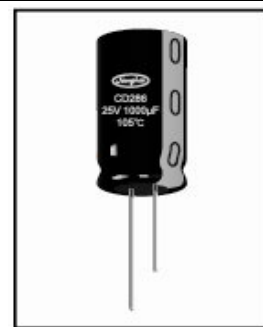
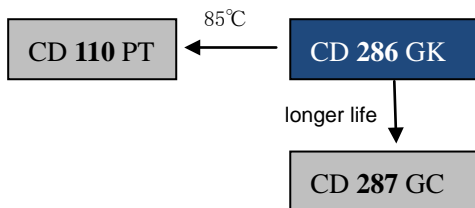


# CD 286 GK Series



2000h at 105°C

- Low Impedance
- Suited for switching power supplies
- High ripple current capability

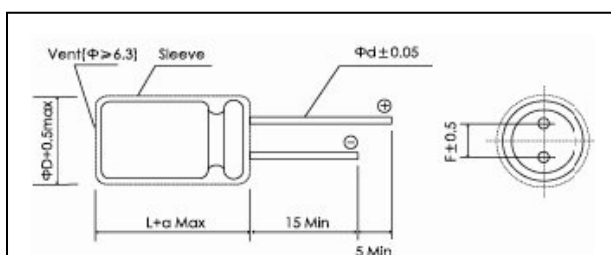


Items	Characteristics																		
Operating Temperature Range(°C)	-55~ +105																		
Voltage Range (V)	6.3~ 100																		
Capacitance Range(μF)	5.6 ~ 18000																		
Capacitance Tolerance (20°C,120Hz)	±20%																		
Leakage Current (μA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than 0.02CV 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											
When nominal capacitances is over 1000μF than δ shall be added 0.02 to the listed value with increase of every 1000μF																			
Characteristics of Low Temperature	Impedance at -10°C,100kHz<200% of initial specified value at 20°C, 100kHz(Impedance ratio at 100kHz)																		

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	$\phi \leq 8$ :2000h $\phi > 8$ :4000h	$\phi > 8$ :200000h	$\phi \leq 8$ :1000h $\phi > 8$ :2000h	$\phi \leq 8$ :1500h $\phi > 8$ :3000h	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 ±30% of initial value		Within ±20% of initial value	Within ±20% 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



ΦD	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0		7.5	
Φd	0.5		0.6			0.8	
a	1.5			2.0			

## Frequency Coefficient

Frequency Cap(μF)	120Hz	1kHz	10kHz	100kHz
5.6~180	0.40	0.75	0.90	1.00
220~560	0.50	0.85	0.94	1.00
680~1800	0.60	0.87	0.95	1.00
2200~3900	0.75	0.90	0.95	1.00
4700~18000	0.85	0.95	0.98	1.00

## Temperature Coefficient

Temperature(°C)	+70	+85	+105
Coefficient	1.96	1.68	1.00

# CD 286 GK Series



## Ratings for CD 286 GK Series

U <sub>s</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×L	P/N
6.3 (7.2) 0J	150	1.9	0.65	1.3	175	5x11.5	ECR0JGK151M□□050011
	330	0.89	0.30	0.6	290	6.3x11.5	ECR0JGK331M□□063011
	470	0.62	0.20	0.4	400	6.3x15	ECR0JGK471M□□063015
	680	0.43	0.17	0.34	555	8x11.5	ECR0JGK681M□□080011
	820	0.36	0.12	0.24	730	10x12.5	ECR0JGK821M□□100012
	1000	0.29	0.13	0.26	730	8x16	ECR0JGK102M□□080016
	1200	0.24	0.095	0.19	810	8x20	ECR0JGK122M□□080020
		0.24	0.095	0.19	910	10x16	ECR0JGK122M□□100016
	1500	0.20	0.065	0.13	1160	10x20	ECR0JGK152M□□100020
	2200	0.15	0.055	0.11	1360	10x25	ECR0JGK222M□□100025
	2700	0.12	0.045	0.09	1660	10x30	ECR0JGK272M□□100030
	3300	0.11	0.042	0.084	1610	12.5x20	ECR0JGK332M□□125020
	3900	0.088	0.038	0.076	1950	12.5x25	ECR0JGK392M□□125025
	4700	0.079	0.032	0.064	2240	12.5x30	ECR0JGK472M□□125030
		0.071	0.028	0.056	1990	12.5x35	ECR0JGK562M□□125035
	5600	0.071	0.034	0.068	2510	16x20	ECR0JGK562M□□160020
		0.062	0.026	0.052	2750	12.5x40	ECR0JGK682M□□125040
	6800	0.062	0.028	0.056	2380	16x25	ECR0JGK682M□□160025
		0.062	0.030	0.06	2185	18x20	ECR0JGK682M□□180020
	8200	0.058	0.025	0.05	2700	16x31.5	ECR0JGK822M□□160031
10000	0.053	0.022	0.044	2530	16x35.5	ECR0JGK103M□□160035	
	0.053	0.027	0.054	2930	18x25	ECR0JGK103M□□180025	
12000	0.049	0.020	0.04	2860	16x40	ECR0JGK123M□□160040	
	0.049	0.023	0.046	3330	18x31.5	ECR0JGK123M□□180031	
15000	0.044	0.020	0.04	3180	18x35.5	ECR0JGK153M□□180035	
18000	0.041	0.019	0.038	3570	18x40	ECR0JGK183M□□180040	
10 (13) 1A	100	2.5	0.65	1.3	175	5x11.5	ECR1AGK101M□□050011
	220	1.15	0.30	0.6	290	6.3x11.5	ECR1AGK221M□□063011
	330	0.76	0.20	0.4	400	6.3x15	ECR1AGK331M□□063015
	470	0.54	0.17	0.34	555	8x11.5	ECR1AGK471M□□080011
	680	0.37	0.13	0.26	730	8x16	ECR1AGK681M□□080016
		0.37	0.12	0.24	730	10x12.5	ECR1AGK681M□□100012
	1000	0.25	0.095	0.19	810	8x20	ECR1AGK102M□□080020
		0.25	0.095	0.19	910	10x16	ECR1AGK102M□□100016
	1200	0.21	0.065	0.13	1160	10x20	ECR1AGK122M□□100020
	1500	0.17	0.055	0.11	1360	10x25	ECR1AGK152M□□100025
	1800	0.14	0.045	0.09	1660	10x30	ECR1AGK182M□□100030
	2200	0.13	0.042	0.084	1610	12.5x20	ECR1AGK222M□□125020
	3300	0.092	0.038	0.076	1950	12.5x25	ECR1AGK332M□□125025
	3900	0.078	0.032	0.064	2240	12.5x30	ECR1AGK392M□□125030
		0.078	0.034	0.068	1990	16x20	ECR1AGK392M□□160020
	4700	0.071	0.028	0.056	2510	12.5x35	ECR1AGK472M□□125035
	5600	0.064	0.026	0.052	2750	12.5x40	ECR1AGK562M□□125040
		0.064	0.028	0.056	2380	16x25	ECR1AGK562M□□160025
	6800	0.064	0.030	0.06	2185	18x20	ECR1AGK562M□□180020
		0.057	0.025	0.05	2700	16x31.5	ECR1AGK682M□□160031
8200	0.057	0.027	0.054	2530	18x25	ECR1AGK682M□□180025	
	0.053	0.022	0.044	2930	16x35.5	ECR1AGK822M□□160035	
10000	0.053	0.023	0.046	2860	18x31.5	ECR1AGK822M□□180031	
	0.049	0.020	0.04	3330	16x40	ECR1AGK103M□□160040	
12000	0.049	0.019	0.038	3180	18x35.5	ECR1AGK103M□□180035	
	0.045	0.018	0.036	3570	18x40	ECR1AGK123M□□180040	

U <sub>R</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×L	P/N
16 (20) 1C	47	4.5	0.65	1.3	175	5x11.5	ECR1CGK47GM□□050011
	100	2.1	0.30	0.6	290	6.3x11.5	ECR1CGK101M□□063011
	220	0.97	0.20	0.4	400	6.3x15	ECR1CGK221M□□063015
	330	0.64	0.17	0.34	555	8x11.5	ECR1CGK331M□□080011
	470	0.45	0.13	0.26	730	8x16	ECR1CGK471M□□080016
		0.45	0.12	0.24	730	10x12.5	ECR1CGK471M□□100012
	560	0.38	0.095	0.19	810	8x20	ECR1CGK561M□□080020
	680	0.31	0.095	0.19	910	10x16	ECR1CGK681M□□100016
	1000	0.21	0.065	0.13	1160	10x20	ECR1CGK102M□□100020
	1200	0.18	0.055	0.11	1360	10x25	ECR1CGK122M□□100025
	1500	0.14	0.045	0.09	1660	10x30	ECR1CGK152M□□100030
		0.14	0.042	0.084	1610	12.5x20	ECR1CGK152M□□125020
	2200	0.11	0.038	0.076	1950	12.5x25	ECR1CGK222M□□125025
	2700	0.088	0.032	0.064	2240	12.5x30	ECR1CGK272M□□125030
		0.088	0.034	0.068	1990	16x20	ECR1CGK272M□□160020
	3300	0.080	0.028	0.056	2510	12.5x35	ECR1CGK332M□□125035
	3900	0.068	0.026	0.052	2750	12.5x40	ECR1CGK392M□□125040
		0.068	0.028	0.056	2380	16x25	ECR1CGK392M□□160025
	4700	0.068	0.030	0.06	2185	18x20	ECR1CGK392M□□180020
		0.062	0.025	0.05	2700	16x31.5	ECR1CGK472M□□160031
5600	0.062	0.027	0.054	2530	18x25	ECR1CGK472M□□180025	
	0.057	0.022	0.044	2930	16x35.5	ECR1CGK562M□□160035	
6800	0.057	0.023	0.046	2860	18x31.5	ECR1CGK562M□□180031	
	0.051	0.020	0.04	3330	16x40	ECR1CGK682M□□160040	
8200	0.049	0.019	0.038	3180	18x35.5	ECR1CGK822M□□180035	
10000	0.045	0.018	0.036	3570	18x40	ECR1CGK103M□□180040	
25 (32) 1E	47	4.0	0.65	1.3	175	5x11.5	ECR1EGK470M□□050011
	100	1.86	0.30	0.6	290	6.3x11.5	ECR1EGK101M□□063011
	150	1.24	0.20	0.4	400	6.3x15	ECR1EGK151M□□063015
	220	0.84	0.17	0.34	555	8x11.5	ECR1EGK221M□□080011
	330	0.56	0.13	0.26	730	8x16	ECR1EGK331M□□080016
		0.56	0.12	0.24	730	10x12.5	ECR1EGK331M□□100012
	390	0.48	0.095	0.19	810	8x20	ECR1EGK391M□□080020
	470	0.40	0.095	0.19	910	10x16	ECR1EGK471M□□100016
	680	0.27	0.065	0.13	1160	10x20	ECR1EGK681M□□100020
	820	0.23	0.055	0.11	1360	10x25	ECR1EGK821M□□100025
	1000	0.19	0.045	0.09	1660	10x30	ECR1EGK102M□□100030
		0.19	0.042	0.084	1610	12.5x20	ECR1EGK102M□□125020
	1500	0.12	0.038	0.076	1950	12.5x25	ECR1EGK152M□□125025
	1800	0.10	0.032	0.064	2240	12.5x30	ECR1EGK182M□□125030
		0.10	0.034	0.068	1990	16x20	ECR1EGK182M□□160020
	2200	0.097	0.028	0.056	2510	12.5x35	ECR1EGK222M□□125035
		0.097	0.026	0.052	2750	18x20	ECR1EGK222M□□180020
	2700	0.079	0.028	0.056	2380	12.5x40	ECR1EGK272M□□125040
		0.079	0.030	0.06	2185	16x25	ECR1EGK272M□□160025
	3300	0.072	0.025	0.05	2700	16x31.5	ECR1EGK332M□□160031
0.072		0.027	0.054	2530	18x25	ECR1EGK332M□□180025	
3900	0.061	0.022	0.044	2930	16x35.5	ECR1EGK392M□□160035	
	0.061	0.023	0.046	2860	18x31.5	ECR1EGK392M□□180031	
4700	0.056	0.020	0.04	3330	16x40	ECR1EGK472M□□160040	
	0.056	0.019	0.038	3180	18x35.5	ECR1EGK472M□□180035	
5600	0.052	0.018	0.036	3570	18x40	ECR1EGK562M□□180040	

# CD 286 GK Series

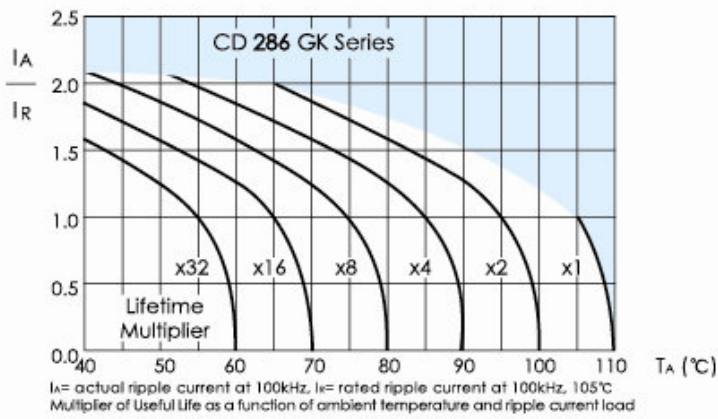


## Ratings for CD 286 GK Series

U <sub>r</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×L	P/N
(v)	(μF)	(Ω)	(Ω)	(Ω)	(mArms)	(mm)	-
<b>35 (44) 1V</b>	33	4.8	0.65	1.3	175	5x11.5	ECR1VGK330M□□050011
	56	2.8	0.30	0.6	290	6.3x11.5	ECR1VGK560M□□063011
	100	1.6	0.20	0.4	400	6.3x15	ECR1VGK101M□□063015
	150	1.1	0.17	0.34	555	8 x 11.5	ECR1VGK151M□□080011
	220	0.72	0.13	0.26	730	8x16	ECR1VGK221M□□080016
		0.72	0.12	0.24	730	10x12.5	ECR1VGK221M□□100012
	270	0.59	0.095	0.19	810	8x20	ECR1VGK271M□□080020
	330	0.48	0.095	0.19	910	10x16	ECR1VGK331M□□100016
	470	0.34	0.065	0.13	1160	10x20	ECR1VGK471M□□100020
	560	0.28	0.055	0.11	1360	10x25	ECR1VGK561M□□100025
	680	0.23	0.045	0.09	1660	10x30	ECR1VGK681M□□100030
		0.23	0.042	0.084	1610	12.5x20	ECR1VGK681M□□125020
	1000	0.16	0.038	0.076	1950	12.5x25	ECR1VGK102M□□125025
	1200	0.13	0.032	0.064	2240	12.5x30	ECR1VGK122M□□125030
		0.13	0.034	0.068	1990	16x20	ECR1VGK122M□□160020
	1500	0.11	0.028	0.056	2510	12.5x35	ECR1VGK152M□□125035
	1800	0.088	0.026	0.052	2750	12.5x40	ECR1VGK182M□□125040
		0.088	0.028	0.056	2380	16x25	ECR1VGK182M□□160025
		0.088	0.030	0.06	2185	18x20	ECR1VGK182M□□180020
	2200	0.084	0.025	0.05	2700	16x31.5	ECR1VGK222M□□160031
0.084		0.027	0.054	2530	18x25	ECR1VGK222M□□180025	
2700	0.069	0.022	0.044	2930	16x35.5	ECR1VGK272M□□160035	
	0.069	0.023	0.046	2860	18x31.5	ECR1VGK272M□□180031	
3300	0.064	0.020	0.04	3330	16x40	ECR1VGK332M□□160340	
	0.064	0.019	0.038	3180	18x35.5	ECR1VGK332M□□180035	
3900	0.054	0.018	0.036	3570	18x40	ECR1VGK392M□□180040	
<b>50 (63) 1H</b>	22	6.0	0.90	1.8	135	5x11.5	ECR1HGK220M□□050011
	47	2.8	0.45	0.9	170	6.3x11.5	ECR1HGK470M□□063011
	68	2.0	0.31	0.62	180	6.3x15	ECR1HGK680M□□063015
	100	1.3	0.22	0.44	410	8x11.5	ECR1HGK101M□□080011
	120	1.1	0.18	0.36	530	8x16	ECR1HGK121M□□080016
		1.1	0.18	0.36	510	10x12.5	ECR1HGK121M□□100012
	180	0.74	0.13	0.26	770	8x20	ECR1HGK181M□□080020
		0.74	0.15	0.3	640	10x16	ECR1HGK181M□□100016
	220	0.60	0.095	0.19	780	10x20	ECR1HGK221M□□100020
	330	0.40	0.080	0.16	1010	10x25	ECR1HGK331M□□100025
	390	0.34	0.065	0.13	1160	10x30	ECR1HGK391M□□100030
		0.34	0.070	0.14	1130	12.5x20	ECR1HGK391M□□125020
	560	0.24	0.054	0.108	1360	12.5x25	ECR1HGK561M□□125025
	680	0.20	0.050	0.1	1500	12.5x30	ECR1HGK681M□□125030
		0.20	0.050	0.1	1390	16x20	ECR1HGK681M□□160020
	820	0.16	0.046	0.092	1690	12.5x35	ECR1HGK821M□□125035
		0.16	0.046	0.092	1670	18x20	ECR1HGK821M□□180020
	1000	0.13	0.044	0.088	1830	12.5x40	ECR1HGK102M□□125040
		0.13	0.048	0.096	1710	16x25	ECR1HGK102M□□160025
	1200	0.11	0.040	0.08	2170	16x31.5	ECR1HGK122M□□160031
0.11		0.040	0.08	1980	18x25	ECR1HGK122M□□180025	
1500	0.088	0.032	0.064	2460	16x35.5	ECR1HGK152M□□160035	
1800	0.074	0.026	0.052	2770	16x40	ECR1HGK182M□□160040	
	0.074	0.026	0.052	2260	18x31.5	ECR1HGK182M□□180031	
2200	0.072	0.025	0.05	2650	18x35.5	ECR1HGK222M□□180035	
2700	0.059	0.024	0.048	2900	18x40	ECR1HGK272M□□180040	

U <sub>r</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×L	P/N
(v)	(μF)	(Ω)	(Ω)	(Ω)	(mArms)	(mm)	-
<b>63 (79) 1J</b>	10	11.9	1.9	5.7	145	5x11.5	ECR1JGK100M□□050011
	22	5.4	1.0	3.0	192	6.3x11.5	ECR1JGK220M□□063011
	33	3.6	0.61	1.8	240	6.3x15	ECR1JGK330M□□063015
	47	2.5	0.34	1.1	380	8x11.5	ECR1JGK470M□□080011
	100	1.2	0.27	0.81	535	8x16	ECR1JGK101M□□080016
		1.2	0.26	0.78	515	10x12.5	ECR1JGK101M□□100012
	120	1.0	0.21	0.63	600	8x20	ECR1JGK121M□□080020
	150	0.80	0.19	0.57	635	10x16	ECR1JGK151M□□100016
	180	0.66	0.15	0.45	770	10x20	ECR1JGK181M□□100020
	220	0.54	0.13	0.39	1000	10x25	ECR1JGK221M□□100025
	330	0.36	0.090	0.27	1170	10x30	ECR1JGK331M□□100030
		0.36	0.085	0.26	1120	12.5x20	ECR1JGK331M□□125020
	390	0.31	0.070	0.21	1350	12.5x25	ECR1JGK391M□□125025
	470	0.25	0.055	0.17	1500	12.5x30	ECR1JGK471M□□125030
		0.25	0.060	0.18	1390	16x20	ECR1JGK471M□□160020
	680	0.18	0.048	0.15	1690	12.5x35	ECR1JGK681M□□125035
		0.18	0.042	0.13	1820	12.5x40	ECR1JGK681M□□125040
		0.18	0.052	0.16	1710	16x25	ECR1JGK681M□□160025
	820	0.15	0.058	0.18	1680	18x20	ECR1JGK821M□□180020
		0.15	0.043	0.13	2170	16x31.5	ECR1JGK821M□□160031
0.15		0.050	0.15	2000	18x25	ECR1JGK821M□□180025	
1000	0.12	0.036	0.11	2460	16x35.5	ECR1JGK102M□□160035	
1200	0.10	0.042	0.13	2280	18x31.5	ECR1JGK122M□□180031	
	0.10	0.032	0.096	2770	16x40	ECR1JGK122M□□160040	
1500	0.080	0.035	0.105	2690	18x35.5	ECR1JGK152M□□180035	
1800	0.066	0.030	0.090	2940	18x40	ECR1JGK182M□□180040	
<b>100 (125) 2A</b>	5.6	19.0	1.9	7.6	62	5x11.5	ECR2AGK5R6M□□050011
	10	10.6	1.1	4.4	85	6.3x11.5	ECR2AGK100M□□063011
	15	7.1	0.62	2.5	93	6.3x15	ECR2AGK150M□□063015
	22	4.8	0.53	2.1	302	8x11.5	ECR2AGK220M□□080011
	33	3.2	0.35	1.4	396	8x16	ECR2AGK330M□□080016
		3.2	0.47	1.9	350	10x12.5	ECR2AGK330M□□100012
	47	2.3	0.27	1.1	540	8x20	ECR2AGK470M□□080020
		2.3	0.32	1.3	460	10x16	ECR2AGK470M□□100016
	68	1.6	0.25	1.0	548	10x20	ECR2AGK680M□□100020
	100	1.1	0.18	0.72	695	10x25	ECR2AGK101M□□100025
	120	0.89	0.15	0.60	810	10x30	ECR2AGK121M□□100030
		0.89	0.13	0.52	885	12.5x20	ECR2AGK121M□□125020
	150	0.71	0.11	0.44	942	12.5x25	ECR2AGK151M□□125025
	180	0.59	0.11	0.44	1010	16x20	ECR2AGK181M□□160020
	220	0.48	0.090	0.36	1230	12.5x30	ECR2AGK221M□□125030
	270	0.39	0.075	0.30	1360	12.5x35	ECR2AGK271M□□125035
		0.39	0.085	0.34	1280	18x20	ECR2AGK271M□□180020
		0.39	0.060	0.24	1450	12.5x40	ECR2AGK271M□□125040
		0.39	0.081	0.32	1390	16x25	ECR2AGK271M□□160025
	330	0.32	0.059	0.24	1750	16x31.5	ECR2AGK331M□□160031
0.32		0.071	0.29	1650	18x25	ECR2AGK331M□□180025	
470	0.23	0.052	0.21	1925	16x35.5	ECR2AGK471M□□160035	
560	0.19	0.045	0.18	2110	16x40	ECR2AGK561M□□160040	
	0.19	0.058	0.23	1790	18x31.5	ECR2AGK561M□□180031	
680	0.16	0.054	0.22	2110	18x35.5	ECR2AGK681M□□180035	
820	0.13	0.041	0.17	2300	18x40	ECR2AGK821M□□180040	

## Lifetime Diagram



## Typical Curves

