Application

The Hi-K (Y5V) dielectrics deliver high capacitance density and are ideally suited for applications where space is at a premium, or as replacement for tantalum capacitors. Typical applications include use as by-pass or decoupling elements. Best performance is obtained at or near room temperature, with low D.C. bias.

General Specification

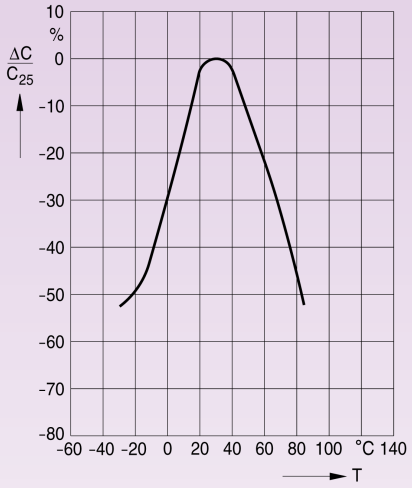
- Operating temperature range: -30˚C ~ +85˚C
- Temperature coefficient: +22-82% maximum
- Capacitance Range: 10nF ~ 100uF
- Capacitance Tolerance: ±20 % , +80-20 % (Test condition : C≦10uF, 1±0.2Vrms, 1KHz, C＞10uF, 0.5V±0.2Vrms, 120Hz)
- Rated Voltage: 6.3VDC, 10VDC, 16VDC, 25VDC, 50VDC
- Dissipation Factor: 5% Max(50V), 7% Max(16/25V), 10% Max(10/6.3V) (Test condition: same as Capacitance)

EXCEPTION : see details at http://www.hitano.com.tw/pdf/MLCCApproval.pdf

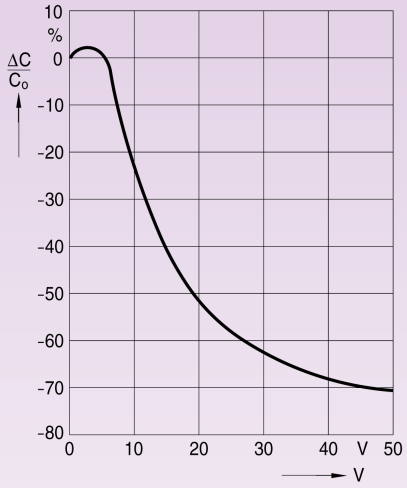
- Insulation resistance: 10,000 MW or 100 W-F min, whichever is less. (Test condition: rated voltage applied at 25˚C)
- Dielectric strength : >250% of Rated Voltage, duration 1~ 5 seconds, Charging and discharging current less than 50mA.

Characteristics

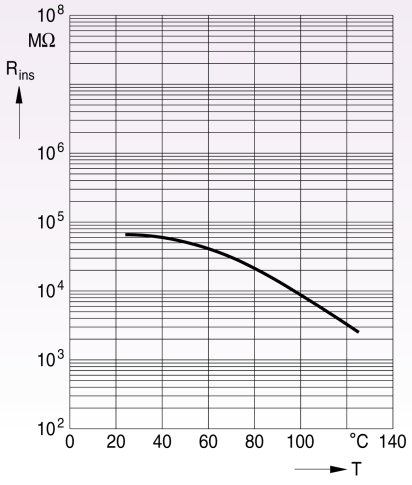
Capacitance change△C/C_{25} versus temperature T



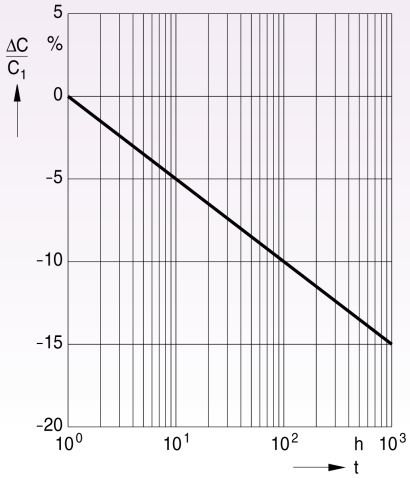
Capacitance change Δ C/C_0 versus superimposed dc voltage V



Insulation resistance Rins versus Temperature T



Capacitance change Δ C/C_1 versus time (aging rate)



Size And Values Available (Y5V)

Size		0402			0603					0805					1206					1210				1812			
(L)	mm	1.00±0.05			1.600±0.10					2.00±0.20					3.20±0.20					3.20±0.30				4.50±0.30			
(W)	mm	0.50±0.05			0.80±0.10					1.25±0.20					1.60±0.20					2.50±0.20				3.20±0.30			
(T)	mm	0.50±0.05			0.80±0.12					1.25±0.20					1.65±0.20					2.00±0.20				2.50±0.20			
(t)	mm	0.15~0.35			0.27~0.60					0.30~0.70					0.30~0.70					0.30~0.70				0.35~1.00			
Cap.// W.V.		6.3	10	16	6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25	10	16	25	50
10	nF			S					P					A					H								
15	nF			S					P					A					H								
22	nF			S					P					A					H								
33	nF			S					P					A					H								
47	nF			S					P					A					H								
68	nF			S					P					A					H								
100	nF			S					P				A	A					H								
150	nF							P	P				A	A					H								
220	nF		S				P	P	P				A	A					H								
330	nF		S				P	P					H	H					H								
470	nF	S	S			P	P	P				H	H	H					H								
680	nF	S				P	P					X	X	X				H	X								
1.0	uF	S				P	P					X	X	X				X	X								
2.2	uF				P	P					X	X	X				X	X	X								
3.3	uF				P						X	X					X	X									
4.7	uF				P						X	X					X	X									
10	uF									X	X					H/X	L				Z	X	L				G
22	uF									X					L	L					Z	Z				G	
47	uF														L					Z	Z				G		
100	uF																			G				G			

Thickness Code: Standard Packing Q'ty per reel

Thickness Code	Chip Size	Chip Thickness	Max Tape Thickness	Q'ty of carboard tape in		Q'ty of Embosses tape in	
				7" reel	13" reel	7" reel	13" reel
S	0402	0.50±0.05 mm	0.60 mm	10,000	50,000	--	--
P	0603	0.80±0.10 mm	0.95 mm	4,000	15,000	--	--
A	0805	0.60±0.10 mm	0.75 mm	4,000	15,000	--	--
H		0.85±0.10 mm	0.95 mm	4,000	15,000	--	--
X		1.25±0.10 mm	1.80 mm	--	--	3,000	10,000
H	1206	0.85±0.10 mm	0.90 mm	4,000	15,000	--	--
C		0.95±0.10 mm	1.80 mm	--	--	3,000	10,000
X		1.25±0.10 mm	1.80 mm	--	--	3,000	10,000
L		1.65±0.20 mm	1.80 mm	--	--	2,000	--
C	1210	0.95±0.10 mm	1.80 mm	--	--	3,000	10,000
X		1.25±0.10 mm	1.80 mm	--	--	2,000	--
L		1.65±0.20 mm	1.80 mm	--	--	2,000	--
Z		2.00±0.20 mm	2.20 mm	--	--	2,000	--
G		2.50±0.20 mm	2.75 mm	--	--	1,000	--
F		1.40±0.20 mm	1.80 mm	--	--	2,000	--
L	1808	1.65±0.20 mm	1.80 mm	--	--	2,000	--
Z		2.00±0.20 mm	2.20 mm	--	--	2,000	--
X	1812	1.25±0.20 mm	1.80 mm	--	--	1,000	--
L		1.65±0.20 mm	1.80 mm	--	--	1,000	
Z		2.00±0.20 mm	2.20 mm	--	--	1,000	--
G		2.50±0.20 mm	2.75 mm	--	--	500	--
N		2.80±0.30 mm	3.00 mm	--	--	500	--
Z	2220	2.00±0.20 mm	2.20 mm	--	--	500	--
G		2.50±0.20 mm	2.75 mm	--	--	500	--