kHz	Max Imp -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(Ω)	(Ω)	(mA rms)	(mm)	-
25 (32) 1E	47	3.953	0.30	1.0	250	5×11.5	ECR1EXY470M□□050011
	100	1.858	0.13	0.41	405	6.3×11.5	ECR1EXY101M□□063011
	220	0.844	0.072	0.22	760	8×11.5	ECR1EXY221M□□080011
	330	0.563	0.056	0.17	995	8×16	ECR1EXY331M□□080016
		0.563	0.053	0.16	1030	10×12.5	ECR1EXY331M□□100012
	470	0.395	0.041	0.13	1250	8×20	ECR1EXY471M□□080020
		0.395	0.038	0.12	1430	10×16	ECR1EXY471M□□100016
	680	0.273	0.023	0.069	1820	10×20	ECR1EXY681M□□100020
	820	0.227	0.022	0.066	2150	10×25	ECR1EXY821M□□100025
	1000	0.186	0.021	0.053	2360	12.5×20	ECR1EXY102M□□125020
	1500	0.124	0.018	0.045	2770	12.5×25	ECR1EXY152M□□125025
	1800	0.103	0.016	0.041	3290	12.5×30	ECR1EXY182M□□125030
		0.103	0.018	0.045	3140	16×20	ECR1EXY182M□□160020
	2200	0.097	0.015	0.039	3400	12.5×35	ECR1EXY222M□□125035
2700	0.079	0.016	0.043	3460	16×25	ECR1EXY272M□□160025	
35 (44) 1V	33	4.825	0.30	1.0	250	5×11.5	ECR1VXY330M□□050011
	56	2.843	0.13	0.41	405	6.3×11.5	ECR1VXY560M□□063011
	150	1.062	0.072	0.22	760	8×11.5	ECR1VXY151M□□080011
	220	0.724	0.056	0.17	995	8×16	ECR1VXY221M□□080016
		0.724	0.053	0.16	1030	10×12.5	ECR1VXY221M□□100012
	270	0.590	0.041	0.13	1250	8×20	ECR1VXY271M□□080020
	330	0.483	0.038	0.12	1430	10×16	ECR1VXY331M□□100016
	470	0.339	0.023	0.069	1820	10×20	ECR1VXY471M□□100020
	560	0.284	0.022	0.066	2150	10×25	ECR1VXY561M□□100025
	680	0.234	0.021	0.053	2360	12.5×20	ECR1VXY681M□□125020
	1000	0.159	0.018	0.045	2770	12.5×25	ECR1VXY102M□□125025
	1200	0.133	0.016	0.041	3290	12.5×30	ECR1VXY122M□□125030
		0.133	0.018	0.045	3140	16×20	ECR1VXY122M□□160020
	1500	0.106	0.015	0.039	3400	12.5×35	ECR1VXY152M□□125035
1800	0.088	0.016	0.043	3460	16×25	ECR1VXY182M□□160025	
50 (63) 1H	22	6.032	0.34	1.18	238	5×11.5	ECR1HXY220M□□050011
	56	2.370	0.14	0.50	385	6.3×11.5	ECR1HXY560M□□063011
	100	1.327	0.074	0.22	724	8×11.5	ECR1HXY101M□□080011
	120	1.106	0.061	0.18	950	8×16	ECR1HXY121M□□080016
	150	0.885	0.061	0.18	979	10×12.5	ECR1HXY151M□□100012
	180	0.737	0.046	0.14	1190	8×20	ECR1HXY181M□□080020
	220	0.603	0.042	0.12	1370	10×16	ECR1HXY221M□□100016
	270	0.491	0.030	0.090	1580	10×20	ECR1HXY271M□□100020
	330	0.402	0.028	0.085	1870	10×25	ECR1HXY331M□□100025
	470	0.282	0.027	0.068	2050	12.5×20	ECR1HXY471M□□125020
	560	0.237	0.023	0.059	2410	12.5×25	ECR1HXY561M□□125025
	680	0.195	0.021	0.052	2860	12.5×30	ECR1HXY681M□□125030
	820	0.162	0.019	0.051	2960	12.5×35	ECR1HXY821M□□125035
		0.162	0.023	0.059	2730	16×20	ECR1HXY821M□□160020
1000	0.133	0.021	0.056	3010	16×25	ECR1HXY102M□□160025	

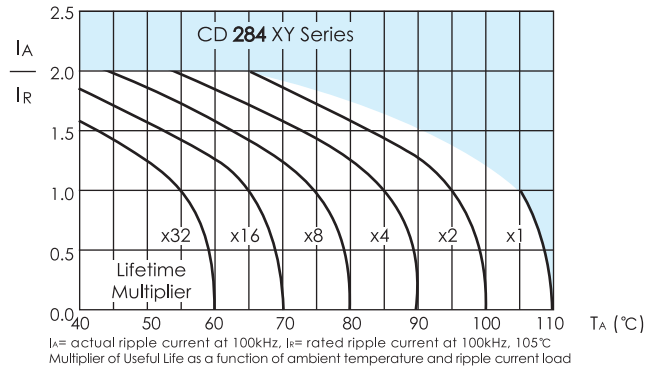
MINIATURE

## Ratings for CD 284 XY Series

U <sub>r</sub> (Surge Voltage) Code	Rated Capa- cance	Max ESR 20°C, 120Hz	Max Imp 20°C, 100kHz	Max Imp -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size ΦD x L	P/N
(V)	(μF)	(Ω)	(Ω)	(Ω)	(mA <sub>rms</sub> )	(mm)	-
63 (79) 1J	15	7.962	0.88	3.5	165	5×11.5	ECR1JXY150M□□050011
	33	3.619	0.35	1.4	265	6.3×11.5	ECR1JXY330M□□063011
	56	2.133	0.22	0.88	500	8×11.5	ECR1JXY560M□□080011
	82	1.456	0.16	0.64	665	8×16	ECR1JXY820M□□080016
		1.456	0.15	0.60	685	10×12.5	ECR1JXY820M□□100012
	120	0.995	0.12	0.48	820	8×20	ECR1JXY121M□□080020
		0.995	0.11	0.44	945	10×16	ECR1JXY121M□□100016
	180	0.663	0.080	0.32	1100	10×20	ECR1JXY181M□□100020
		0.663	0.082	0.27	1135	12.5×16	ECR1JXY181M□□125016
	220	0.543	0.073	0.29	1300	10×25	ECR1JXY221M□□100025
	270	0.442	0.060	0.20	1495	12.5×20	ECR1JXY271M□□125020
	330	0.362	0.043	0.14	1850	12.5×25	ECR1JXY331M□□125025
	470	0.254	0.039	0.13	2250	12.5×30	ECR1JXY471M□□125030
		0.254	0.045	0.14	1990	16×20	ECR1JXY471M□□160020
	560	0.213	0.033	0.11	2450	12.5×35	ECR1JXY561M□□125035
		0.213	0.032	0.096	2550	16×25	ECR1JXY561M□□160025
	680	0.176	0.029	0.096	2780	12.5×40	ECR1JXY681M□□125040
		0.176	0.038	0.10	2450	18×20	ECR1JXY681M□□180020
	820	0.146	0.026	0.078	2810	16×31.5	ECR1JXY821M□□160031
		0.146	0.031	0.084	2780	18×25	ECR1JXY821M□□180025
1000	0.119	0.021	0.063	2835	16×35.5	ECR1JXY102M□□160035	
	0.119	0.025	0.068	3270	18×31.5	ECR1JXY102M□□180031	
1200	0.100	0.019	0.057	3340	16×40	ECR1JXY122M□□160040	
	0.100	0.020	0.054	3310	18×35.5	ECR1JXY122M□□180035	
1500	0.080	0.018	0.049	3420	18×40	ECR1JXY152M□□180040	
100 (125) 2A	6.8	15.611	1.40	5.6	125	5×11.5	ECR2AXY688M□□050011
	15	7.077	0.57	2.3	205	6.3×11.5	ECR2AXY150M□□063011
	27	3.932	0.36	1.4	355	8×11.5	ECR2AXY270M□□080011
	39	2.722	0.25	1.0	450	8×16	ECR2AXY390M□□080016
	47	2.259	0.24	0.96	450	10×12.5	ECR2AXY470M□□100012
	56	1.896	0.19	0.76	565	8×20	ECR2AXY560M□□080020
	68	1.561	0.18	0.72	580	10×16	ECR2AXY680M□□100016
	82	1.295	0.13	0.52	750	10×20	ECR2AXY820M□□100020
		1.295	0.13	0.43	735	12.5×16	ECR2AXY820M□□125016
	100	1.062	0.12	0.48	880	10×25	ECR2AXY101M□□100025
	120	0.885	0.094	0.31	1045	12.5×20	ECR2AXY121M□□125020
	180	0.590	0.071	0.23	1195	12.5×25	ECR2AXY181M□□125025
	220	0.483	0.063	0.21	1410	12.5×30	ECR2AXY221M□□125030
		0.483	0.071	0.21	1295	16×20	ECR2AXY221M□□160020
	270	0.393	0.052	0.17	1560	12.5×35	ECR2AXY271M□□125035
		0.393	0.053	0.16	1600	16×25	ECR2AXY271M□□160025
	330	0.393	0.069	0.19	1470	18×20	ECR2AXY271M□□180020
		0.322	0.046	0.15	1700	12.5×40	ECR2AXY331M□□125040
	390	0.272	0.041	0.12	1750	16×31.5	ECR2AXY391M□□160031
		0.272	0.049	0.13	1620	18×25	ECR2AXY391M□□180025
470	0.226	0.033	0.10	1890	16×35.5	ECR2AXY471M□□160035	
	0.226	0.039	0.11	1775	18×31.5	ECR2AXY471M□□180031	
560	0.190	0.030	0.090	2080	16×40	ECR2AXY561M□□160040	
	0.190	0.031	0.084	2060	18×35.5	ECR2AXY561M□□180035	
680	0.156	0.028	0.076	2570	18×40	ECR2AXY681M□□180040	

Customer products are available on request.

## Lifetime Diagram



## Typical Curves

