

Part Number Description (for order booking)

Material Type	Rated Capacitance	Cap. Tol.	Rated Voltage	T.C.	Disc Size	Lead Spacing	Lead Style & Package
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Example: **HK 103 Z 50V Z5U D6 F5 TBS**

HK	103	Z	50V	Z5U	D6	F5	TBS	
								Straight Lead Ammo Packaging
								Lead Spacing = 5mm
								Disc Dia. = 6mm
								Temperature Characteristics
								50V DC
								+80% -20%
								10,000 pF (0.01 μ F)
								Hi-K Type

(1) Material Type:

TC = T.C. Type (Class I), **HK** = Hi-K Type (Class II), **SC** = S.C. Type (Class III)

(2) Rated Capacitance in (pF):

The first two digits are the significant figures of capacitance and the third digit denotes the number of following zeros.

Code	R47	010	4R7	100	101	102	103	104
pF	0.47	1	4.7	10	100	1,000	10,000	100,000

(3) Capacitance Tolerance:

Code	C	D	J	K	M	R	Z
Tolerance	± 0.25 pF	± 0.5 pF	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	+50% - 10%	+80%-20%

(4) Rated Voltage: in Volts (V), DC

(5) T.C. (Temperature Characteristics):

Please refer to page CC-2 for the details

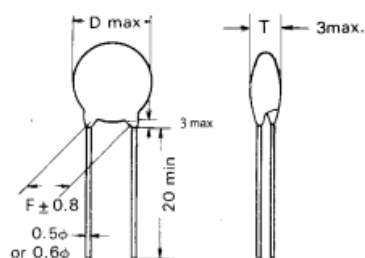
(6) Disc Size (D): Diameter in mm.

(7) Lead Spacing (F): in mm.

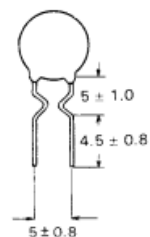
(8) Lead Style:

The Code is omitted when the lead is in straight long leads (style 1) and the package is in bulk.

1. Straight Long Leads (Complete Durez coverage Leads)



2. Inside Kink & Cut Leads



Package:

TBS = Straight Lead Ammo packaging

TBF = Formed Lead Ammo packaging

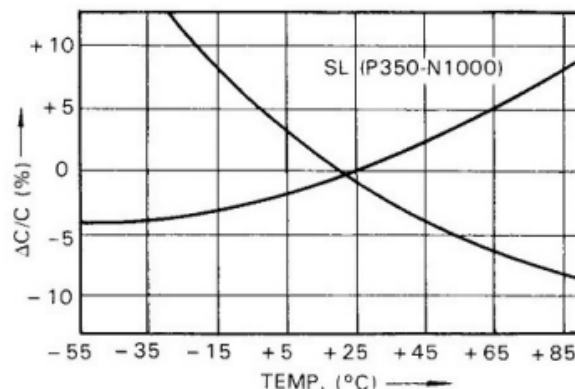
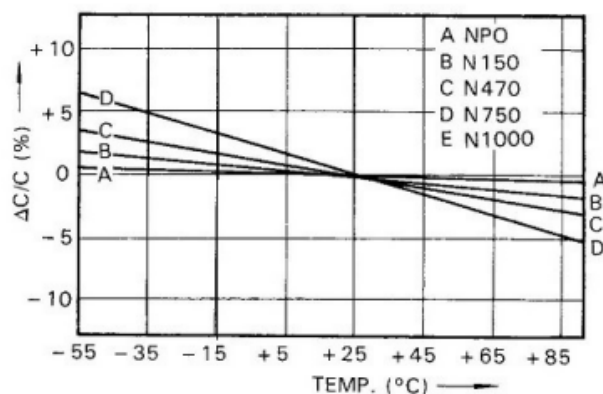
TEMPERATURE COEFFICIENT CHARACTERISTICS:

CLASS I • TEMPERATURE COMPENSATING

unit: (ppm/°C)

CAP. \ T.C.	NPO	N150	N470	N750	SL
1 pF ~ 2.7 pF	0±250	- 150±250	- 470±250	- 750±250	+ 350 ~ - 1000
3 pF ~ 3.9 pF	0±120	- 150±120	- 470±120	- 750±120	+ 350 ~ - 1000
4 pF and over	0± 60	- 150± 60	- 470± 60	- 750±120	+ 350 ~ - 1000

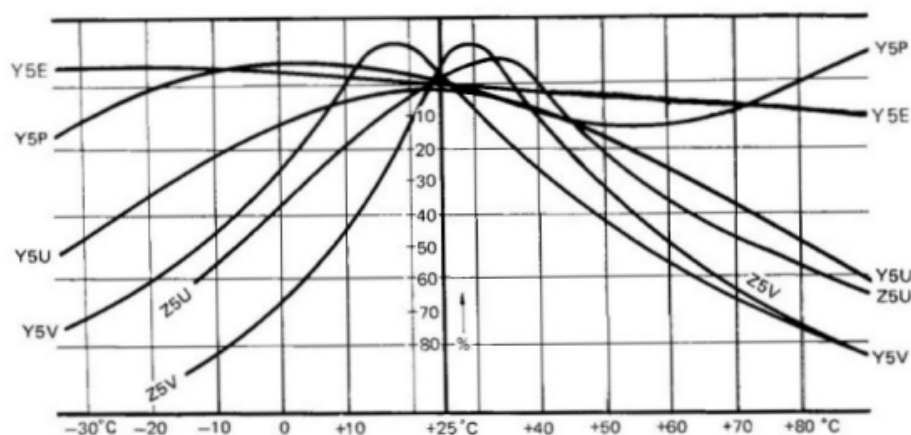
T.C. CHART:



CLASS II, CLASS III • HIGH DIELECTRIC CONSTANT

Dielectric Const. \ Item	Max. Capacitance Change from 25°C	Applicable Temperature Range	EIA Code
K1000	±4.7%	- 30°C ~ + 85°C	Y5E
K3000	±10%	- 30°C ~ + 85°C	Y5P
K10000	+ 22% ~ - 56%	+ 10°C ~ + 85°C	Z5U
K16000	+ 22% ~ - 82%	+ 10°C ~ + 85°C	Z5V

T.C. CHART:



Hi-K TYPE (CLASS II)

The capacitors have variety of high K (dielectric constant) ceramic formulations. They are suitable to be used in circuit application of 'bypass' and 'coupling' where a large amount of capacitance is required and the capacitance change versus temperature is less sensitive.



SPECIFICATION:

Operation Temperature Range	Y5E, Y5P: - 30°C ~ + 85°C Z5U, Z5V: + 10°C ~ + 85°C
Rated Working Voltage (DC)	50V, 63V, 100V
Capacitance	Measured at 25°C, 1KHz, 1V rms. max.
Capacitance Tolerance	±10% (K), ±20% (M), + 50% - 10% (R), + 80% - 20% (Z)
Insulation Resistance	10,000MΩ min. at working voltage, 60 sec.
Dissipation Factor (D.F.)	Measured at 25°C, 1KHz, 1V rms. max. Y5E, Y5P, Z5U: 2.5% max. Z5V: 5.0% max.
Voltage Proof (Flash Test)	Withstand 250% of rated working voltage with 50mA current, 1.5 sec.
Life Test	200% of rated voltage at 85°C for 500 hours.
Applicable Standards	EIA RS-198 (CLASS II), JIS C-6422 (TYPE II)

CAPACITANCE RANGE / DIMENSION CHART:

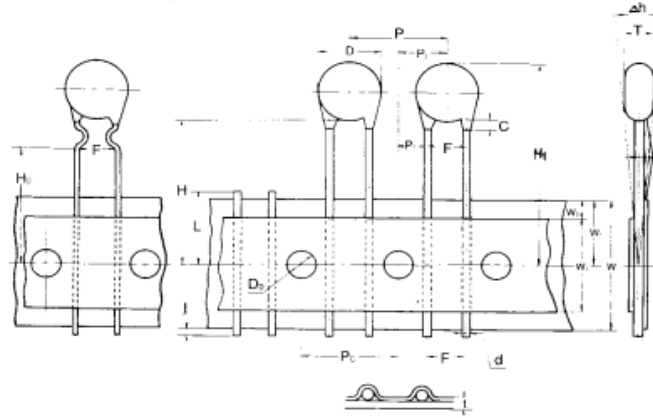
W.V.: 50V ~ 100V (DC)

DIMENSION (mm)		TEMPERATURE CHARACTERISTIC (Capacitance in pF)			
D	F	Y5E	Y5P	Z5U	Z5V
5	2.5 or 5.0	100 - 680	100 - 2200	1000 - 4700	1000 - 10000
6	5.0	820 - 1000	3300	5600	15000 - 22000
7	5.0	1500	4700	6800 - 10000	--
8	5.0	2200	5600	--	--
9	5.0	3300	8200	15000	33000
10	5.0	--	10000	22000	47000

Radial Leads Taping Specifications

These radial taped ceramic disc capacitors are designed especially for automatic insertion. The available types for radial taped disc are diameters 11.0mm and under.

Unit: mm



Item	Symbol	Specification		Remarks
		Value	Tolerance	
Body Width	D	110	Max.	
Body Thickness	T	3.5	Max.	
Lead-wire diameter	d	0.6	+0.06 -0.05	
Pitch of component	P	12.7	±1.0	
Feed hole pitch	P ₀	12.7	±0.3	Cumulative pitch error: 1.0mm/20pitch
Feed hole center to lead	P ₁	3.85	±0.7	To be measured at bottom of clinch
Lead-to-lead distance	F	5.0	±0.8	
Component alignment, F-R	h	0	±0.2	
Tape width	W	18.0	+1.0 -0.5	
Hold-down tape width	W ₀	11.0	Min.	
Hole position	W ₁	9.0	+0.75 -0.5	
Hole-down tape position	W ₂	3.0	Max.	
Height of component from Tape center	H	20.0	+1.0 -0.5	For Straight Lead Type
	H ₀	16.0	±0.5	For Kinked Lead Type
Component height	H ₁	32.25	Max.	
Lead-wire protrusion	l	2.0	Max.	
Feed hole diameter	D ₀	4.0	±0.3	
Total tape thickness	T	0.7	±0.2	Ground paper: 0.5±0.1mm
Length of clipped lead	L	11.0	Max.	
Coating rundown on leads	C	1.5	Max.	

Anchor with a stapler when the tape is cut or completed. It is accepted that up to three parts may become detached for the tape.

BOX PACKAGE

(2,000 Capacitors per Box)

