

## AC Line Rated Ceramic Disc Capacitors Class X1, 275 V<sub>AC</sub>



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	2
Ceramic Dielectric	Y5V
Voltage (V <sub>AC</sub> )	275
Min. Capacitance (pF)	4700
Max. Capacitance (pF)	22 000
Mounting	Radial

### MARKING

Marking indicates series, AC rating, capacitance, tolerance code, and approvals.

### OPERATING TEMPERATURE RANGE

-40 °C to +125 °C

### TEMPERATURE CHARACTERISTICS

Class 2 Y5V

### SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60058-1)

Class 2 40/125/21

### APPROVALS

IEC 60384-14.3

### FEATURES

- Complying with IEC 60384-14 3<sup>rd</sup> edition
- High reliability
- Wide range of different leadstyles
- Singlelayer AC Disc safety capacitors
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### APPLICATIONS

- X1 according to IEC 60384-14.3
- EMI filters

### DESIGN

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

The capacitors may be supplied with straight or kinked leads having a lead spacing of 7.5 mm.

Coating is made of blue colored flame retardant epoxy resin in accordance with UL 94 V-0.

### CAPACITANCE RANGE

4.7 nF to 22 nF

### TOLERANCE ON CAPACITANCE

± 20 %

### RATED VOLTAGE

X1: 275 V<sub>AC</sub>, 50 Hz (IEC 60384-14.3)  
275 V<sub>AC</sub>, 50 Hz/60 Hz (US/UL/CSA 60384-14)

### TEST VOLTAGE

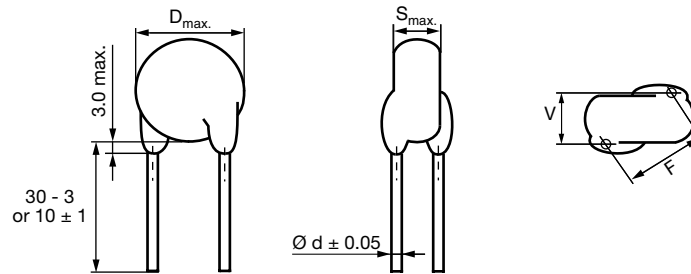
- 4000 V<sub>DC</sub>, 2 s Component test (100 %)
- 3500 V<sub>DC</sub>, 60 s Random sampling test (destructive)
- 2000 V<sub>AC</sub>, 50 Hz, 60 s Voltage proof of coating (destructive)

### INSULATION RESISTANCE AT 500 V<sub>DC</sub>

≥ 6000 MΩ (60 s)

### DISSIPATION FACTOR

Class 2: max. 2.5 % (1 kHz)

**DIMENSIONS** in millimeters

**TECHNICAL DATA**

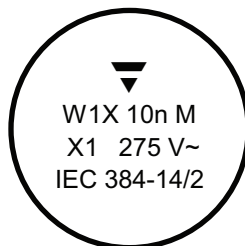
CAPACITANCE C (pF)	CAPACITANCE TOLERANCE	BODY DIAMETER D <sub>MAX.</sub> (mm)	BODY THICKNESS S <sub>MAX.</sub> (mm)	LEAD SPACING (1) F (mm) ± 1 mm	LEAD DIAMETER (1) d (mm) ± 0.05 mm	WIDTH (1) V (mm) ± 0.5 mm	PART NUMBER
							MISSING DIGITS SEE ORDERING CODE BELOW
<b>Y5V (2F3)</b>							
4700	± 20 %	11.0	3.0	7.5	0.6	1.4	W1X472#CV###KR
6800		11.0					W1X682#CV###KR
10 000		15.0					W1X103#CV###KR
15 000	-20 %/+50 %	17.0				1.6	W1X153#CV###KR
22 000		20.0					W1X223#CV###KR

**Note**

(1) Standard lead configuration, other lead spacing and diameter available on request

**ORDERING CODE**

#	7 <sup>th</sup> digit	Capacitance tolerance	± 10 % = K, ± 20 % = M				
###	10 <sup>th</sup> to 12 <sup>th</sup> digit	Lead configuration	see "General Information"				
<b>Example</b>	<b>W1X</b>	<b>223</b>	<b>M</b>	<b>CV</b>	<b>CRU</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

**MARKING**


Type: W1X223SCVCP0KR  
 Cap.: 22000pF +50 -20%  
 Ur.: 275 VAC  
 Qty.: 500  
 IEC384-14/2: X1 (275~)  
 EN132400:125°C

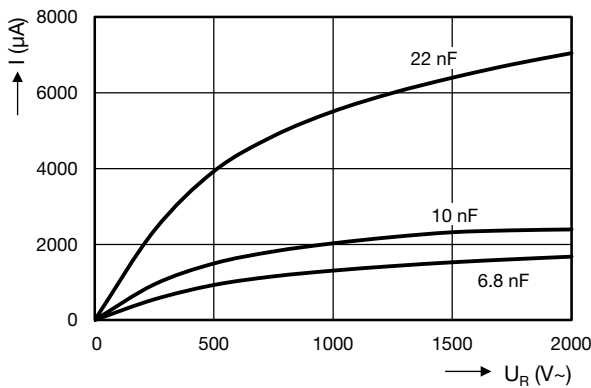
LOT1: 032965 DC1: 1134  
 LOT2: DC2:  
 BATCH NO.: 201134GZ  
 REGION: 7032 S.L.: 0010

PN: W1X223SCVCP0KR PO: 0031254565/0001 SN: 28032965B001

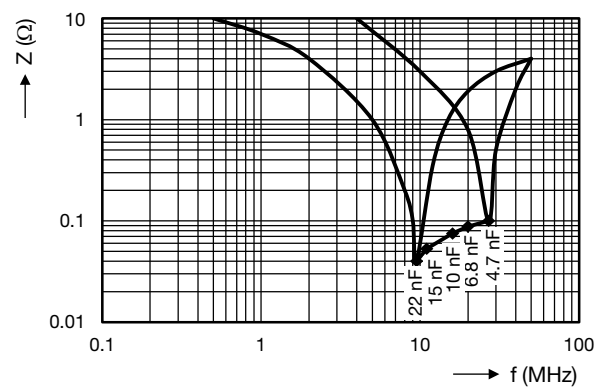
RoHS

APPROVALS				
IEC 60384-14.3 - Safety tests This approval together with CB test certificate substitutes all national approvals.				
<b>CB Certificate</b>				
X1-capacitor: CB test certificate:	DE 1-11148-A1	4.7 nF to 22 nF	275 V <sub>AC</sub>	
Minimum thickness of insulation: 0.4 mm				
<b>VDE</b>				
X1-capacitor: VDE marks approval:	137890	4.7 nF to 22 nF	275 V <sub>AC</sub>	
DIN EN 60384-14 VDE 0565-1-1:2006-04 - Safety tests Minimum thickness of insulation: 0.4 mm				

### LEAKAGE CURRENT VS. VOLTAGE (typical)



### IMPEDANCE VS. FREQUENCY (typical)



RELATED DOCUMENTS	
General Information	<a href="http://www.vishay.com/doc?22001">www.vishay.com/doc?22001</a>
CB Test Certificate	<a href="http://www.vishay.com/doc?22223">www.vishay.com/doc?22223</a>
VDE Marks Approval	<a href="http://www.vishay.com/doc?22224">www.vishay.com/doc?22224</a>



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