

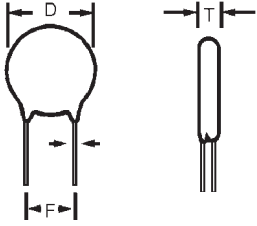
# Disc Ceramic Capacitors



## General Specifications - Class III Semi Conducting

### DIELECTRIC - CLASS III

A thin dielectric layer is grown on a disc of conductive ceramic. Very large capacitances can be obtained due to reduced thickness of this barrier layer and its inherently high dielectric constant. Due to its small dimensions, they are a less expensive replacement of multilayer ceramic or polyester capacitors. An equivalent circuit is shown below:



Meets IEC 324 (1970).

### HOW TO ORDER



### PERFORMANCE CHARACTERISTICS CLASS III

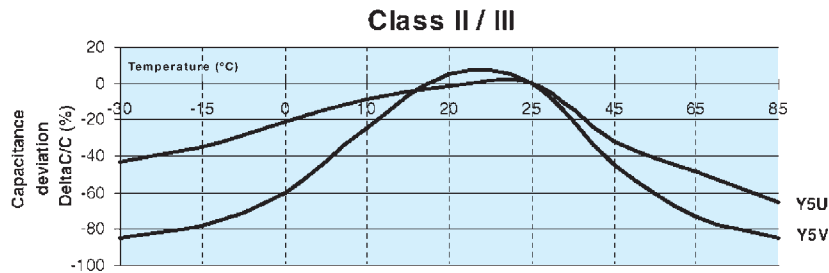
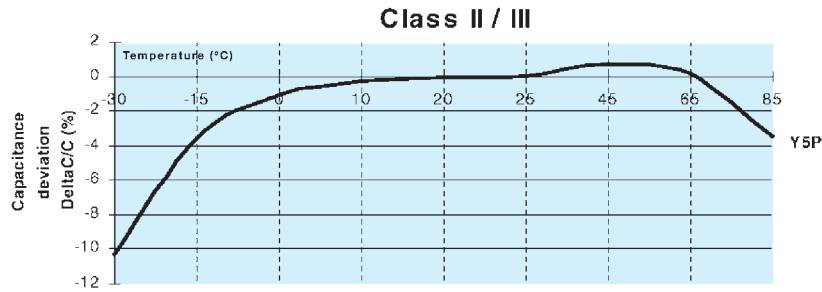
Measured at	1.0 kHz / 0.1 Vrms / 25°C	
Dissipation Factor (%)	$C_R \leq 22 \text{ nF} \rightarrow Y5V, Y5U \leq 7.5\%$ $C_R > 22 \text{ nF} \rightarrow Y5V, Y5P \leq 5.0\%$	
Tolerance	$Y5P \rightarrow \pm 20\% / -20 + 50\%$ $Y5U \rightarrow \pm 20\% / -20 + 50\%$ $Y5V \rightarrow -20\% + 50\% / -20 + 80\%$	
Insulation Resistance (IR)	Y5P	$\geq 12 \text{ M}\Omega$
	Y5U	$4.7 \text{ nF} \dots 100 \text{ nF} \rightarrow \geq 10 \text{ M}\Omega$ $200 \text{ nF} \rightarrow \geq 1 \text{ M}\Omega$
	Y5V	$\geq 100 \text{ M}\Omega$
Dielectric Strength NOTE: Charging current limited to 50 mA	Between leads	$V_t = 1.25 V_R$
	Body insulation	$V_R = 25V \quad V_t = 100V \text{ (DC)}$ $V_R = 50V \quad V_t = 150V \text{ (DC)}$
Operating Temperature Range (°C)	-30... +85°C	
Climate Category	30 / 85 / 21	

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### TEMPERATURE COEFFICIENT – TYPICAL CURVES



### PHENOLIC COATED – CAPACITANCE VS. DISC DIAMETER

millimeters (inches)

Class III	$\Delta C/C$ (max.) $\pm 12\%$ Range -30... +85°C		$\Delta C/C$ (max.) +30 -65% Range -30... +85°C		$\Delta C/C$ (max.) +30 -65% Range -30... +85°C	
	Y5P		Y5U		Y5V	
Temp. Coefficient	Y5P		Y5U		Y5V	
Digits 1,2,3 of P.N.	5WF	5WH	5YF	5YH	5ZH	
Rated Voltage ( $V_R$ )	25 VDC	50 VDC	25 VDC	50 VDC	50 VDC	
$C_R$ (pF)						
4,700	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	
10,000	6.0 (0.236)	6.0 (0.236)		6.0 (0.236)		
22,000	7.0 (0.276)	8.0 (0.315)	7.0 (0.276)	8.0 (0.315)		
33,000	8.0 (0.315)	9.0 (0.354)	6.0 (0.236)	7.0 (0.276)	6.0 (0.236)	
47,000	9.0 (0.354)		7.0 (0.276)	8.0 (0.315)		
50,000		11.0 (0.433)		11.0 (0.433)		
68,000	11.0 (0.433)	11.0 (0.433)	8.0 (0.315)	9.0 (0.354)	10.0 (0.394)	
100,000						
200,000						

Note: Damp Heat Steady State: 90... 95% R.H. 40°C / 21 days. No voltage to be applied.

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