

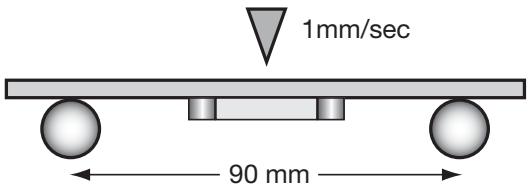
Automotive MLCC

NP0/X7R Dielectric

FLEXITERM® FEATURES

a) Bend Test

The capacitor is soldered to the PC Board as shown:



Typical bend test results are shown below:

Style	Conventional Term	Soft Term
0603	>2mm	>5
0805	>2mm	>5
1206	>2mm	>5

b) Temperature Cycle testing

FLEXITERM® has the ability to withstand at least 1000 cycles between -55°C and +125°C

Automotive MLCC - NP0

Capacitance Range

Soldering	0603			0805			1206					1210			
	Reflow/Wave			Reflow/Wave			Reflow/Wave					Reflow Only			
	25V	50V	100V	25V	50V	100V	25V	50V	100V	200V	500V	25V	50V	100V	200V
100 10pF	G	G	G	J	J	J	J	J	J	J	J				
120 12	G	G	G	J	J	J	J	J	J	J	J				
150 15	G	G	G	J	J	J	J	J	J	J	J				
180 18	G	G	G	J	J	J	J	J	J	J	J				
220 22	G	G	G	J	J	J	J	J	J	J	J				
270 27	G	G	G	J	J	J	J	J	J	J	J				
330 33	G	G	G	J	J	J	J	J	J	J	J				
390 39	G	G	G	J	J	J	J	J	J	J	J				
470 47	G	G	G	J	J	J	J	J	J	J	J				
510 51	G	G	G	J	J	J	J	J	J	J	J				
560 56	G	G	G	J	J	J	J	J	J	J	J				
680 68	G	G	G	J	J	J	J	J	J	J	J				
820 82	G	G	G	J	J	J	J	J	J	J	J				
101 100	G	G	G	J	J	J	J	J	J	J	J				
121 120	G	G	G	J	J	J	J	J	J	J	J				
151 150	G	G	G	J	J	J	J	J	J	J	J				
181 180	G	G	G	J	J	J	J	J	J	J	J				
221 220	G	G	G	J	J	J	J	J	J	J	J				
271 270	G	G	G	J	J	J	J	J	J	J	J				
331 330	G	G	G	J	J	J	J	J	J	J	J				
391 390	G	G		J	J	J	J	J	J	J	J				
471 470	G	G		J	J	J	J	J	J	J	J				
561 560				J	J	J	J	J	J	J	J				
681 680				J	J	J	J	J	J	J	J				
821 820				J	J	J	J	J	J	J	J				
102 1000				J	J	J	J	J	J	J	J	J	J	J	J
122 1200							J	J	J	J	J	J	J	M	M
152 1500							J	M	M	M	M	J	J	M	M
182 1800							J	M	M	M	M	J	J	M	M
222 2200							J	M	M	M	M	J	J	M	M
272 2700												J	J	M	
332 3300												J	J	P	
392 3900												J	J	P	
472 4700												J	J	P	
103 10nF															
	25V	50V	100V	25V	50V	100V	25V	50V	100V	200V	500V	25V	50V	100V	200V
	0603			0805			1206					1210			

Letter	A	C	E	G	J	K	M	N	P	Q	X	Y	Z
Max. Thickness	0.33 (0.013)	0.56 (0.022)	0.71 (0.028)	0.90 (0.035)	0.94 (0.037)	1.02 (0.040)	1.27 (0.050)	1.40 (0.055)	1.52 (0.060)	1.78 (0.070)	2.29 (0.090)	2.54 (0.100)	2.79 (0.110)
	PAPER					EMBOSSSED							

Automotive MLCC - X7R

Capacitance Range

Soldering			0402			0603						0805						1206						1210				1812		2220					
			Reflow/Wave			Reflow/Wave						Reflow/Wave						Reflow/Wave						Reflow Only				Reflow Only		Reflow Only					
			16V	25V	50V	10V	16V	25V	50V	100V	200V	250V	16V	25V	50V	100V	200V	250V	16V	25V	50V	100V	200V	250V	500V	16V	25V	50V	100V	50V	100V	25V	50V	100V	
221	Cap	220	C	C	C																														
271	(pF)	270	C	C	C																														
331		330	C	C	C																														
391		390	C	C	C																														
471		470	C	C	C																														
561		560	C	C	C																														
681		680	C	C	C																														
821		820	C	C	C																														
102		1000	C	C	C		G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
182		1800	C	C	C		G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
222		2200	C	C	C		G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
332		3300	C	C	C		G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
472		4700	C	C	C		G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
103	Cap	0.01	C				G	G	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	J	J	J	K	K	K	K	K	K			
123	(µF)	0.012	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J	J		K	K	K	K	K	K			
153		0.015	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J		K	K	K	K	K	K				
183		0.018	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J		K	K	K	K	K	K				
223		0.022	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J		K	K	K	K	K	K				
273		0.027	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J		K	K	K	K	K	K				
333		0.033	C				G	G	G				J	J	J	M	J	J	J	J	J	J	J	J		K	K	K	K	K	K				
473		0.047					G	G	G				J	J	J	M	J	J								K	K	K	K	K	K				
563		0.056					G	G	G				J	J	J	M			J	J	J	M	J	J		K	K	K	M	K	K				
683		0.068					G	G	G				J	J	J	M			J	J	J	M	J	J		K	K	K	M	K	K				
823		0.082					G	G	G				J	J	J	M			J	J	J	M	J	J		K	K	K	M	K	K				
104		0.1					G	G	G				J	J	J	M			J	J	J	M	J	J		K	K	K	M	K	K				
124		0.12											J	J	J	M	N		J	J	M	M				K	K	K	P	K	K				
154		0.15											M	N	M	N			J	J	M	M				K	K	K	P	K	K				
224		0.22				G							M	N	M	N			J	M	M	Q				M	M	M	P	M	M				
334		0.33											N	N	M	N			J	M	P	Q				P	P	P	Q	X	X				
474		0.47											N	N	M	N			M	M	P	Q				P	P	P	Q	X	X				
684		0.68											N	N	N				M	Q	Q	Q				P	P	Q	X	X	X				
105		1											N	N	N				M	Q	Q	Q				P	Q	Q	X	X	X				
155		1.5																	Q	Q	Q					P	Q	Z	Z	X	X				
225		2.2																	Q	Q	Q					X	Z	Z	Z	Z	Z				
335		3.3																	Q	Q						X	Z	Z	Z	Z					
475		4.7																	Q	Q						X	Z	Z	Z	Z					
106		10																								Z	Z								
226		22																															Z	Z	
			16V	25V	50V	10V	16V	25V	50V	100V	200V	250V	16V	25V	50V	100V	200V	250V	16V	25V	50V	100V	200V	250V	500V	16V	25V	50V	100V	50V	100V	25V	50V	100V	
			0402			0603						0805						1206						1210				1812		2220					
Letter			A	C	E	G	J	K						M	N	P	Q	X	Y	Z															
Max. Thickness			0.33 (0.013)	0.56 (0.022)	0.71 (0.028)	0.90 (0.035)	0.94 (0.037)	1.02 (0.040)						1.27 (0.050)	1.40 (0.055)	1.52 (0.060)	1.78 (0.070)	2.29 (0.090)	2.54 (0.100)	2.79 (0.110)															
			PAPER									EMBOSSED																							

Automotive MLCC - X8R

Capacitance Range

SIZE		0603		0805		1206	
Soldering		Reflow/Wave		Reflow/Wave		Reflow/Wave	
	WVDC	25V	50V	25V	50V	25V	50V
271	Cap 270	G	G				
331	(pF) 330	G	G	J	J		
471	470	G	G	J	J		
681	680	G	G	J	J		
102	1000	G	G	J	J	J	J
152	1500	G	G	J	J	J	J
182	1800	G	G	J	J	J	J
222	2200	G	G	J	J	J	J
272	2700	G	G	J	J	J	J
332	3300	G	G	J	J	J	J
392	3900	G	G	J	J	J	J
472	4700	G	G	J	J	J	J
562	5600	G	G	J	J	J	J
682	6800	G	G	J	J	J	J
822	8200	G	G	J	J	J	J
103	Cap 0.01	G	G	J	J	J	J
123	(μF) 0.012	G	G	J	J	J	J
153	0.015	G	G	J	J	J	J
183	0.018	G	G	J	J	J	J
223	0.022	G	G	J	J	J	J
273	0.027	G	G	J	J	J	J
333	0.033	G	G	J	J	J	J
393	0.039	G	G	J	J	J	J
473	0.047	G	G	J	J	J	J
563	0.056	G		N	N	M	M
683	0.068	G		N	N	M	M
823	0.082			N	N	M	M
104	0.1			N	N	M	M
124	0.12			N	N	M	M
154	0.15			N	N	M	M
184	0.18			N		M	M
224	0.22			N		M	M
274	0.27					M	M
334	0.33					M	M
394	0.39					M	
474	0.47					M	
684	0.68						
824	0.82						
105	1						
	WVDC	25V	50V	25V	50V	25V	50V
SIZE		0603		0805		1206	

Letter	A	C	E	G	J	K	M	N	P	Q	X	Y	Z
Max.	0.33	0.56	0.71	0.90	0.94	1.02	1.27	1.40	1.52	1.78	2.29	2.54	2.79
Thickness	(0.013)	(0.022)	(0.028)	(0.035)	(0.037)	(0.040)	(0.050)	(0.055)	(0.060)	(0.070)	(0.090)	(0.100)	(0.110)
	PAPER					EMBOSSED							