

NPYT Y1 Series

Radial Leaded Y1

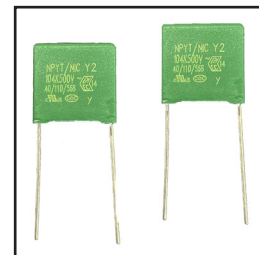
Interference Suppression Capacitors



MOLDED BOX CONSTRUCTION, SUPPRESSION CAPACITOR, RADIAL LEAD

FEATURES

- Molded Radial Leaded Construction
- Self Healing Construction
- Y1 Class Safety Capacitors
- Safety Agency Listed: UL, cUL, ENEC, CQC
- IEC 60068-1 Climatic category Y1 55/110/56



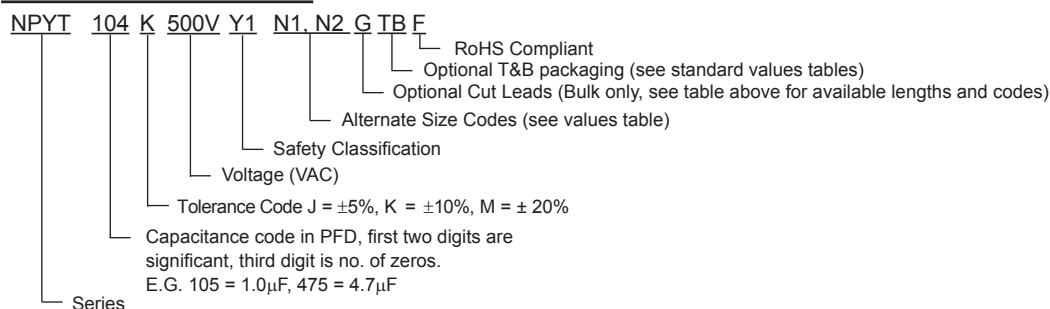
SPECIFICATIONS

Classification	Y1	
Operating Temperature	-55°C ~ +110°C	
Rated Voltage	500VAC	
Continuous Working DC Voltage	1,500VDC	
Capacitance Range	470pF ~ 0.1μF	
Capacitance Tolerance	±5% (J), ±10% (K), ±20% (M)	
Insulation Resistance (min.)	$C \leq 0.33\mu F \geq 15,000 \text{ Megohm}$	VR = 500VAC, Vt = 500 ± 50 VDC Charge Time: 60 ± 5 sec.
Dissipation Factor	≤ 0.1% max. @ 1KHz/20°C	
IEC 60068-1 Climatic category (Damp heat, steady state)	55/110/56 Temp. +40°C ± 2°C with relative humidity (RH): 93% ± 2% for 56 days	
Dielectric Strength	Between Terminals	5,700VDC/ 2 sec. ARC=OFF
	Between Terminals & Enclosure	4,000 VAC for 60 sec. max.

SAFETY AGENCY APPROVALS

Agency	Standard	Certificate Number
UL/cUL	UL60384-14 CSAE60384-14	E209251
ENEC	EN60384-14:2013+A1	SE-ENEC-2002177R1
CQC	IEC 60384-14:2013 AMD1: 2016	CQC20001262120

PART NUMBER SYSTEM



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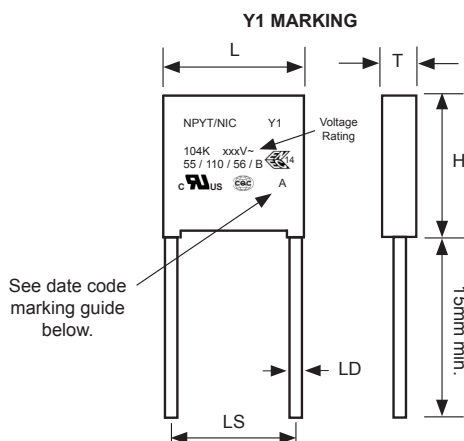
Y1 DV/DT RATINGS

Lead-Space (mm)	15	22.5	27.5
DV/DT (V/ μ S)	3000	1000	700

CUT LEAD CODES (BULK PARTS ONLY)

Lead Length*	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Code	A	B	C	D	E	G	H	J	K	L	M

* Lead length ± 0.5 mm



DATE CODE MARKING

Year	Month	Code	Year	Month	Code	Year	Month	Code	Year	Month	Code
2024	Jan.	n	2025	Jan.	A	2026	Jan.	N	2027	Jan.	a
	Feb.	p		Feb.	B		Feb.	P		Feb.	b
	Mar.	q		Mar.	C		Mar.	Q		Mar.	c
	Apr.	r		Apr.	D		Apr.	R		Apr.	d
	May	s		May	E		May	S		May	e
	Jun.	t		Jun.	F		Jun.	T		Jun.	f
	Jul.	u		Jul.	G		Jul.	U		Jul.	g
	Aug.	v		Aug.	H		Aug.	V		Aug.	h
	Sept.	w		Sept.	J		Sept.	W		Sept.	j
	Oct.	x		Oct.	K		Oct.	X		Oct.	k
	Nov.	y		Nov.	L		Nov.	Y		Nov.	l
	Dec.	z		Dec.	M		Dec.	Z		Dec.	m

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Y1 STANDARD VALUES AND CASE SIZE (mm)

Part Number	Cap. Value (μ F)	Capacitance Code	Standard Tolerance*	L ± 1.0	H ± 1.0	T ± 1.0	LS ± 1.0	LD ± 0.05
NPYT471K500VY1N1F	0.00047	471	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT561K500VY1N1F	0.00056	561	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT681K500VY1N1F	0.00068	681	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT102K500VY1N1F	0.001	102	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT122K500VY1N1F	0.0012	122	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT152K500VY1N1F	0.0015	152	$\pm 10\%$ (K)	18.0	11.0	5.0	15.0	0.6
NPYT182K500VY1N1F	0.0018	182	$\pm 10\%$ (K)	18.0	12.0	6.0	15.0	0.8
NPYT202K500VY1N1F	0.002	202	$\pm 10\%$ (K)	18.0	12.0	6.0	15.0	0.8
NPYT222K500VY1N1F	0.0022	222	$\pm 10\%$ (K)	18.0	12.0	6.0	15.0	0.8
NPYT252K500VY1N1F	0.0025	252	$\pm 10\%$ (K)	18.0	12.0	6.0	15.0	0.8
NPYT272K500VY1N1F	0.0027	272	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT282K500VY1N1F	0.0028	282	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT332K500VY1N1F	0.0033	332	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT392K500VY1N1F	0.0039	392	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT402K500VY1N1F	0.004	402	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT472K500VY1N1F	0.0047	472	$\pm 10\%$ (K)	18.0	13.5	7.5	15.0	0.8
NPYT502K500VY1N1F	0.005	502	$\pm 10\%$ (K)	18.0	14.5	8.5	15.0	0.8
NPYT562K500VY1N1F	0.0056	562	$\pm 10\%$ (K)	18.0	14.5	8.5	15.0	0.8
NPYT562K500VY1N2F	0.0056	562	$\pm 10\%$ (K)	26.5	15.0	6.0	22.5	0.8
NPYT682K500VY1N1F	0.0068	682	$\pm 10\%$ (K)	18.0	16.0	10.0	15.0	0.8
NPYT682K500VY1N2F	0.0068	682	$\pm 10\%$ (K)	26.5	16.5	7.0	22.5	0.8
NPYT822K500VY1N1F	0.0082	822	$\pm 10\%$ (K)	18.0	18.5	11.0	15.0	0.8
NPYT822K500VY1N2F	0.0082	822	$\pm 10\%$ (K)	26.0	17.0	8.5	22.5	0.8
NPYT103K500VY1N1F	0.01	103	$\pm 10\%$ (K)	18.0	18.5	11.0	15.0	0.8
NPYT103K500VY1N2F	0.01	103	$\pm 10\%$ (K)	26.0	17.0	8.5	22.5	0.8
NPYT123K500VY1N1F	0.012	123	$\pm 10\%$ (K)	26.5	19.0	10.0	22.5	0.8
NPYT153K500VY1N1F	0.015	153	$\pm 10\%$ (K)	26.5	19.0	10.0	22.5	0.8
NPYT183K500VY1N1F	0.018	183	$\pm 10\%$ (K)	26.0	20.0	11.0	22.5	0.8
NPYT223K500VY1N1F	0.022	223	$\pm 10\%$ (K)	26.0	21.5	12.0	22.5	0.8
NPYT223K500VY1N2F	0.022	223	$\pm 10\%$ (K)	32.0	20.0	11.0	27.5	0.8
NPYT273K500VY1N1F	0.027	273	$\pm 10\%$ (K)	31.5	21.6	13.0	27.5	0.8
NPYT333K500VY1N1F	0.033	333	$\pm 10\%$ (K)	31.5	21.6	13.0	27.5	0.8
NPYT473K500VY1N1F	0.047	473	$\pm 10\%$ (K)	32.0	28.0	14.0	27.5	0.8
NPYT563K500VY1N1F	0.056	563	$\pm 10\%$ (K)	32.0	28.0	14.0	27.5	0.8
NPYT683K500VY1N1F	0.068	683	$\pm 10\%$ (K)	31.0	33.0	18.0	27.5	0.8
NPYT823K500VY1N1F	0.082	823	$\pm 10\%$ (K)	31.0	31.0	22.0	27.5	0.8
NPYT104M500VY1N1F	0.1	104	$\pm 20\%$ (M)	31.0	31.0	22.0	27.5	0.8
NPYT104K500VY1N3F	0.1	104	$\pm 10\%$ (K)	32.0	37.0	22.0	27.5	0.8

*Also available in $\pm 5\%$ (J) and $\pm 20\%$ (M) tolerance.

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ENVIRONMENTAL CHARACTERISTICS

Item	Test Method	Standard
Endurance	+110°C±2°C, 170% of RV for 1,000 hours (Voltage applied through 47Ω ± 5% resistor, every hour voltage is increased to 1,000Vrms for 0.1 seconds).	Physical: No remarkable physical Capacitance: Within ±10% of initial measured value DF: 0.8% max. IR ≥ 50% of specified value
Moisture Resistance (With Load)	+40°C±2°C, Rated Voltage, 87% ~ 93% RH, 500 hours. (Part stabilized at room temperature for 1.5 ± 0.5 hours before taking measurements)	Physical: No remarkable physical Capacitance: Within ±5% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Moisture Resistance (No Load)	+40°C±2°C, 90% ~ 95% RH, 56 days. (Part stabilized at room temperature for 1.5 ± 0.5 hours before taking measurements)	Physical: No remarkable physical Capacitance: Within ±5% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Temperature Cycling	A total of 5 cycles. Each cycle includes: 1. +20 ± 2°C for 3 minutes 2. -40 ± 3°C for 30 minutes 3. +20 ± 2°C for 3 minutes 4. +110 ± 3°C for 30 minutes 5. +20 ± 2°C for 3 minutes After test allow parts to stabilized at room temperature for 1.5 ± 0.5 hours before taking measurements.	Physical: No remarkable physical Capacitance: Within ±5% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Resistance to Dry Heat	+110 ± 2°C for 16 +1/-0 hours	Physical: No remarkable physical Capacitance: Within ±5% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Resistance to Cold	-40°C ± 3°C for 2 hours ± 1 hours	Physical: No remarkable physical Capacitance: Within ±5% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Resistance to Soldering Heat	Preheat: +100°C ~ +120°C (60 seconds max). Ramp-up rate: 3°C per second max. Peak soldering temperature: +260 ± 5°C for 5 seconds max. Immersion depth: 4.8mm max from base of component (Part stabilized at room temperature for 1.5 ± 0.5 hours before taking measurements)	Physical: No remarkable physical Capacitance: Within ±3% of initial measured value DF: ≤ 0.2%, IR ≥ 50% of specified value
Vibration	Frequency: 10-55-10Hz Magnitude: 1.5mm in X, Y and Z directions Duration: 2 +1/-0 hours in each direction	No short/open circuit and stable connection
Terminal Strength	Apply 1.0Kg of force for 10 ± 1 seconds to the terminal in the axial direction away from the body of the part.	No abnormalities
Bending Strength	Apply 0.5Kg of force for 2 cycles. Each cycle includes 90° once, return to original position for 2 ~ 3 seconds and then bend in the opposite direction.	No abnormalities

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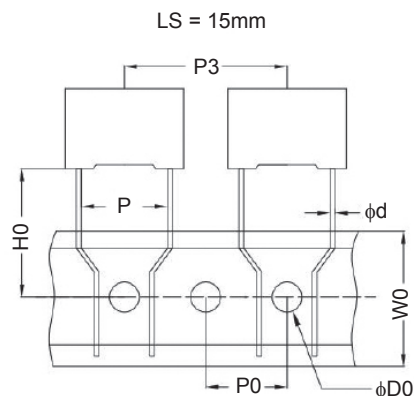


Fig. 1

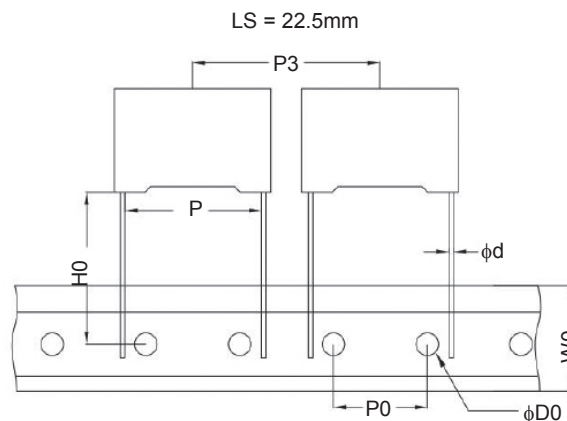
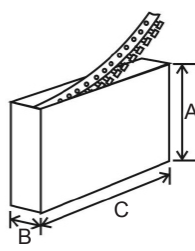


Fig. 2

DESCRIPTION	SYMBOL	15mm	22.5mm	TOL.
		FIG. 1	FIG. 2	
Lead wire diameter	ϕd	0.6/0.8	0.8	± 0.05
Taping pitch	P3	25.4	30.0	± 1.5
Feed hole pitch	P0	12.7	15.0	± 0.3
Lead spacing (pitch)	P	15.0	22.5	± 0.5
Height of component from tape center	H0	18.5	18.5	± 1.0
Carrier tape width	W3	18.0	18.0	± 1.0
Feed hole diameter	D0	4.0	4.0	± 0.3

PITCH	BOX THICKNESS	AMMO-PACK	
(mm)	T (mm)	(PCS/box)	
15	5.0/5.5	450	(Box size for Ammo-pack)  Unit: mm A = 270 ± 3mm B = 50 ± 3mm C = 335 ± 3mm
	6.0	400	
	7.5	300	
	8.5/10	250	
	11	200	
22.5	7	250	
	10	160	
	12	150	

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INNER BOX SPECIFICATIONS (mm)				
Box #	L ± 3	W ± 3	H ± 3	
# 1	290	220	75	
# 2	290	220	150	
OUTER BOX SPECIFICATIONS (mm)				
Box #	L ± 5	W ± 5	H ± 5	
# A	450	300	165	
# B	450	300	320	
# C	450	300	245	

PACKAGING QUANTITY

PITCH	SIZE CODE	W	H	T	SPQ
15.0	18x11x5	18	11	5	200
	18x12x6	18	12	6	200
	18x13.5x7.5	18	13.5	7.5	200
	18x14.5x8.5	18	14.5	8.5	200
	18x16x10	18	16	10	200
	18x18.5x11	18	18.5	11	200
22.5	26.5x15x6	26.5	15	6	100
	26x17x8.5	26	17	8.5	100
	26x20x11	26	20	11	100
	26x21.5x12	26	21.5	12	100
	26.5x16.5x7	26.5	16.5	7	100
	26.5x19x10	26.5	19	10	100
27.5	31x31x22	31	31	22	195
	31x33x18	31	33	18	180
	31.5x21.6x13	31.5	21.6	13	504
	32x20x11	32	20	11	576
	32x28x14	32	28	14	360
	32x37x22	32	37	22	156

Note: Subject to actual quantity LS 15mm ~ 22.5mm quantity in bags. LS 27.5 represents quantity in boxes

Performance Passives By Design

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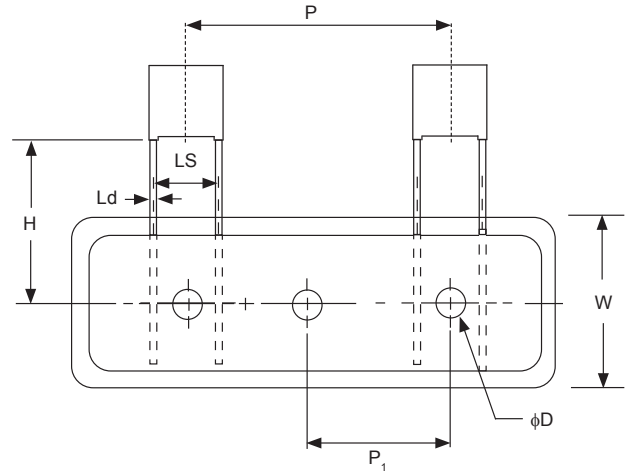
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Item	Dimension (mm)
H	18.5 ± 1.0
Ld	0.60/0.80 ± 0.1
LS	15.0 ± 1.0
P	25.4 ± 1.5
P ₁	12.7 ± 0.3
W	18.0 ± 1.0
φD ₁	4.0 ± 0.3

AMMO PACK (TB) TAPING DIMENSIONS

15mm LEAD SPACE



Item	Dimension (mm)
A	270
B	50
C	330

AMMO PACK BOX DIMENSIONS

