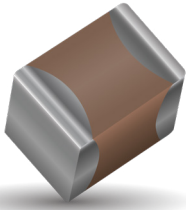


# Y5V Dielectric

## General Specifications



### GENERAL DESCRIPTION

Y5V formulations are for general-purpose use in a limited temperature range. They have a wide temperature characteristic of +22% -82% capacitance change over the operating temperature range of -30°C to +85°C.

These characteristics make Y5V ideal for decoupling applications within limited temperature range.



### PART NUMBER (SEE PAGE 4 FOR COMPLETE PART NUMBER EXPLANATION)

**0805**

**Size**  
(L" x W")

**3**

**Voltage**  
6.3V = 6  
10V = Z  
16V = Y  
25V = 3  
50V = 5

**G**

**Dielectric**  
Y5V = G

**104**

**Capacitance Code (In pF)**  
2 Sig. Digits + Number of Zeros

**Z**

**Capacitance Tolerance**  
Z = +80 -20%

**A**

**Failure Rate**  
A = Not Applicable

**T**

**Terminations**  
T = Plated Ni and Sn

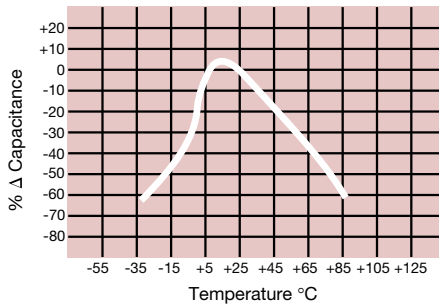
**2**

**Packaging**  
2 = 7" Reel  
4 = 13" Reel

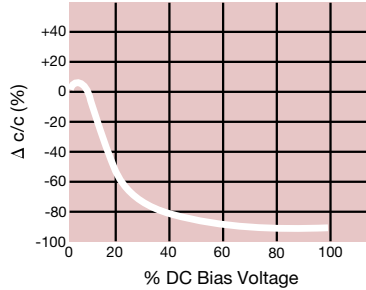
**A**

**Special Code**  
A = Std. Product

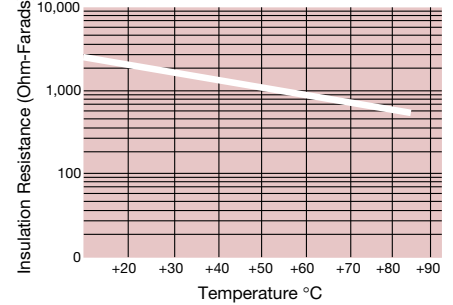
**Temperature Coefficient**



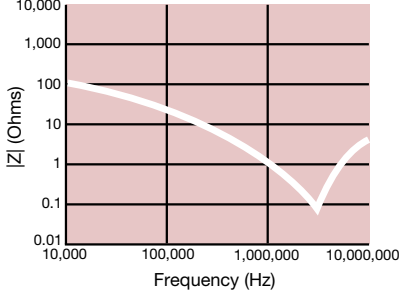
**Capacitance Change vs. DC Bias Voltage**



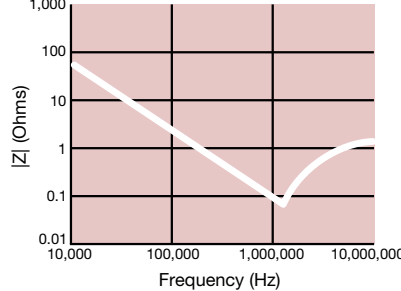
**Insulation Resistance vs. Temperature**



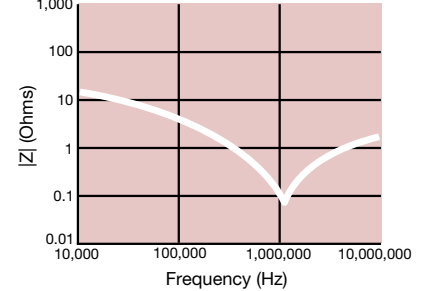
**0.1 μF - 0603 Impedance vs. Frequency**



**0.22 μF - 0805 Impedance vs. Frequency**

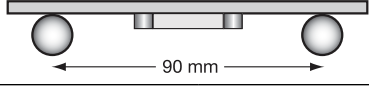


**1 μF - 1206 Impedance vs. Frequency**



# Y5V Dielectric

## Specifications and Test Methods

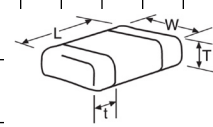
Parameter/Test		Y5V Specification Limits	Measuring Conditions	
Operating Temperature Range		-30°C to +85°C	Temperature Cycle Chamber	
Capacitance		Within specified tolerance	Freq.: 1.0 kHz ± 10% Voltage: 1.0Vrms ± .2V For Cap > 10 µF, 0.5Vrms @ 120Hz	
Dissipation Factor		≤ 5.0% for ≥ 50V DC rating ≤ 7.0% for 25V DC rating ≤ 9.0% for 16V DC rating ≤ 12.5% for ≤ 10V DC rating		
Insulation Resistance		10,000MΩ or 500MΩ - µF, whichever is less		
Dielectric Strength		No breakdown or visual defects	Charge device with 250% of rated voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max)	
Resistance to Flexure Stresses	Appearance	No defects	Deflection: 2mm Test Time: 30 seconds 1mm/sec 	
	Capacitance Variation	≤ ±30%		
	Dissipation Factor	Meets Initial Values (As Above)		
	Insulation Resistance	≥ Initial Value x 0.1		
Solderability		≥ 95% of each terminal should be covered with fresh solder	Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds	
Resistance to Solder Heat	Appearance	No defects, <25% leaching of either end terminal	Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.	
	Capacitance Variation	≤ ±20%		
	Dissipation Factor	Meets Initial Values (As Above)		
	Insulation Resistance	Meets Initial Values (As Above)		
	Dielectric Strength	Meets Initial Values (As Above)		
Thermal Shock	Appearance	No visual defects	Step 1: -30°C ± 2°	30 ± 3 minutes
	Capacitance Variation	≤ ±20%	Step 2: Room Temp	≤ 3 minutes
	Dissipation Factor	Meets Initial Values (As Above)	Step 3: +85°C ± 2°	30 ± 3 minutes
	Insulation Resistance	Meets Initial Values (As Above)	Step 4: Room Temp	≤ 3 minutes
	Dielectric Strength	Meets Initial Values (As Above)	Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature	
Load Life	Appearance	No visual defects	Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)  Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring.	
	Capacitance Variation	≤ ±30%		
	Dissipation Factor	≤ Initial Value x 1.5 (See Above)		
	Insulation Resistance	≥ Initial Value x 0.1 (See Above)		
	Dielectric Strength	Meets Initial Values (As Above)		
Load Humidity	Appearance	No visual defects	Store in a test chamber set at 85°C ± 2°C/ 85% ± 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.  Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.	
	Capacitance Variation	≤ ±30%		
	Dissipation Factor	≤ Initial Value x 1.5 (See above)		
	Insulation Resistance	≥ Initial Value x 0.1 (See Above)		
	Dielectric Strength	Meets Initial Values (As Above)		

# Y5V Dielectric

## Capacitance Range

### PREFERRED SIZES ARE SHADED

SIZE	0201				0402				0603				0805				1206				1210				
Soldering	Reflow Only				Reflow/Wave				Reflow/Wave				Reflow/Wave				Reflow/Wave				Reflow/Wave				
Packaging	All Paper				All Paper				All Paper				Paper/Embossed				Paper/Embossed				Paper/Embossed				
(L) Length	mm (in.)	0.60 ± 0.09 (0.024 ± 0.004)			1.00 ± 0.10 (0.040 ± 0.004)			1.60 ± 0.15 (0.063 ± 0.006)			2.01 ± 0.20 (0.079 ± 0.008)			3.20 ± 0.20 (0.126 ± 0.008)			3.20 ± 0.20 (0.126 ± 0.008)								
(W) Width	mm (in.)	0.30 ± 0.09 (0.011 ± 0.004)			0.50 ± 0.10 (0.020 ± 0.004)			.81 ± 0.15 (0.032 ± 0.006)			1.25 ± 0.20 (0.049 ± 0.008)			1.60 ± 0.20 (0.063 ± 0.008)			2.50 ± 0.20 (0.098 ± 0.008)								
(t) Terminal	mm (in.)	0.15 ± 0.05 (0.006 ± 0.002)			0.25 ± 0.15 (0.010 ± 0.006)			0.35 ± 0.15 (0.014 ± 0.006)			0.50 ± 0.25 (0.020 ± 0.010)			0.50 ± 0.25 (0.020 ± 0.010)			.50 ± 0.25 (0.020 ± 0.010)								
WVDC		63	10	6	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	
Cap (pF)																									
Cap (µF)																									
820																									
1000			A																						
2200			A																						
4700			A																						
0.010		A	A																						
0.022		A	A																						
0.047		A																							
0.10						C	C																		
0.22																									
0.33																									
0.47																									
1.0						C	C																		
2.2																									
4.7																									
10.0																									
22.0																									
47.0																									
WVDC		63	10	6	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	
SIZE		0201				0402				0603				0805				1206				1210			



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					EMBOSSSED							



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.