



Model No. NS (Radial Type)

It has excellent voltage nonlinearity and surge endurance, and an excellent response to surge and a low voltage under pulse condition characteristic are possessed.

It has a wide range of the application for protection from absorption of the opening and shutting surge according to surge measures of various electronic equipment and induced loads and abnormal voltages.

1.Features

- Sharp nonlinearity to maintain low limiting voltage.
- Symmetry V-I characteristics to be applicable for +/- surge and AC circuit.
- Stable for repetitive surge.
- Quick response.
- No residual current.
- Low temperature characteristics.
- Wide range of applicable voltage.
- High reliability.

2.Application

- Protection of semiconductors from instantaneous surge.
- Protection of circuit and lines from induced lightning surge.
- Protection from inductive ON/OFF surge like relay.

3.Approved standards

- UL1414 Across-The-Line Components (Varistor).
- UL1449 Transient Voltage Surge Suppressor.
- CSA C22.2 No.1



Disk Type 05D

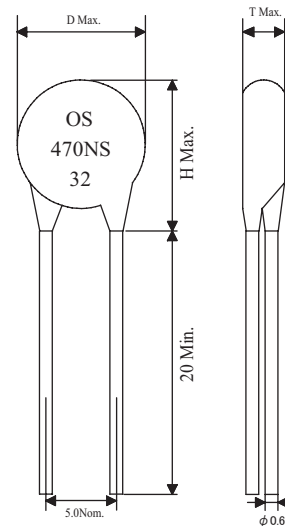
Rating

Model No.	Part No.	Rated Voltage		Energy (2ms) J	Rated Power W	Rated Peak Current(8×20 μs)		Varistor Voltage V0.1mADC		Max. Clamping Voltage (8×20 μs)		Typical Capacitance (Reference) (1kHz) pF	UL CSA (*)
		AC	DC			1time	2times	V	±%	V	Ip(A)		
		Vrms	V	A	A	V		V					
NS	120NS-05D	75	100	3.5	0.1	800	600	120	10	225	5	230	○
	150NS-05D	95	120	4.5				150		265		210	
	200NS-05D	125	165	6.0				200		355		110	○☆△
	220NS-05D	140	180	6.5				220		380		100	
	240NS-05D	150	200	7.5				240		415		95	
	270NS-05D	170	225	8.0				270		475		90	
	330NS-05D	210	270	9.5				330		565		75	
	360NS-05D	230	300	11.0				360		620		70	
	390NS-05D	250	320	12.0				390		675		65	
	430NS-05D	270	350	13.5				430		745		60	
	470NS-05D	300	385	15.0				470		810		55	

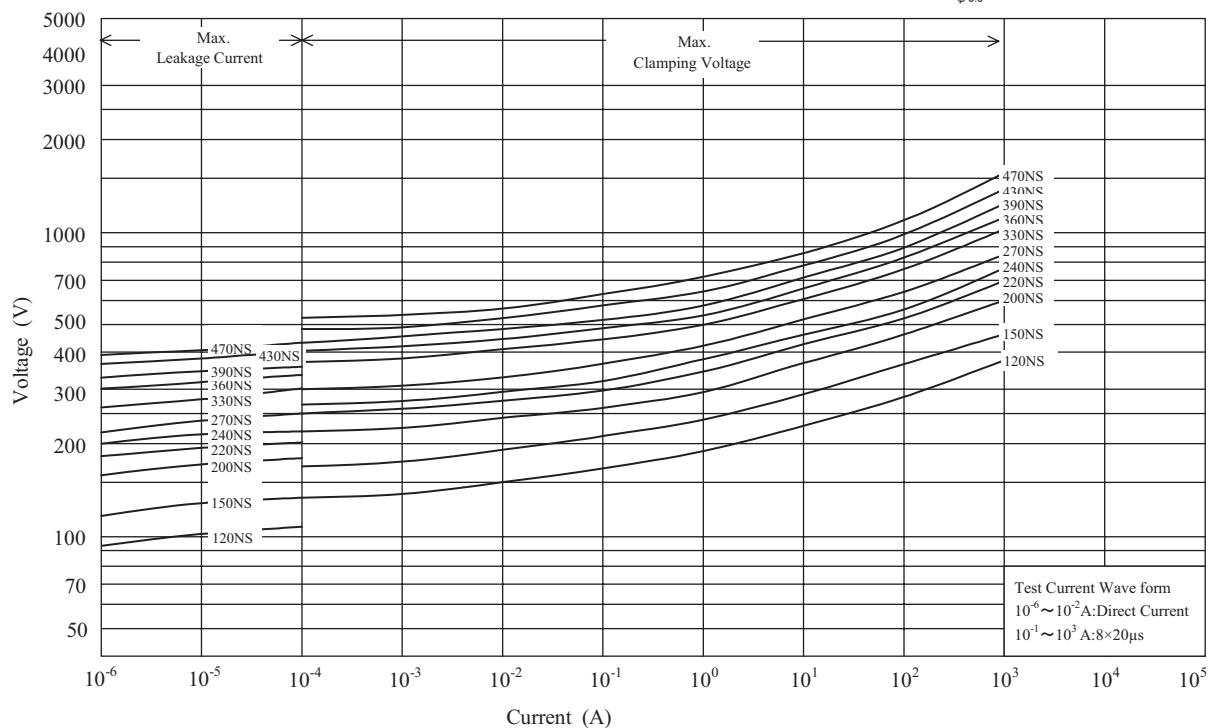
(*) ○: UL-1449 ☆: UL-1414 △: CSA C22.2 No.1

Dimensions (unit:mm)

Model No.	Part No.	D	H	T
NS	120NS-05D	7.0	11.0	5.0
	150NS-05D			
	200NS-05D			
	220NS-05D			
	240NS-05D			
	270NS-05D	7.5	11.5	5.5
	330NS-05D			6.0
	360NS-05D			6.5
	390NS-05D			
	430NS-05D			
	470NS-05D			



V-I Characteristics





Disk Type 07D

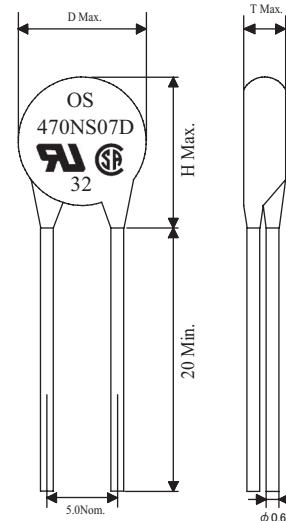
Rating

Model No.	Part No.	Rated Voltage		Energy (2ms) J	Rated Power W	Rated Peak Current(8×20 μs)		Varistor Voltage V1mA DC		Max. Clamping Voltage (8×20 μs)		Typical Capacitance (Reference) (1kHz) pF	UL, CSA (*)
		AC	DC			1time	2times	V	±%	V	Ip(A)		
		Vrms	V	A	A	V		V					
NS	120NS-07D	75	100	7.0	0.25	1750	1250	120	10	200	10	460	○
	150NS-07D	95	120	9.0				150		250		370	
	200NS-07D	125	165	12.5				200		330		220	○☆△
	220NS-07D	140	180	13.5				220		360		200	
	240NS-07D	150	200	15.0				240		395		185	
	270NS-07D	170	225	17.0				270		450		170	
	330NS-07D	210	270	20.0				330		545		145	
	360NS-07D	230	300	23.0				360		595		135	
	390NS-07D	250	320	25.0				390		645		125	
	430NS-07D	270	350	27.5				430		710		115	
	470NS-07D	300	385	30.0				470		775		110	
	510NS-07D	315	410	32.0				510		845		100	

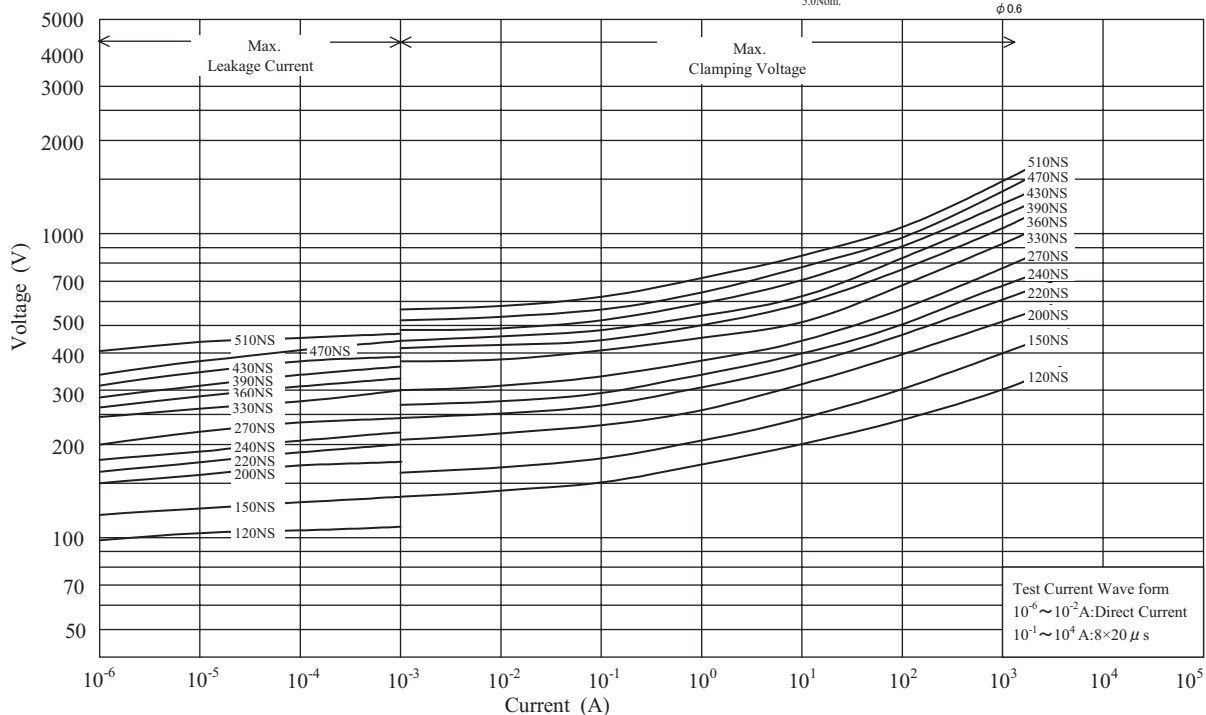
(*) ○: UL-1449 ☆: UL-1414 △: CSA C22.2No.1

Dimensions (unit:mm)

Model No.	Part No.	D	H	T
NS	120NS-07D	8.5	12.0	5.0
	150NS-07D			
	200NS-07D			
	220NS-07D			
	240NS-07D			
	270NS-07D			
	330NS-07D	9.0	12.5	6.0
	360NS-07D			
	390NS-07D			
	430NS-07D			
	470NS-07D			6.5
	510NS-07D			



V-I Characteristics





Disk Type 10D

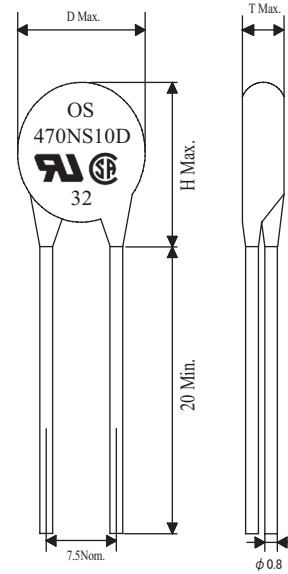
Rating

Model No.	Part No.	Rated Voltage		Energy (2ms) J	Rated Power W	Rated Peak Current(8×20 μs)		Varistor Voltage V1mADC		Max. Clamping Voltage (8×20 μs)		Typical Capacitance (Reference) (1kHz) pF	UL, CSA (*)			
		AC Vrms	DC V			Itime A	2times A	V	±%	V	Ip(A)					
		NS	120NS-10D	75	100	14.5	0.4	3500	2500	120	10	200	25	930	○	
	150NS-10D	95	120	18.0							150		250		780	○☆△
	200NS-10D	125	165	25.0							200		330		450	
	220NS-10D	140	180	27.5							220		360		420	
	240NS-10D	150	200	30.0							240		395		390	
	270NS-10D	170	225	35.0							270		450		350	
	330NS-10D	210	270	42.0							330		545		290	
	360NS-10D	230	300	45.0							360		595		270	
	390NS-10D	250	320	50.0							390		645		260	
	430NS-10D	270	350	55.0							430		710		240	
	470NS-10D	300	385	60.0							470		775		220	
	510NS-10D	315	410	67.0							510		840		200	
	620NS-10D	390	505	67.0							620		1025		170	
	680NS-10D	425	550	67.0							680		1135		160	
	750NS-10D	470	610	70.0							750		1255		145	
	820NS-10D	510	665	80.0							820		1370		135	
	910NS-10D	570	740	90.0							910		1520		125	
	1000NS-10D	630	810	100.0							1000		1700		115	
	1100NS-10D	690	890	110.0				1100		1860		105				
	1800NS-10D	1000	1460	183.0				1800		3070		70				

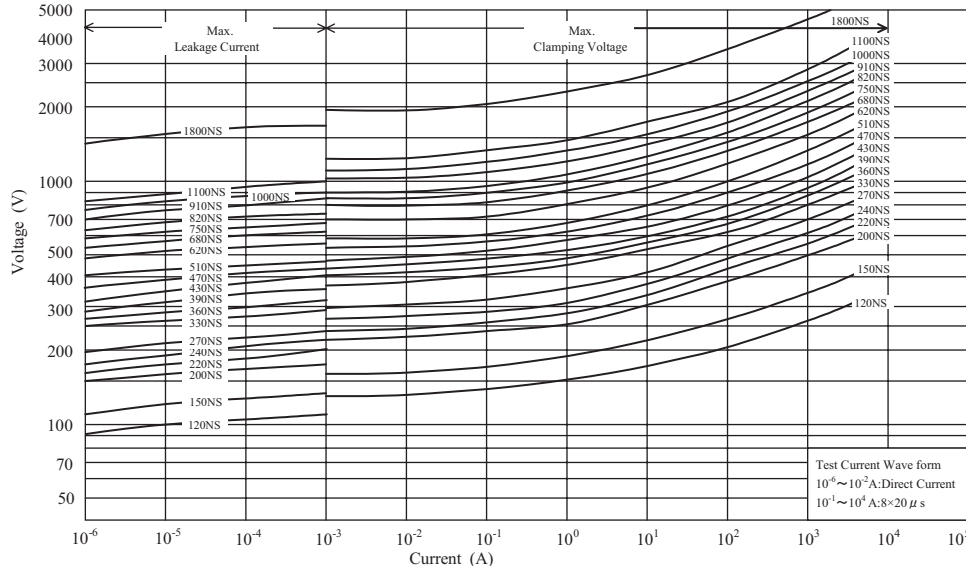
(*) ○: UL-1449 ☆: UL-1414 △: CSA C22.2 No.1

Dimensions

Model No.	Part No.	D	H	T
NS	120NS-10D	12.5	16.0	5.5
	150NS-10D			
	200NS-10D			
	220NS-10D			
	240NS-10D			
	270NS-10D			
	330NS-10D	13.0	17.0	6.5
	360NS-10D			
	390NS-10D			
	430NS-10D			
	470NS-10D			
	510NS-10D			
	620NS-10D	13.5	18.0	8.5
	680NS-10D			
	750NS-10D			
	820NS-10D			
	910NS-10D			
	1000NS-10D			
1100NS-10D	9.5			
1800NS-10D	14.0	19.0	14.5	



V-I Characteristics





Disk Type 14D

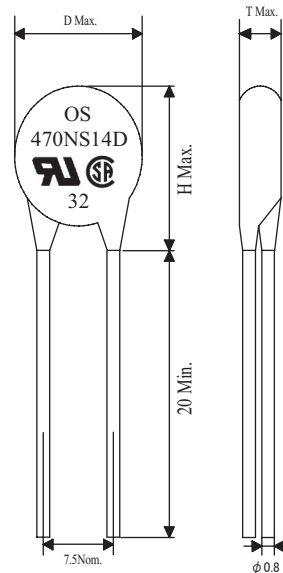
Rating

Model No.	Part No.	Rated Voltage		Energy (2ms) J	Rated Power W	Rated Peak Current(8×20μs)		Varistor Voltage V1mA±%		Max. Clamping Voltage (8×20μs)		Typical Capacitance (Reference) (1kHz) pF	UL CSA (*)	
		AC	DC			1time	2times	V	±%	V	Ip(A)			
		Vrms	V	A	A	V		V						
NS	120NS-14D	75	100	30.0	0.6	6000	5000	120	10	200	50	2070	○	
	150NS-14D	95	120	37.5								1690		
	200NS-14D	125	165	50.0								960		
	220NS-14D	140	180	55.0								890		
	240NS-14D	150	200	60.0								820		
	270NS-14D	170	225	70.0								740		
	330NS-14D	210	270	80.0		4500	330	330	545	620	620	570	○★△	
	360NS-14D	230	300	90.0										595
	390NS-14D	250	320	100.0										645
	430NS-14D	270	350	110.0										710
	470NS-14D	300	385	125.0										775
	510NS-14D	315	410	136.0										840
	620NS-14D	390	505	136.0		5000	620	620	1025	350	350	320	○★△	
	680NS-14D	425	550	136.0										680
	750NS-14D	470	610	150.0										750
	820NS-14D	510	665	165.0										820
	910NS-14D	570	740	180.0										910
	1000NS-14D	630	810	200.0										1000
1100NS-14D	690	890	220.0	1800	1100	1100	1860	210	210	135	○★△			
1800NS-14D	1000	1460	360.0									1800		

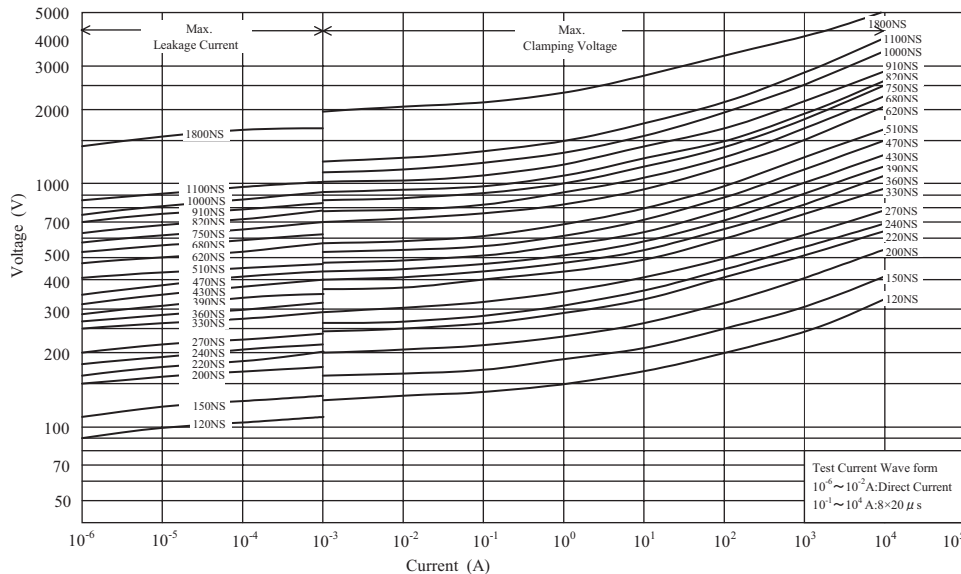
(*) ○ : UL-1449 ☆ : UL-1414 △ : CSA C22.2 No.1

Dimensions (unit:mm)

Model No.	Part No.	D	H	T
NS	120NS-14D	16.5	20.0	5.5
	150NS-14D			6.0
	200NS-14D			
	220NS-14D			
	240NS-14D			
	270NS-14D			
	330NS-14D	17.0	21.0	
	360NS-14D			
	390NS-14D			
	430NS-14D	17.5	22.0	7.0
	470NS-14D			
	510NS-14D			
	620NS-14D	18.0	22.0	8.5
	680NS-14D			9.0
	750NS-14D			9.5
	820NS-14D			10.0
	910NS-14D			10.5
	1000NS-14D			14.5



V-I Characteristics





High Voltage Type

Disk Type 20D

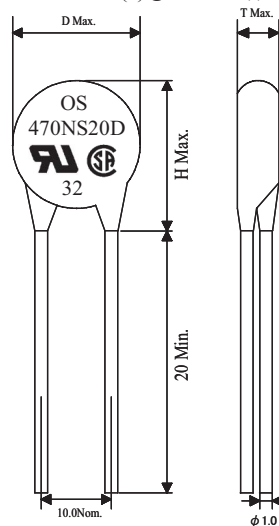
Rating

Model No.	Part No.	Rated Voltage		Energy (2ms) J	Rated Power W	Rated Peak Current(8×20μs)		Varistor Voltage V1mADC		Max Clamping Voltage (8×20μs)		Typical Capacitance (Reference) (1kHz) pF	UL CSA (*)
		AC	DC			1time	2times	V	±%	V	Ip(A)		
		Vrms	V	A	A	V	±%	V	Ip(A)				
NS	120NS-20D	75	100	60	1.0	10000	7000	120	10	200	100	3820	○
	150NS-20D	95	120	75				150		250		3200	
	200NS-20D	125	165	100				200		330		1850	○★△
	220NS-20D	140	180	110				220		360		1700	
	240NS-20D	150	200	120				240		395		1570	
	270NS-20D	170	225	135				270		450		1410	
	330NS-20D	210	270	160		6500	330	545	1180				
	360NS-20D	230	300	180			360	595	1090				
	390NS-20D	250	320	195			390	645	1020				
	430NS-20D	270	350	215			430	710	930				
	470NS-20D	300	385	250			470	775	860				
	510NS-20D	315	410	273			510	840	800				
	620NS-20D	390	505	273		7500	620	1025	670				
	680NS-20D	425	550	273			680	1135	620				
	750NS-20D	470	610	300			750	1255	570				
	820NS-20D	510	665	325			820	1370	520				
	910NS-20D	570	740	360			910	1520	480				
	1000NS-20D	630	810	400			1000	1700	440				
1100NS-20D	690	890	440	1800	1100	1860	400						
1800NS-20D	1000	1460	720		1800	3070	260						

(*) ○ : UL-1449 ☆ : UL-1414 △ : CSA C22.2 No.1

Dimensions

Model No.	Part No.	D	H	T			
NS	120NS-20D	22.0	26.0	6.0			
	150NS-20D						
	200NS-20D						
	220NS-20D						
	240NS-20D						
	270NS-20D				6.5		
	330NS-20D	23.0	27.0	7.0			
	360NS-20D						
	390NS-20D	24.0	28.0	9.5			
	430NS-20D						
	470NS-20D				7.5		
	510NS-20D					8.0	
	620NS-20D				25.0		29.0
	680NS-20D						
	750NS-20D	10.0					
	820NS-20D		10.5				
	910NS-20D	15.0					
	1000NS-20D						
1100NS-20D							
1800NS-20D							



V-I Characteristics

