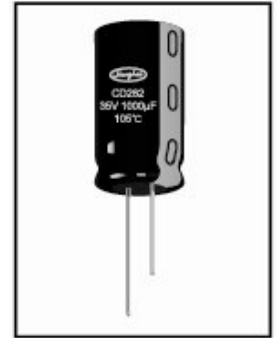
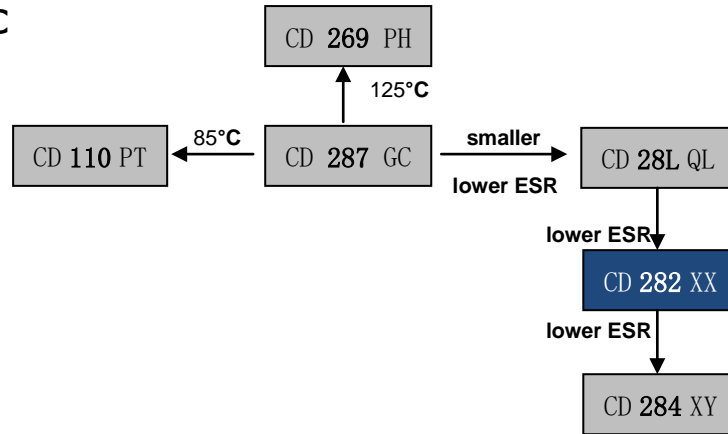


# CD 282 XX Series



3000 ~6000h at 105°C

- Ultra Low Impedance
- Switching power supplies
- High ripple current

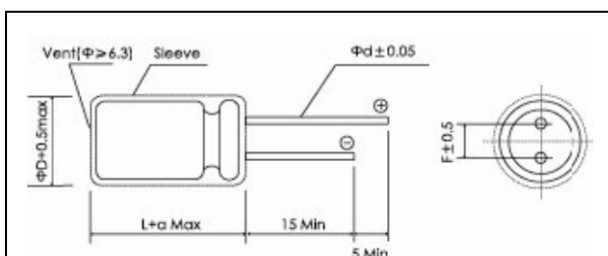


Items	Characteristics																											
Operating Temperature Range(°C)	-40~ +105																											
Voltage Range (V)	6.3~ 100																											
Capacitance Range(μF)	6.8 ~ 18000																											
Capacitance Tolerance (20°C,120Hz)	±20%																											
Leakage Current (μA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 3μA, 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>100</th> </tr> </thead> <tbody> <tr> <td>Z<sub>-25°C/+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> </tr> <tr> <td>Z<sub>-40°C/+20°C</sub></td> <td>8</td> <td>6</td> <td>4</td> <td>3</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	100	Z <sub>-25°C/+20°C</sub>	4	3	2	2	2	2	2	2	Z <sub>-40°C/+20°C</sub>	8	6	4	3	3	3	3	3
	Rated Voltage(V)	6.3	10	16	25	35	50	63	100																			
	Z <sub>-25°C/+20°C</sub>	4	3	2	2	2	2	2	2																			
Z <sub>-40°C/+20°C</sub>	8	6	4	3	3	3	3	3																				

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	φ 5-6.3 :4000h φ 8 :6000h φ 10 :7000h φ 12.5-18 :8000h	φ ≥8:>250000h	φ 5-6.3 :3000h φ 8 :4000h φ 10 :5000h φ 12.5-18 :6000h	φ 5-6.3 :3500h φ 8 :5000h φ 10 :6000h φ 12.5-18 :7000h	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 ±40% 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



Φ D	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0		7.5	
Φ d	0.5		0.6			0.8	
a	1.5			2.0			

## Frequency Coefficient

Frequency Cap(μF)	120Hz	1kHz	10kHz	100kHz
6.8-33	0.42	0.70	0.90	1.00
33-270	0.50	0.73	0.92	1.00
330-680	0.55	0.77	0.94	1.00
820-1800	0.60	0.80	0.96	1.00
2200-18000	0.70	0.85	0.98	1.00

## Temperature Coefficient

Temperature(°C)	+65	+85	+105
Coefficient	2.0	1.70	1.00

# CD 282 XX Series



## Ratings for CD 282 XX Series

U <sub>r</sub> (Surge Voltage) Code	Rated Capacitance	Max Imp 20°C, 100kHz	Imp ESR -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size ΦD×L	P/N
(v)	(μF)	(Ω)	(Ω)	(mArms)	(mm)	-
<b>6.3</b> <b>(7.2)</b> <b>0J</b>	150	0.58	2.3	210	5x11.5	ECR0JXX151M□□050011
	330	0.22	0.87	340	6.3x11.5	ECR0JXX331M□□063011
	680	0.13	0.52	640	8x11.5	ECR0JXX681M□□080011
	820	0.080	0.32	865	10x12.5	ECR0JXX821M□□100012
	1000	0.087	0.35	840	8x16	ECR0JXX102M□□080016
	1200	0.069	0.27	1050	8x20	ECR0JXX122M□□080020
		0.060	0.24	1210	10x16	ECR0JXX122M□□100016
	1500	0.046	0.18	1400	10x20	ECR0JXX152M□□100020
	1800	0.049	0.16	1450	12.5x16	ECR0JXX182M□□125016
	2200	0.042	0.17	1650	10x25	ECR0JXX222M□□100025
	2700	0.031	0.12	1910	10x30	ECR0JXX272M□□100030
		0.042	0.12	1940	16x16	ECR0JXX272M□□160016
	3300	0.035	0.12	1900	12.5x20	ECR0JXX332M□□125020
	3900	0.027	0.089	2230	12.5x25	ECR0JXX392M□□125025
		0.043	0.11	2210	18x16	ECR0JXX392M□□180016
	4700	0.024	0.078	2650	12.5x30	ECR0JXX472M□□125030
	5600	0.020	0.065	2880	12.5x35	ECR0JXX562M□□125035
		0.027	0.078	2530	16x20	ECR0JXX562M□□160020
	6800	0.017	0.056	3350	12.5x40	ECR0JXX682M□□125040
		0.021	0.060	2930	16x25	ECR0JXX682M□□160025
		0.026	0.067	2860	18x20	ECR0JXX682M□□180020
	8200	0.017	0.050	3450	16x31.5	ECR0JXX822M□□160031
	10000	0.015	0.044	3610	16x35.5	ECR0JXX103M□□160035
		0.019	0.049	3140	18x25	ECR0JXX103M□□180025
	12000	0.013	0.038	4080	16x40	ECR0JXX123M□□160040
		0.015	0.040	4170	18x31.5	ECR0JXX123M□□180031
	15000	0.014	0.038	4220	18x35.5	ECR0JXX153M□□180035
	18000	0.012	0.032	4280	18x40	ECR0JXX183M□□180040
<b>10</b> <b>(13)</b> <b>1A</b>	100	0.58	2.3	210	5X11.5	ECR1AXX101M□□050011
	220	0.22	0.87	340	6.3X11.5	ECR1AXX221M□□063011
	470	0.13	0.52	640	8X11.5	ECR1AXX471M□□080011
	680	0.087	0.35	840	8x16	ECR1AXX681M□□080016
		0.080	0.32	865	10X12.5	ECR1AXX681M□□100012
	1000	0.069	0.27	1050	8x20	ECR1AXX102M□□080020
		0.060	0.24	1210	10x16	ECR1AXX102M□□100016
	1200	0.046	0.18	1400	10x20	ECR1AXX122M□□100020
	1500	0.042	0.17	1650	10x25	ECR1AXX152M□□100025
		0.049	0.16	1450	12.5x16	ECR1AXX152M□□125016
	2200	0.031	0.12	1910	10x30	ECR1AXX222M□□100030
		0.035	0.12	1900	12.5x20	ECR1AXX222M□□125020
		0.042	0.12	1940	16x16	ECR1AXX222M□□160016
	2700	0.043	0.11	2210	18x16	ECR1AXX272M□□180016
	3300	0.027	0.089	2230	12.5x25	ECR1AXX332M□□125025
	3900	0.024	0.078	2650	12.5x30	ECR1AXX392M□□125030
		0.027	0.078	2530	16x20	ECR1AXX392M□□160020
	4700	0.020	0.065	2880	12.5x35	ECR1AXX472M□□125035
	5600	0.017	0.056	3350	12.5x40	ECR1AXX562M□□125040
		0.021	0.060	2930	16x25	ECR1AXX562M□□160025
		0.026	0.067	2860	18x20	ECR1AXX562M□□180020
	6800	0.017	0.050	3450	16X31.5	ECR1AXX682M□□160031
		0.019	0.049	3140	18x25	ECR1AXX682M□□180025
	8200	0.015	0.044	3610	16x35.5	ECR1AXX822M□□160035
		0.015	0.040	4170	18X31.5	ECR1AXX822M□□180031
	10000	0.013	0.038	4080	16x40	ECR1AXX103M□□160040
		0.014	0.038	4220	18x35.5	ECR1AXX103M□□180035
	12000	0.012	0.032	4280	18x40	ECR1AXX123M□□180040

U <sub>r</sub> (Surge Voltage) Code	Rated Capacitance	Max Imp 20°C, 100kHz	Imp ESR -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size ΦD×L	P/N
(v)	(μF)	(Ω)	(Ω)	(mArms)	(mm)	-
<b>16</b> <b>(20)</b> <b>1C</b>	56	0.58	2.3	210	5x11.5	ECR1CXX560M□□050011
	120	0.22	0.87	340	6.3x11.5	ECR1CXX121M□□063011
	330	0.13	0.52	640	8x11.5	ECR1CXX331M□□080011
	470	0.087	0.35	840	8x16	ECR1CXX471M□□080016
		0.080	0.32	865	10x12.5	ECR1CXX471M□□100012
	680	0.069	0.27	1050	8x20	ECR1CXX681M□□080020
		0.060	0.24	1210	10x16	ECR1CXX681M□□100016
	1000	0.046	0.18	1400	10x20	ECR1CXX102M□□100020
		0.049	0.16	1450	12.5x16	ECR1CXX102M□□125016
	1200	0.042	0.17	1650	10x25	ECR1CXX122M□□100025
	1500	0.031	0.12	1910	10x30	ECR1CXX152M□□100030
		0.035	0.12	1900	12.5x20	ECR1CXX152M□□125020
		0.042	0.12	1940	16x16	ECR1CXX152M□□160016
	2200	0.027	0.089	2230	12.5x25	ECR1CXX222M□□125025
		0.043	0.11	2210	18x16	ECR1CXX222M□□180016
	2700	0.024	0.078	2650	12.5x30	ECR1CXX272M□□125030
		0.027	0.078	2530	16x20	ECR1CXX272M□□160020
	3300	0.020	0.065	2880	12.5x35	ECR1CXX332M□□125035
	3900	0.017	0.056	3350	12.5x40	ECR1CXX392M□□125040
		0.021	0.060	2930	16x25	ECR1CXX392M□□160025
		0.026	0.067	2860	18x20	ECR1CXX392M□□180020
	4700	0.017	0.050	3450	16x31.5	ECR1CXX472M□□160031
		0.019	0.049	3140	18x25	ECR1CXX472M□□180025
	5600	0.015	0.044	3610	16x35.5	ECR1CXX562M□□160035
		0.015	0.040	4170	18x31.5	ECR1CXX562M□□180031
	6800	0.013	0.038	4080	16x40	ECR1CXX682M□□160040
	8200	0.014	0.038	4220	18x35.5	ECR1CXX822M□□180035
	10000	0.012	0.032	4280	18x40	ECR1CXX103M□□180040
<b>25</b> <b>(32)</b> <b>1E</b>	47	0.58	2.3	210	5X11.5	ECR1EXX470M□□050011
	100	0.22	0.87	340	6.3X11.5	ECR1EXX101M□□063011
	220	0.13	0.52	640	8X11.5	ECR1EXX221M□□080011
	330	0.087	0.35	840	8x16	ECR1EXX331M□□080016
		0.080	0.32	865	10X12.5	ECR1EXX331M□□100012
	470	0.069	0.27	1050	8x20	ECR1EXX471M□□080020
		0.060	0.24	1210	10x16	ECR1EXX471M□□100016
	680	0.046	0.18	1400	10x20	ECR1EXX681M□□100020
		0.049	0.16	1450	12.5x16	ECR1EXX681M□□125016
	820	0.042	0.17	1650	10x25	ECR1EXX821M□□100025
	1000	0.031	0.12	1910	10x30	ECR1EXX102M□□100030
		0.035	0.12	1900	12.5x20	ECR1EXX102M□□125020
		0.042	0.12	1940	16x16	ECR1EXX102M□□160016
	1200	0.043	0.11	2210	18x16	ECR1EXX122M□□180016
	1500	0.027	0.089	2230	12.5x25	ECR1EXX152M□□125025
	1800	0.024	0.078	2650	12.5x30	ECR1EXX182M□□125030
		0.027	0.078	2530	16x20	ECR1EXX182M□□160020
	2200	0.020	0.065	2880	12.5x35	ECR1EXX222M□□125035
		0.026	0.067	2860	18x20	ECR1EXX222M□□180020
	2700	0.017	0.056	3350	12.5x40	ECR1EXX272M□□125040
		0.021	0.060	2930	16x25	ECR1EXX272M□□160025
		0.026	0.067	2860	18x20	ECR1EXX272M□□180025
	3300	0.017	0.050	3450	16X31.5	ECR1EXX332M□□160031
		0.019	0.049	3140	18x25	ECR1EXX332M□□180025
	3900	0.015	0.044	3610	16x35.5	ECR1EXX392M□□160035
		0.015	0.040	4170	18X31.5	ECR1EXX392M□□180031
	4700	0.013	0.038	4080	16x40	ECR1EXX472M□□160040
		0.014	0.038	4220	18x35.5	ECR1EXX472M□□180035
5600	0.012	0.032	4280	18x40	ECR1EXX562M□□180040	

# CD 282 XX Series

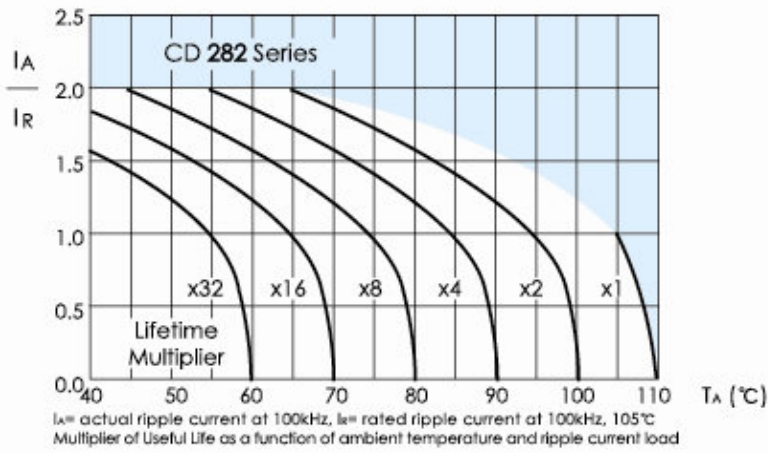


## Ratings for CD 282 XX Series

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max Imp 20°C, 100kHz	Imp ESR -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size Φ D×L	P/N	
(V)	(μF)	(Ω)	(Ω)	(mA rms)	(mm)	-	
<b>35 (44) 1V</b>	33	0.58	2.3	210	5x11.5	ECR1VXX330M□□050011	
	56	0.22	0.87	340	6.3x11.5	ECR1VXX560M□□063011	
	150	0.13	0.52	640	8x11.5	ECR1VXX151M□□080011	
	220	0.087	0.35	840	8x16	ECR1VXX221M□□080016	
		0.080	0.32	865	10x12.5	ECR1VXX221M□□100012	
	270	0.069	0.27	1050	8x20	ECR1VXX271M□□080020	
	330	0.060	0.24	1210	10x16	ECR1VXX331M□□100016	
	470	0.046	0.18	1400	10x20	ECR1VXX471M□□100020	
		0.049	0.16	1450	12.5x16	ECR1VXX471M□□125016	
	560	0.042	0.17	1650	10x25	ECR1VXX561M□□100025	
	680	0.031	0.12	1910	10x30	ECR1VXX681M□□100030	
		0.035	0.12	1900	12.5x20	ECR1VXX681M□□125020	
		0.042	0.12	1940	16x16	ECR1VXX681M□□160016	
	1000	0.027	0.089	2230	12.5x25	ECR1VXX102M□□125025	
		0.043	0.11	2210	18x16	ECR1VXX102M□□180016	
	1200	0.024	0.078	2650	12.5x30	ECR1VXX122M□□125030	
		0.027	0.078	2530	16x20	ECR1VXX122M□□160020	
	1500	0.020	0.065	2880	12.5x35	ECR1VXX152M□□125035	
	1800	0.017	0.056	3350	12.5x40	ECR1VXX182M□□125040	
		0.021	0.060	2930	16x25	ECR1VXX182M□□160025	
		0.026	0.067	2860	18x20	ECR1VXX182M□□180020	
	2200	0.017	0.050	3450	16x31.5	ECR1VXX222M□□160031	
		0.019	0.049	3140	18x25	ECR1VXX222M□□180025	
	2700	0.015	0.044	3610	16x35.5	ECR1VXX272M□□160035	
		0.015	0.040	4170	18x31.5	ECR1VXX272M□□180031	
	3300	0.013	0.038	4080	16x40	ECR1VXX332M□□160040	
		0.014	0.038	4220	18x35.5	ECR1VXX332M□□180035	
	3900	0.012	0.032	4280	18x40	ECR1VXX392M□□180040	
	<b>50 (63) 1H</b>	22	0.70	2.8	180	5x11.5	ECR1HXX220M□□050011
		56	0.30	1.2	295	6.3x11.5	ECR1HXX560M□□063011
		100	0.17	0.68	555	8x11.5	ECR1HXX101M□□080011
		120	0.12	0.48	730	8x16	ECR1HXX121M□□080016
		150	0.12	0.48	760	10x12.5	ECR1HXX151M□□100012
180		0.091	0.36	910	8x20	ECR1HXX181M□□080020	
220		0.084	0.34	1050	10x16	ECR1HXX221M□□100016	
270		0.060	0.24	1220	10x20	ECR1HXX271M□□100020	
		0.061	0.20	1260	12.5x16	ECR1HXX271M□□125016	
330		0.055	0.22	1440	10x25	ECR1HXX331M□□100025	
470		0.043	0.17	1690	10x30	ECR1HXX471M□□100030	
		0.045	0.15	1660	12.5x20	ECR1HXX471M□□125020	
		0.055	0.17	1690	16x16	ECR1HXX471M□□160016	
560		0.034	0.11	1950	12.5x25	ECR1HXX561M□□125025	
		0.054	0.15	1930	18x16	ECR1HXX561M□□180016	
680		0.030	0.10	2310	12.5x30	ECR1HXX681M□□125030	
820		0.025	0.083	2510	12.5x35	ECR1HXX821M□□125035	
		0.034	0.10	2210	16x20	ECR1HXX821M□□160020	
1000		0.021	0.069	2920	12.5x40	ECR1HXX102M□□125040	
		0.025	0.075	2555	16x25	ECR1HXX102M□□160025	
		0.036	0.097	2490	18x20	ECR1HXX102M□□180020	
1200		0.022	0.066	3010	16x31.5	ECR1HXX122M□□160031	
		0.026	0.070	2740	18x25	ECR1HXX122M□□180025	
1500		0.019	0.057	3150	16x35.5	ECR1HXX152M□□160035	
1800		0.016	0.048	3710	16x40	ECR1HXX182M□□160040	
		0.021	0.057	3635	18x31.5	ECR1HXX182M□□180031	
2200		0.017	0.046	3680	18x35.5	ECR1HXX222M□□180035	
2700		0.014	0.038	3800	18x40	ECR1HXX272M□□180040	

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max Imp 20°C, 100kHz	Imp ESR -10°C, 100kHz	Rated Ripple Current 105°C, 100kHz	Size Φ D×L	P/N	
(V)	(μF)	(Ω)	(Ω)	(mA rms)	(mm)	-	
<b>63 (79) 1J</b>	15	2.3	9.3	55	5x11.5	ECR1JXX150M□□050011	
	33	1.2	5.0	115	6.3x11.5	ECR1JXX330M□□063011	
	56	0.63	2.8	232	8x11.5	ECR1JXX560M□□080011	
	82	0.45	2.1	300	8x16	ECR1JXX820M□□080016	
		0.43	1.8	288	10x12.5	ECR1JXX820M□□100012	
	120	0.33	1.6	362	8x20	ECR1JXX121M□□080020	
		0.31	1.5	357	10x16	ECR1JXX121M□□100016	
	180	0.21	0.94	446	10x20	ECR1JXX181M□□100020	
		0.23	1.1	446	12.5x16	ECR1JXX181M□□125016	
	220	0.20	0.84	531	10x25	ECR1JXX221M□□100025	
	270	0.15	0.71	663	10x30	ECR1JXX271M□□100030	
		0.16	0.64	690	12.5x20	ECR1JXX271M□□125020	
		0.14	0.66	795	16x16	ECR1JXX271M□□160016	
	330	0.12	0.45	784	12.5x25	ECR1JXX331M□□125025	
	390	0.12	0.50	920	18x16	ECR1JXX391M□□180016	
	470	0.10	0.42	905	12.5x30	ECR1JXX471M□□125030	
		0.091	0.38	1040	16x20	ECR1JXX471M□□160020	
	560	0.083	0.35	1050	12.5x35	ECR1JXX561M□□125035	
	680	0.073	0.27	1250	16x25	ECR1JXX561M□□160025	
		0.071	0.30	1180	12.5x40	ECR1JXX681M□□125040	
		0.080	0.30	1240	18x20	ECR1JXX681M□□180020	
	820	0.054	0.20	1570	16x31.5	ECR1JXX821M□□160031	
		0.057	0.21	1490	18x25	ECR1JXX821M□□180025	
	1000	0.045	0.17	1790	16x35.5	ECR1JXX102M□□160035	
		0.047	0.17	1630	18x31.5	ECR1JXX102M□□180031	
	1200	0.040	0.15	2020	16x40	ECR1JXX122M□□160040	
		0.040	0.15	1790	18x35.5	ECR1JXX122M□□180035	
	1500	0.036	0.13	2330	18x40	ECR1JXX152M□□180040	
	<b>100 (125) 2A</b>	6.8	2.3	9.3	55	5x11.5	ECR2AXX6R8M□□050011
		15	1.2	5.0	115	6.3x11.5	ECR2AXX150M□□063011
		27	0.63	2.8	232	8x11.5	ECR2AXX270M□□080011
		39	0.45	2.1	300	8x16	ECR2AXX390M□□080016
		47	0.43	1.8	288	10x12.5	ECR2AXX470M□□100012
56		0.33	1.6	362	8x20	ECR2AXX560M□□080020	
68		0.31	1.5	357	10x16	ECR2AXX680M□□100016	
82		0.21	0.94	466	10x20	ECR2AXX820M□□100020	
		0.23	1.1	466	12.5x16	ECR2AXX820M□□125016	
100		0.20	0.84	531	10x25	ECR2AXX101M□□100025	
120		0.15	0.71	663	10x30	ECR2AXX121M□□100030	
		0.16	0.64	690	12.5x20	ECR2AXX121M□□125020	
150		0.14	0.66	795	16x16	ECR2AXX151M□□160016	
180		0.12	0.45	784	12.5x25	ECR2AXX181M□□125025	
		0.12	0.50	920	18x16	ECR2AXX181M□□180016	
220		0.10	0.42	905	12.5x30	ECR2AXX221M□□125030	
		0.091	0.38	1040	16x20	ECR2AXX221M□□160020	
270		0.083	0.35	1050	12.5x35	ECR2AXX271M□□125035	
		0.073	0.27	1250	16x25	ECR2AXX271M□□160025	
330		0.071	0.30	1180	12.5x40	ECR2AXX331M□□125040	
		0.080	0.30	1240	18x20	ECR2AXX331M□□180020	
390		0.054	0.20	1570	16x31.5	ECR2AXX391M□□160031	
		0.057	0.21	1490	18x25	ECR2AXX391M□□180025	
470		0.045	0.17	1790	16x35.5	ECR2AXX471M□□160035	
		0.047	0.17	1630	18x31.5	ECR2AXX471M□□180031	
560		0.040	0.15	2020	16x40	ECR2AXX561M□□160040	
680		0.040	0.15	1790	18x35.5	ECR2AXX681M□□180035	
820		0.036	0.13	2330	18x40	ECR2AXX821M□□180040	

## Lifetime Diagram



## Typical Curves

