Lower Voltage Ceramic Singlelayer DC Disc Capacitors 1 kV_{DC} to 3 kV_{DC} Low Dissipation Factor

QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic Class	1		
Ceramic Dielectric	C0G, N1500, N2000, N2200, N2500, N2800		
Voltage (V_{DC})	1000	2000	3000
Min. Capacitance (pF)	10	10	10
Max. Capacitance (pF)	6800	6800	4700
Mounting	Radial		

INSULATION RESISTANCE

Min. 50 000 MΩ

TOLERANCE ON CAPACITANCE

± 5 %, ± 10 %

DISSIPATION FACTOR

0.1 % max. at 1 kHz; 1 V

CATEGORY TEMPERATURE RANGE

-55 °C to +125 °C

CLIMATIC CATEGORY ACC. TO EN 60068-1

55/125/21

OPERATING TEMPERATURE RANGE

-55 °C to +105 °C

FEATURES

RoHS COMPLIANT

- Low losses
- High stability
- Low DF minimizes self heating at HF
- Ideal for high switching to 100 kHz
- Radial leads
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- SMPS
- HF ballast
- Snubber and HV circuits

DESIGN

The capacitors consist of a ceramic disc of which both sides are silver-plated. Connection leads are made of tinned copper having diameters of 0.022" (0.51 mm) or 0.025" (0.64 mm).

The capacitors may be supplied with radial kinked or straight leads having lead spacing of 0.250" (6.35 mm) or 0.375" (9.5 mm).

The standard tolerances are ± 5 %, ± 10 %.

Coating is made of flammable retardant epoxy resin in accordance with “UL 94 V-0”.

CAPACITANCE RANGE

10 pF to 6800 pF

RATED VOLTAGE

1000 V_{DC} (500 V_{RMS})
2000 V_{DC} (1000 V_{RMS})
3000 V_{DC} (1500 V_{RMS})

DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

1000 V_{DC}	2500 V_{DC}, 2 s
2000 V_{DC}	4000 V_{DC}, 2 s
3000 V_{DC}	6000 V_{DC}, 2 s

CERAMIC DIELECTRIC

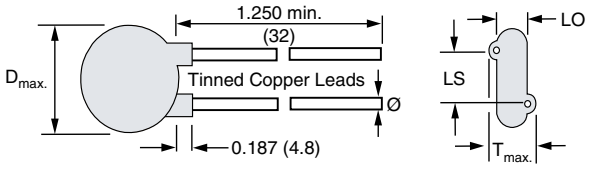
C0G, N1500, N2000, N2200, N2500, N2800 (Class 1)

For technical questions, contact: ceramitesupport@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

DIMENSIONS in inches (millimeters)

Fig. 1



ORDERING INFORMATION, CERAMIC 1 kV_{DC} LOW DISSIPATION FACTOR

C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 1 mm	LO LEAD OFFSET INCH (mm) ± 0.5 mm	WIRE SIZE AWG	WIRE SIZE INCH (mm)	FIG.	ORDERING CODE
C0G (NP0)									
10	± 5	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.043 (1.1)	22	0.025 (0.64)	1	561R1DF0Q10
12					0.051 (1.3)				561R1DF0Q12
N1500									
22	± 5	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.043 (1.1)	22	0.025 (0.64)	1	561R1DF0Q22
47					0.071 (1.8)				561R1DF0Q47
56					0.055 (1.4)				561R1DF0Q56
68					0.059 (1.5)				561R1DF0Q68
82					0.047 (1.2)				561R1DF0Q82
N2200									
33	± 10	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.043 (1.1)	22	0.025 (0.64)	1	561R1DF0Q33
N2000									
100	± 10	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.059 (1.5)	22	0.025 (0.64)	1	561R1DF0T10
120					0.055 (1.4)				561R1DF0T12
150					0.043 (1.1)				561R1DF0T15
180					0.043 (1.1)				561R1DF0T18
N2500									
220	± 10	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.059 (1.5)	22	0.025 (0.64)	1	561R1DF0T22
270					0.043 (1.1)				561R1DF0T27
N2800									
330	± 10	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.047 (1.2)	22	0.025 (0.64)	1	561R1DF0T33
390					0.047 (1.2)				561R1DF0T39
470		0.290 (7.4)			0.059 (1.5)				561R1DF0T47
560					0.055 (1.4)				561R1DF0T56
680					0.047 (1.2)				561R1DF0T68
820					0.043 (1.1)				561R1DF0T82
1000		0.370 (9.4)			0.055 (1.4)				561R1DF0D10
1200					0.047 (1.2)				561R1DF0D12
1500		0.405 (10.3)			0.047 (1.2)				561R1DF0D15
1800		0.440 (11.2)			0.051 (1.3)				561R1DF0D18
2200		0.460 (11.7)			0.047 (1.2)				561R1DF0D22
2700		0.490 (12.4)			0.047 (1.2)				561R1DF0D27
3300		0.530 (13.5)			0.047 (1.2)				561R1DF0D33
3900		0.560 (14.2)	0.156 (4.0)	0.375 (9.5)	0.047 (1.2)				561R1DF0D39
4700		0.630 (16.0)			0.047 (1.2)				561R1DF0D47
5600		0.680 (17.3)			0.047 (1.2)				561R1DF0D56
6800		0.760 (19.3)			0.047 (1.2)				561R1DF0D68

Note

- Alternate lead spacings of 5 mm, 7.5 mm or 10 mm are available on request.

For technical questions, contact: ceramitesupport@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ORDERING INFORMATION, CERAMIC 2 kV_{DC} LOW DISSIPATION FACTOR									
C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 1 mm	LO LEAD OFFSET INCH (mm) ± 0.5 mm	WIRE SIZE AWG	WIRE SIZE INCH (mm)	FIG.	ORDERING CODE
N1500									
33	± 5	0.290 (7.4)	0.195 (5.0)	0.250 (6.4)	0.098 (2.5)	20	0.032 (0.81)	1	564R2DF0Q33
39			0.180 (4.6)		0.083 (2.1)				564R2DF0Q39
47			0.170 (4.3)		0.071 (1.8)				564R2DF0Q47
N2000									
56	± 5	0.290 (7.4)	0.210 (5.3)	0.250 (6.4)	0.110 (2.8)	20	0.032 (0.81)	1	564R2DF0Q56
68			0.190 (4.8)		0.091 (2.3)				564R2DF0Q68
82			0.175 (4.5)		0.075 (1.9)				564R2DF0Q82
100			0.170 (4.3)		0.071 (1.8)				564R2DF0T10
N2500									
120	± 10	0.290 (7.4)	0.185 (4.7)	0.250 (6.4)	0.087 (2.2)	20	0.032 (0.81)	1	564R2DF0T12
150			0.170 (4.3)		0.071 (1.8)				564R2DF0T15
180			0.185 (4.7)		0.071 (1.8)				564R2DF0T18
270		0.330 (8.4)	0.170 (4.3)		0.079 (2.0)				564R2DF0T27
470		0.400 (10.2)	0.170 (4.3)		0.075 (1.9)				564R2DF0T47
N2800									
220	± 10	0.290 (7.4)	0.170 (4.3)	0.250 (6.4)	0.087 (2.2)	20	0.032 (0.81)	1	564R2DF0T22
330		0.330 (8.4)	0.185 (4.7)		0.083 (2.1)				564R2DF0T33
390		0.330 (8.4)	0.175 (4.5)		0.075 (1.9)				564R2DF0T39
560		0.400 (10.2)	0.185 (4.7)		0.087 (2.2)				564R2DF0T56
680		0.400 (10.2)	0.170 (4.3)		0.075 (1.9)				564R2DF0T68
820		0.430 (10.9)	0.175 (4.5)		0.075 (1.9)				564R2DF0T82
1000		0.460 (11.7)	0.170 (4.3)		0.075 (1.9)				564R2DF0D10
1500		0.530 (13.5)			0.071 (1.8)				564R2DF0D15
1800		0.560 (14.2)	0.170 (4.3)	0.375 (9.5)	0.071 (1.8)				564R2DF0D18
2200		0.680 (17.3)	0.180 (4.6)		0.083 (2.1)				564R2DF0D22
2300			0.175 (4.5)		0.079 (2.0)				564R2DF0D23
2400			0.175 (4.5)		0.075 (1.9)				564R2DF0D24
2700			0.170 (4.3)		0.071 (1.8)				564R2DF0D27
3300		0.720 (18.3)			0.071 (1.8)				564R2DF0D33
3900		0.790 (20.1)			0.075 (1.9)				564R2DF0D39
4700		0.900 (22.9)	0.180 (4.6)		0.083 (2.1)				564R2DF0D47
5600		0.900 (22.9)	0.170 (4.3)		0.075 (1.9)				564R2DF0D56
6800		0.950 (24.1)	0.170 (4.3)		0.071 (1.8)				564R2DF0D68

Note

- Alternate lead spacings of 5 mm, 7.5 mm or 10 mm are available on request.

For technical questions, contact: ceramitesupport@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ORDERING INFORMATION, CERAMIC 3 kV_{DC} LOW DISSIPATION FACTOR									
C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 1 mm	LO LEAD OFFSET INCH (mm) ± 0.5 mm	WIRE SIZE AWG	WIRE SIZE INCH (mm)	FIG.	ORDERING CODE
N1500									
10	± 5	0.290 (7.4)	0.185 (4.7)	0.250 (6.4)	0.087 (2.2)	20	0.032 (0.81)	1	564R3DF0Q10
27			0.220 (5.6)		0.122 (3.1)				564R3DF0Q27
33			0.195 (5.0)		0.098 (2.5)				564R3DF0Q33
39			0.190 (4.8)		0.094 (2.4)				564R3DF0Q39
47		0.330 (8.4)	0.225 (5.7)		0.126 (3.2)				564R3DF0Q47
N2200									
12	± 5	0.290 (7.4)	0.210 (5.3)	0.250 (6.4)	0.110 (2.8)	20	0.032 (0.81)	1	564R3DF0Q12
22		0.330 (8.4)	0.210 (5.3)		0.110 (2.8)				564R3DF0Q22
N2000									
56	± 5	0.290 (7.4)	0.210 (5.3)	0.250 (6.4)	0.110 (2.8)	20	0.032 (0.81)	1	564R3DF0Q56
68			0.190 (4.8)		0.098 (2.5)				564R3DF0Q68
82			0.185 (4.7)		0.091 (2.3)				564R3DF0Q82
N2500									
100	± 10	0.290 (7.4)	0.205 (5.2)	0.250 (6.4)	0.106 (2.7)	20	0.032 (0.81)	1	564R3DF0T10
120		0.290 (7.4)	0.190 (4.8)		0.091 (2.3)				564R3DF0T12
220		0.330 (8.4)	0.190 (4.8)		0.091 (2.3)				564R3DF0T22
N2800									
150	± 10	0.290 (7.4)	0.200 (5.1)	0.250 (6.4)	0.091 (2.3)	20	0.032 (0.81)	1	564R3DF0T15
180		0.290 (7.4)	0.190 (4.8)		0.091 (2.3)				564R3DF0T18
270		0.330 (8.4)	0.205 (5.2)		0.110 (2.8)				564R3DF0T27
330		0.330 (8.4)	0.190 (4.8)		0.091 (2.3)				564R3DF0T33
390		0.400 (10.2)	0.215 (5.5)		0.102 (2.6)				564R3DF0T39
470		0.400 (10.2)	0.195 (5.0)		0.087 (2.2)				564R3DF0T47
560		0.430 (10.9)	0.200 (5.1)		0.102 (2.6)				564R3DF0T56
680		0.460 (11.7)	0.195 (5.0)		0.087 (2.2)				564R3DF0T68
820		0.490 (12.5)	0.195 (5.0)		0.102 (2.6)				564R3DF0T82
1000		0.530 (13.5)	0.190 (4.8)		0.091 (2.3)				564R3DF0D10
1200		0.560 (14.2)	0.190 (4.8)	0.375 (9.5)	0.091 (2.3)				564R3DF0D12
1500		0.620 (15.8)			0.091 (2.3)				564R3DF0D15
1800		0.680 (17.3)			0.098 (2.5)				564R3DF0D18
2200		0.720 (18.3)			0.094 (2.4)				564R3DF0D22
2700		0.790 (20.1)	0.190 (4.8)		0.087 (2.2)				564R3DF0D27
3300		0.900 (22.9)	0.200 (5.1)		0.102 (2.6)				564R3DF0D33
4700		0.950 (24.1)	0.185 (4.7)		0.087 (2.2)				564R3DF0D47

Note

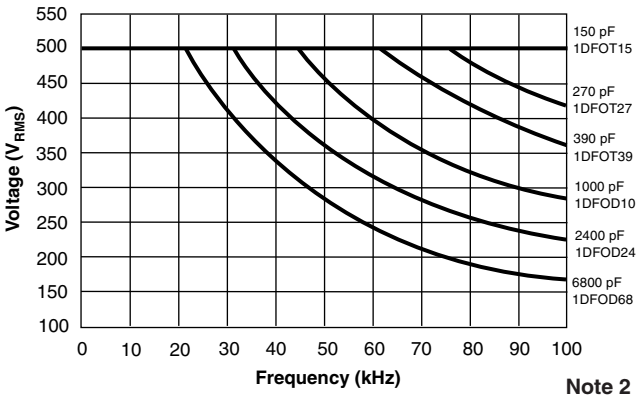
- Alternate lead spacings of 5 mm, 7.5 mm or 10 mm are available on request.

TAPE AND REEL OPTIONS

Part number codes and specifications for tape and reel packaging are found in the general information document - find web-link below.

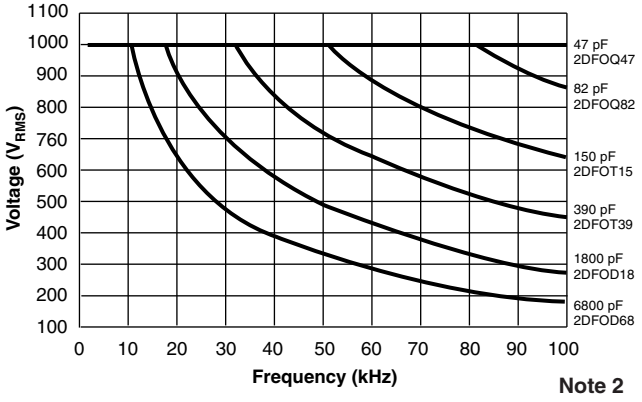
For technical questions, contact: ceramitesupport@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Power Rating - 1DFO Series 500 V_{RMS} Low DF - Note 1



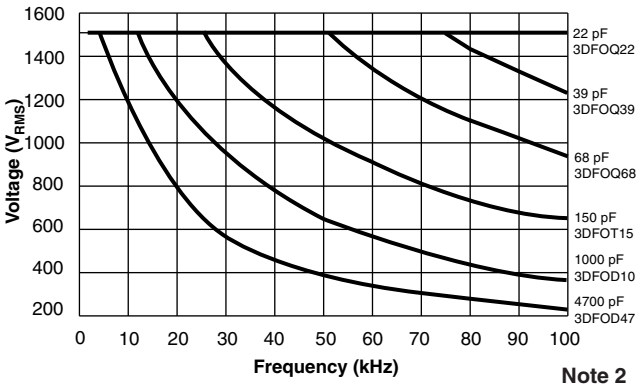
Note 2

Power Rating - 2DFO Series 1000 V_{RMS} Low DF - Note 1



Note 2

Power Rating - 3DFO Series 1500 V_{RMS} Low DF - Note 1



Note 2

Note 1

Power ratings are based on still air 60 °C ambient with additional 30 °C rise due to self heating.

Thermal effects such as forced air cooling, component encapsulation or other heat-sinking techniques will alter ratings.

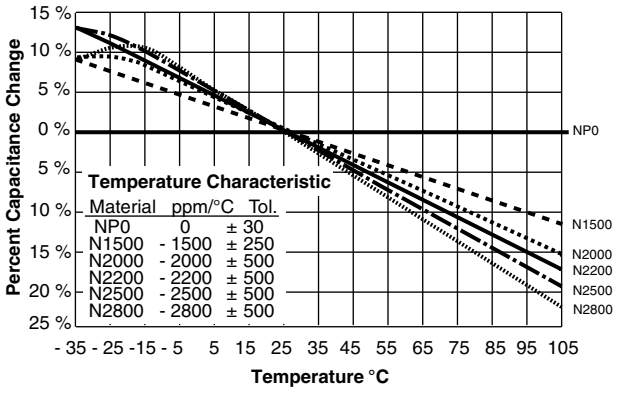
Actual circuit for application recommended.

Note 2

For convenience, power rating charts are shown to 100 kHz. Higher frequency operation is permissible with appropriate derating.

Consult us for application suggestions.

Temperature Characteristics for 1DFO, 2DFO & 3DFO Series



RELATED DOCUMENTS	
General Information	www.vishay.com/doc?23140

For technical questions, contact: ceramitesupport@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

© 2017 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED

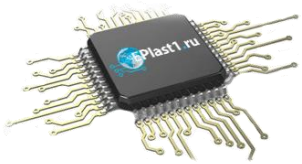
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.