

High Voltage Chip Capacitor

Features

- Available in a wide choice of Capacitance Range, Dimensions, Rated Voltage, etc.
- High reliability Ni-Barrier termination is available
- High voltage [$\sim 3\text{KV}$]
- Product Quality Approved by **TÜV** & UL
- Special Products aimed at specific customer application can be provided by JOINSET

Applications

- Mobile communication related Equipment
- LCD Backlight Inverter and SMPS snubber circuit
- Electronic Ballast
- Telecommunication unit [Modem/LAN or Hub]

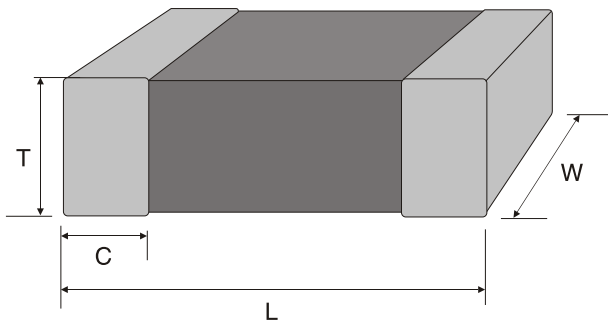
How to Order

ECCA **COG** **4520** **13** **100** **J** **302D** **N** **T**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

①	Series	Chip Capacitors		
②	Temp. Characteristics	Mat'l Code	COG	X7R
		Temp. Range	$-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$	$-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$
		Cp Range	$0 \pm 30\text{ppm}/^{\circ}\text{C}$ of Cp @25°C	$\pm 15\%$ of Cp @25°C
③	Dimensions	Refer to dimension [Length & Width]		
④	Thickness	Code	13 (Refer to dimension)	
		[mm]	1.25	
⑤	Capacitance	Code	100	101
		[pF]	10	100
⑥	Capacitance Tolerance	J : $\pm 5\%$	K : $\pm 10\%$	
⑦	Rated Voltage	Code	302D	
		[V]	DC 3K	
⑧	Termination	N : Nickel Barrier & Sn Solder Plated		
⑨	Packing Type	T : Emboss Carrier Tape & Plastic Reel Taping		

Shape & Dimension



unit:mm				
Type	L	W	T	C
4520	4.50±0.40	2.00±0.20	1.25 ^{+0.4} _{-0.1}	0.60±0.30

Capacitance Range

1. C0G Series

No.	Part No.	Cp[pF]	Cp Tol[%]	IR[GΩ, min]	Rated Voltage
1	ECCA C0G 452013 100J 302DNT	10	±5%	10	DC 3 KV
2	ECCA C0G 452013 120J 302DNT	12	±5%	10	DC 3 KV
3	ECCA C0G 452013 150J 302DNT	15	±5%	10	DC 3 KV
4	ECCA C0G 452013 180J 302DNT	18	±5%	10	DC 3 KV
5	ECCA C0G 452013 220J 302DNT	22	±5%	10	DC 3 KV
6	ECCA C0G 452013 330J 303DNT	33	±6%	10	DC 3 KV
7	ECCA C0G 452013 390J 303DNT	39	±6%	10	DC 3 KV
8	ECCA C0G 452013 470J 302DNT	47	±5%	10	DC 3 KV
9	ECCA C0G 452013 680J 302DNT	68	±5%	10	DC 3 KV
10	ECCA C0G 452013 5R6J 302DNT	5.6	±5%	10	DC 3 KV

■ TUV Certificate No. : R50016122, Test standard No. : IEC60384-14:1993+A1, EN132400:1994+A2+A3+A4, EN60950

■ UL File No. : E248982, Test standard No. : UL60950-1

2. X7R Series

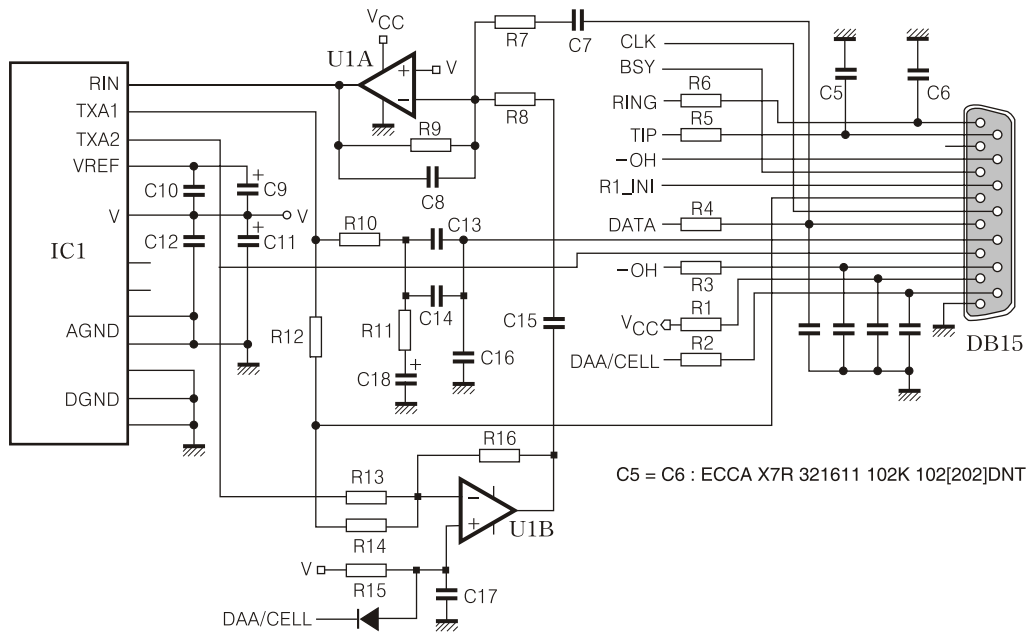
No.	Part No.	Cp[pF]	Cp Tol[%]	IR[GΩ, min]	Rated Voltage
1	ECCA X7R 452013 151J 302DNT	150	±10%	10	DC 3 KV
2	ECCA X7R 452013 221K 302DNT	220	±10%	10	DC 3 KV
3	ECCA X7R 452013 471K 302DNT	470	±10%	10	DC 3 KV
4	ECCA X7R 452013 681K 302DNT	680	±10%	10	DC 3 KV
5	ECCA X7R 452013 102K 302DNT	1,000	±10%	10	DC 3 KV

■ TUV Certificate No. : R50016122, Test standard No. : IEC60384-14:1993+A1, EN132400:1994+A2+A3+A4, EN60950

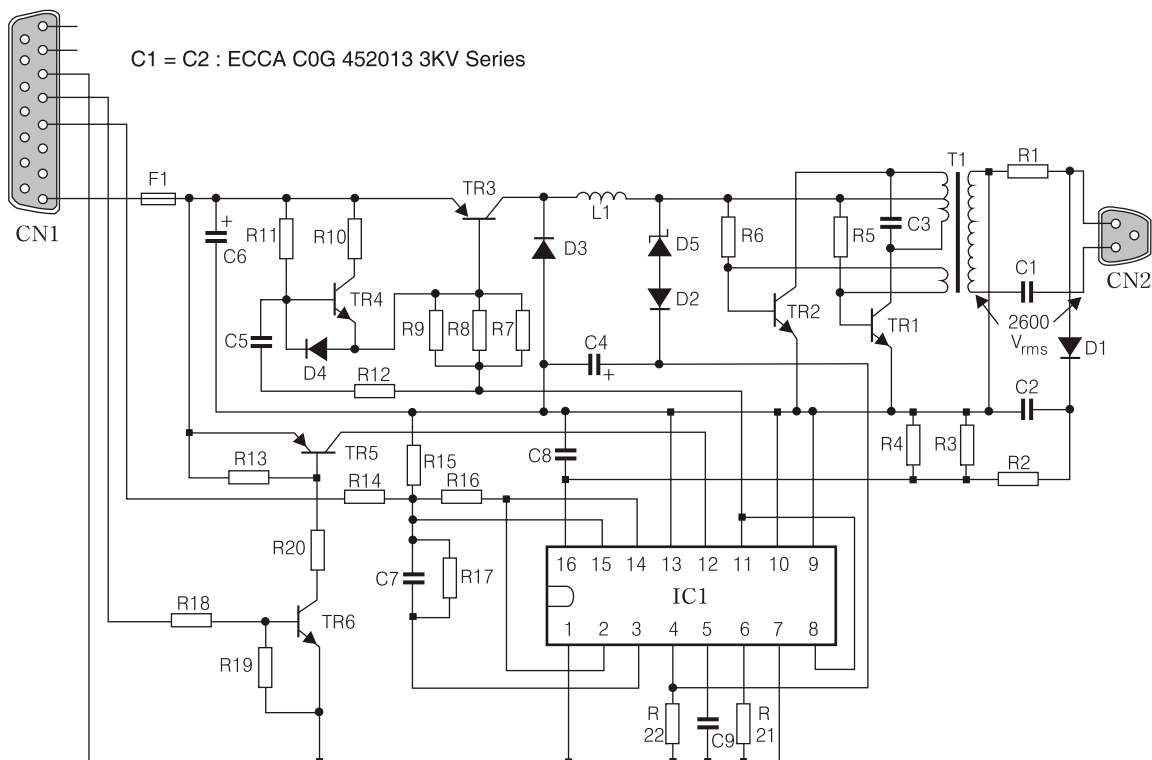
■ UL File No. : E248982, Test standard No. : UL60950-1

Application

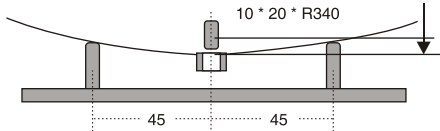
1. Modem LAN Card / Hurb



2. LCD Backlight Inverter



Performance Specifications

No.	Item	Requirements		Test Condition					
		C0G	X7R						
1	Capacitance	Within the specified tolerance		1. C0G : 1kHz 1Vrms [$> 1nF$], 1MHz 1Vrms [$\leq 1nF$] 2. X7R : 1kHz 1Vrms					
2	Dissipation Factor, DF	$\leq 0.10\%$	$\leq 2.5\%$						
3	Appearance	No Defects		Visual Inspection					
4	Dielectric Strength	No Breakdown and No Failure		1. Applied 150% of rated voltage 2. Application times : 1~5 seconds 3. Limit current : 50mA					
5	Insulation Resistance, IR	More than either $10G\Omega$ or $500M\Omega \cdot \mu F$ whichever is smaller.		1. Rated Voltage [$\leq 1KV$] is applied for 1 min.					
6	Solderability	More than 75% of the terminal electrode shall be covered with new solder.		1. Type of solder : H63A 2. Soldering temp. : $230 \pm 5^\circ C$ 3. Immersion time : 5 ± 1 sec.					
*7	Resistance to Solder Heat	Appearance	No Serious mechanical damage		1. Type of solder : H63A 2. Soldering Temp & Time : $260 \pm 5^\circ C$, 5 ± 1 sec. 3. Preheat the Capacitor at $120 \sim 150^\circ C$, 1min. Let it sit at room temp., for 24Hrs then measure.				
		ΔC_p	$\leq \pm 2.5\%$	$\leq \pm 7.5\%$					
		DF	$\leq 0.10\%$	$\leq 2.5\%$					
		IR	More than either $10G\Omega$ or $500M\Omega \cdot \mu F$ whichever is smaller.						
*8	Humidity Test [Steady state]	Appearance	No Serious mechanical damage		1. Test Temp. & Relative Humidity & Time : $65 \pm 2^\circ C$, 90~95%, 500 ± 24 Hrs 2. Let it sit at room temp., for 24Hrs then measure				
		ΔC_p	$\leq \pm 5.0\%$	$\leq \pm 12.5\%$					
		DF	$\leq 0.20\%$	$\leq 5.0\%$					
		IR	More than either $10G\Omega$ or $500M\Omega \cdot \mu F$ whichever is smaller.						
*9	High Temp. Load life test	Appearance	No Serious mechanical damage		1. Test Temp. : $+125^\circ C$ 2. Testing time : over 1000Hrs 3. Applied of rated Voltage				
		ΔC_p	$\leq \pm 5.0\%$	$\leq \pm 12.5\%$					
		DF	$\leq 0.20\%$	$\leq 5.0\%$					
		IR	More than either $10G\Omega$ or $500M\Omega \cdot \mu F$ whichever is smaller.						
*10	Temp. Cycling	Appearance	No serious mechanical damage		Step	1	2	3	4
		Cp Change	$\leq \pm 7.5\%$		Temp.	$55^\circ C$	$25^\circ C$	$125^\circ C$	$25^\circ C$
		DF	$\leq 0.10\%$	$\leq 2.5\%$	Time	30min	3min	30min	3min
		IR	More than either $10G\Omega$ or $500M\Omega \cdot \mu F$ whichever is smaller.		The cycle is repeated 5 times.				
11	Bending Strength	No Serious mechanical damage		Add load at 0.5mm/sec until glass epoxy board bends up to 1 mm 					

* : X7R Capacitor shall be tested under the following conditions satisfied before a test.
Keep at $150^\circ C \pm 10^\circ C$ for 1hr, followed by setting the capacitor at room temperature for 24 ± 1 hr.