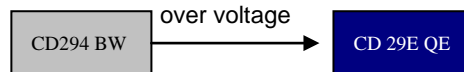


CD 29E QE SERIES



2000h at 105°C

- Withstanding over voltage
- PCB Mounting



Items	Characteristics						
Operating Temperature Range(°C)	-25 ~ +105						
Voltage Range (V)	200~450						
Capacitance Range(µF)	56~1500						
Capacitance Tolerance (20°C,120Hz)	±20%						
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is smaller C: Nominal Capacitance(µF) V: Rated Voltage(V)						
Dissipation Factor (20°C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage(V)</td> <td>200~400</td> <td>450</td> </tr> <tr> <td>Tan δ(max)</td> <td>0.15</td> <td>0.20</td> </tr> </table>	Rated Voltage(V)	200~400	450	Tan δ(max)	0.15	0.20
	Rated Voltage(V)	200~400	450				
Tan δ(max)	0.15	0.20					
Stability at Low Temperature (Impedance Ratio at 120Hz)	<table border="1"> <tr> <td>Rated Voltage(V)</td> <td>200~450</td> </tr> <tr> <td>Impedance Ratio</td> <td>Z_{-25°C}/Z_{+20°C}</td> </tr> </table>	Rated Voltage(V)	200~450	Impedance Ratio	Z _{-25°C} /Z _{+20°C}		
	Rated Voltage(V)	200~450					
Impedance Ratio	Z _{-25°C} /Z _{+20°C}						

	Useful Life		Load Life	Endurance Test	Shelf Life
Life Time	4000h	≥180000h	2000h	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 130% of specified value	Not more than 200% of specified value
Condition:					
Applied Voltage	U _R	U _R	U _R	U _R	U _R = 0
Applied Current	I _R	1.4 × I _R	I _R	I _R = 0	I _R = 0
Applied Temperature	105°C	40°C	105°C	105°C	105°C

Frequency coefficient

Frequency Voltage(v)	50/60Hz	120Hz	300Hz	1kHz	10kHz	≥ 50kHz
≤ 250	0.80	1.00	1.17	1.32	1.45	1.50
> 250	0.80	1.00	1.16	1.30	1.41	1.43

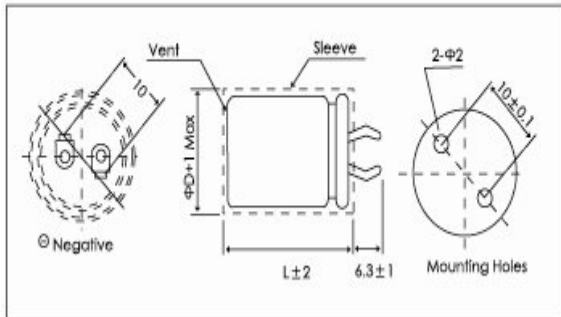
Temperature Coefficient

Temperature(°C)	+40	+55	+70	+85	+105
coefficient	2.7	2.5	2.1	1.7	1.0

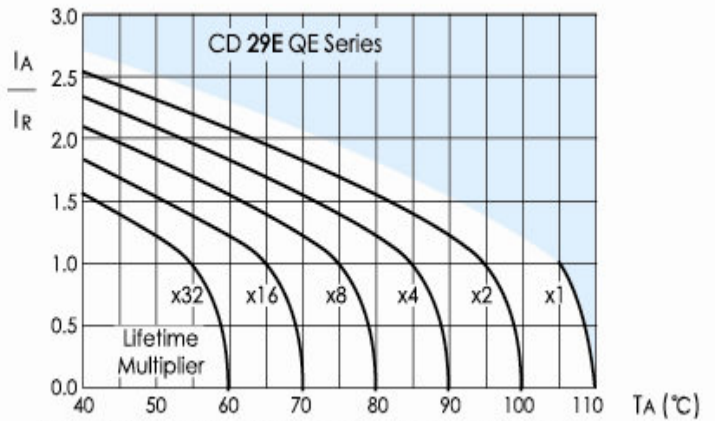
After test:
U_R to be applied
for 30min>24h

Dimensions

mm



Lifetime Diagram



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load

DC Overvoltage Test Conditions

Rated Voltage(Vdc)	Nominal Capacitance(μF)	Current Limit(A)	Test Voltage(Vdc)
200	<330	4	300 / 375
	$330 \leq C < 470$	5	
	≥ 470	7	
250	<330	4	350 / 450
	$330 \leq C < 470$	5	
	≥ 470	7	
400	<100	2	500 / 600
	$100 \leq C < 220$	4	
	≥ 220	7	
450	<100	2	550 / 675
	$100 \leq C < 220$	4	
	≥ 220	7	

The vent will operate and the capacitor shall become an open circuit without burning materials when the following test DC voltage is applied.

Ratings for CD29E QE Series

U_R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 100kHz	Size Φ D x L	P/N
(v)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
200 (250) 2D	150	1327	708	0.71	22x25	ECS2DQE151M□□220025
	180	1106	590	0.78	22x30	ECS2DQE181M□□220030
	220	905	483	0.98	22x30	ECS2DQE221M□□220030
		905	483	0.98	25x25	ECS2DQE221M□□250025
	270	737	393	1.15	22x35	ECS2DQE271M□□220035
		737	393	1.15	25x30	ECS2DQE271M□□250030
	330	603	322	1.30	22x40	ECS2DQE331M□□220040
		603	322	1.30	25x30	ECS2DQE331M□□250030
	390	510	272	1.40	22x50	ECS2DQE391M□□220050
		510	272	1.40	25x35	ECS2DQE391M□□250035
		510	272	1.40	30x25	ECS2DQE391M□□300025
	470	423	226	1.51	25x40	ECS2DQE471M□□250040
		423	226	1.51	30x30	ECS2DQE471M□□300030
	560	355	190	1.70	25x45	ECS2DQE561M□□250045
		355	190	1.70	30x30	ECS2DQE561M□□300030

U_R (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 100kHz	Size Φ D x L	P/N
(v)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
400 (450) 2G	68	2927	1171	0.58	22x25	ECS2GQE680M□□220025
	82	2427	971	0.68	22x30	ECS2GQE820M□□220030
		2427	971	0.68	25x25	ECS2GQE820M□□250025
	100	1990	796	0.79	22x35	ECS2GQE101M□□220035
		1990	796	0.79	25x30	ECS2GQE101M□□250030
		1990	553	0.91	22x40	ECS2GQE121M□□220040
	120	1990	553	0.91	25x35	ECS2GQE121M□□250035
		1990	553	0.91	30x25	ECS2GQE121M□□300025
	150	1327	442	0.99	22x45	ECS2GQE151M□□220045
		1327	442	0.99	25x35	ECS2GQE151M□□250035
	180	1106	369	1.16	22x50	ECS2GQE181M□□220050
		1106	369	1.16	25x40	ECS2GQE181M□□250040
		1106	369	1.16	30x30	ECS2GQE181M□□300030
	220	905	302	1.28	25x45	ECS2GQE221M□□250045
		905	302	1.28	30x35	ECS2GQE221M□□300035

CD 29E QE SERIES



	680	355	190	1.70	35x25	ECS2DQE561M□□350025
		293	137	1.88	30x35	ECS2DQE681M□□300035
		293	137	1.88	35x30	ECS2DQE681M□□350030
	820	243	113	2.14	30x40	ECS2DQE821M□□300040
		243	113	2.14	35x30	ECS2DQE821M□□350030
	1000	199	80	2.37	30x50	ECS2DQE102M□□300050
		199	80	2.37	35x35	ECS2DQE102M□□350035
	1200	166	66	2.61	35x40	ECS2DQE122M□□350040
	1500	133	53	3.17	35x50	ECS2DQE152M□□350050
	250 (300) 2E	120	1659	885	0.68	22x25
1106			590	0.88	22x30	ECS2EQE181M□□220030
180		1106	590	0.88	25x25	ECS2EQE181M□□250025
		905	483	1.09	22x35	ECS2EQE221M□□220035
220		905	483	1.09	25x30	ECS2EQE221M□□250030
		270	737	393	1.21	22x40
737			393	1.21	25x35	ECS2EQE271M□□250035
737			393	1.21	30x25	ECS2EQE271M□□300025
330		603	281	1.32	22x45	ECS2EQE331M□□220045
		603	281	1.32	25x40	ECS2EQE331M□□250040
		603	281	1.32	30x30	ECS2EQE331M□□300030
390		510	238	1.57	22x50	ECS2EQE391M□□220050
		510	238	1.57	25x45	ECS2EQE391M□□250045
		510	238	1.57	30x30	ECS2EQE391M□□300030
470		423	198	1.70	25x50	ECS2EQE471M□□250050
		423	198	1.70	30x35	ECS2EQE471M□□300035
560		355	166	1.89	30x40	ECS2EQE561M□□300040
		355	166	1.89	35x30	ECS2EQE561M□□350030
680		293	137	2.20	30x45	ECS2EQE681M□□300045
		293	137	2.20	35x35	ECS2EQE681M□□350035
820		243	97	2.45	30x50	ECS2EQE821M□□300050
		243	97	2.45	35x40	ECS2EQE821M□□350040
1000		199	80	2.70	35x45	ECS2EQE102M□□350045
1200		166	66	3.29	35x50	ECS2EQE122M□□350050

	270	737	246	1.43	25x50	ECS2GQE271M□□250050	
		737	246	1.43	30x40	ECS2GQE271M□□300040	
		737	246	1.43	35x35	ECS2GQE271M□□350035	
	330	603	201	1.67	30x45	ECS2GQE331M□□300045	
		603	201	1.67	35x40	ECS2GQE331M□□350040	
	390	510	136	1.90	30x50	ECS2GQE391M□□300050	
		510	136	1.90	35x45	ECS2GQE391M□□350045	
	470	423	113	2.16	35x50	ECS2GQE471M□□350050	
	450 (500) 2W	56	4739	1185	0.44	22x25	ECS2WQE560M□□220025
		68	3903	976	0.53	22x30	ECS2WQE680M□□220030
82		3236	809	0.64	22x35	ECS2WQE820M□□220035	
		3236	809	0.64	25x25	ECS2WQE820M□□250025	
100		2654	663	0.70	22x40	ECS2WQE101M□□220040	
		2654	663	0.70	25x30	ECS2WQE101M□□250030	
120		2212	442	0.76	22x45	ECS2WQE121M□□220045	
		2212	442	0.76	25x35	ECS2WQE121M□□250035	
		2212	442	0.76	30x30	ECS2WQE121M□□300030	
150		1769	354	0.90	22x50	ECS2WQE151M□□220050	
		1769	354	0.90	25x40	ECS2WQE151M□□250040	
		1769	354	0.90	30x35	ECS2WQE151M□□300035	
		1769	354	0.90	35x30	ECS2WQE151M□□350030	
220		1206	241	1.13	25x45	ECS2WQE221M□□250045	
		1206	241	1.13	30x40	ECS2WQE221M□□300040	
		1206	241	1.13	35x35	ECS2WQE221M□□350035	
270		983	197	1.30	25x50	ECS2WQE271M□□250050	
		983	197	1.30	30x45	ECS2WQE271M□□300045	
		983	197	1.30	35x30	ECS2WQE271M□□350030	
330		804	161	1.45	30x50	ECS2WQE331M□□300050	
		804	161	1.45	35x45	ECS2WQE331M□□350045	
390		680	136	1.72	35x50	ECS2WQE391M□□350050	

Customer products are available on request.

