



CERAMIC DISC CAPACITORS

VY1 Series

AC Line Rated Disc Capacitors Class X1, 760 V_{AC}, Class Y1, 500 V_{AC}



KEY BENEFITS

- Comply with IEC 60384-14, 3rd edition
- ENEC-VDE, UL60384-14, and CSA approved
- High reliability
- Compliant to RoHS Directive 2011/65/EU and REACH Regulation EC 1907/2006
- Halogen-free available
- Small size
- Vertical (inline) kink or straight leads

KEY SPECIFICATIONS

- Capacitance range: 10 pF to 4.7 nF
- Rated voltage IEC 60384-14.2:
 - X1: 760 V_{AC}, 50 Hz
 - Y1: 500 V_{AC}, 50 Hz
- Components 100 % voltage-tested at 4000 V_{AC}, 50 Hz, 2 s
- Operating temperature: - 40 °C to + 125 °C

APPLICATIONS

- Across the line
- Line bypass
- Antenna coupling

RESOURCES

- Datasheet: VY1 Series - <http://www.vishay.com/doc?28537>
- For technical questions contact CDC@vishay.com

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



Capacitors - High Reliability

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FEATURES

- Complying with IEC 60384-14, 3rd edition
- High reliability
- Vertical (inline) kinked or straight leads
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- X1, Y1 according to IEC 60384-14.3
- Across-the-line
- Line by-pass
- Antenna coupling

DESIGN

The capacitors consist of a ceramic disc both sides of which are silver-plated. Connection leads are made of tinned copper having a diameter of 0.6 mm.

The capacitors may be supplied with vertical (inline) kinked leads having a lead spacing of 10.0 mm. Encapsulation is made of flammable resistant epoxy resin in accordance with "UL 94 V-0".

CAPACITANCE RANGE

10 pF to 4700 pF

RATED VOLTAGE U_R

IEC 60384-14.3 and UL 60384-14:

(X1): 760 V_{AC}, 50 Hz

(Y1): 500 V_{AC}, 50 Hz

TEST VOLTAGE

Component test (100 %):

4000 V_{AC}, 50 Hz, 2 s

Random sampling test (destructive test):

4000 V_{AC}, 50 Hz, 60 s

Voltage proof of coating (destructive test):

4000 V_{AC}, 50 Hz, 60 s

INSULATION RESISTANCE

10 000 MΩ minimum

TOLERANCE OF CAPACITANCE

± 20 % (code M); ± 10 % (code K)

DISSIPATION FACTOR

2.5 % maximum

OPERATING TEMPERATURE RANGE

- 40 °C to + 125 °C

TEMPERATURE CHARACTERISTICS

See Ordering Information table

CLIMATIC CATEGORY

40/125/21 according to EN 60068-1

COATING

According to UL 94 V-0

Epoxy resin, isolating, flame retardant

APPROVALS

ENEC VDE (DE1-32019)

UL 60384-14 file E183844

CSA 22.2

PACKAGING

Bulk, tape and reel, taped ammpack



ORDERING INFORMATION							
C (pF)	TOL. (%)	TEMP. COEFFICIENT	BODY DIAMETER D _{MAX.} (mm)	BODY THICKNESS T _{MAX.} (mm)	LEAD SPACING F (mm)	CLEAR TEXT CODE	
						15 TH DIGIT: T = REEL; U = AMMO; 3 = BULK ⁽¹⁾	
						RoHS COMPLIANT	RoHS AND HALOGEN-FREE
10	± 10	U2J (N750)	8.0	5.0	10.0	VY1100K31U2JQ6*V0	VY1100K31U2JG6*V0
15						VY1150K31U2JQ6*V0	VY1150K31U2JG6*V0
22						VY1220K31U2JQ6*V0	VY1220K31U2JG6*V0
33						VY1330K31Y5SQ6*V0	VY1330K31Y5SG6*V0
47						VY1470K31Y5SQ6*V0	VY1470K31Y5SG6*V0
68	± 20	Y5S (2C3)	8.0	5.0	10.0	VY1680K31Y5SQ6*V0	VY1680K31Y5SG6*V0
100						VY1101K31Y5SQ6*V0	VY1101K31Y5SG6*V0
150						VY1151K31Y5SQ6*V0	VY1151K31Y5SG6*V0
220						VY1221K31Y5SQ6*V0	VY1221K31Y5SG6*V0
330						VY1331K31Y5SQ6*V0	VY1331K31Y5SG6*V0
470						VY1471M31Y5UQ6*V0	VY1471M31Y5UG6*V0
680						VY1681M31Y5UQ6*V0	VY1681M31Y5UG6*V0
1000						VY1102M35Y5UQ6*V0	VY1102M35Y5UG6*V0
1500						VY1152M41Y5UQ6*V0	VY1152M41Y5UG6*V0
2200						VY1222M47Y5UQ6*V0	VY1222M47Y5UG6*V0
3300	VY1332M59Y5UQ6*V0	VY1332M59Y5UG6*V0					
3900	VY1392M61Y5UQ6*V0	VY1392M61Y5UG6*V0					
4700	VY1472M63Y5UQ6*V0	VY1472M63Y5UG6*V0					

Notes

⁽¹⁾ 15th digit of the clear text code number to be completed with the packaging code

- Straight leads are available on request
- Coating extension DR valid for straight leads only
- On request available: ± 10 % tolerance
- On request available: Leads spacing 12.5 mm

LEADSPACING 10.0 mm

PACKAGING						
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D _{MAX.} (mm)	PACKAGING QUANTITIES			
			BULK	REEL	AMMO	
10 pF to 2200 pF	31 to 47	12.0	1000	500	750	
3300 pF to 4700 pF	51 to 63	16.0	500	500	750	

Note

- The capacitors are supplied in bulk packaging (cardboard boxes), in tape on reel in ammpack

QUICK REFERENCE DATA						
DESCRIPTION	CLASS X1 (U2J)	CLASS X1 (Y5S)	CLASS X1 (Y5U)	CLASS Y1 (U2J)	CLASS Y1 (Y5S)	CLASS Y1 (Y5U)
Voltage (V _{AC})	760		500	250	500	250
Min. Capacitance (pF)	10	33	470	10	33	470
Max. Capacitance (pF)	22	330	4700	22	330	4700
Mounting	Through hole					