

NEW

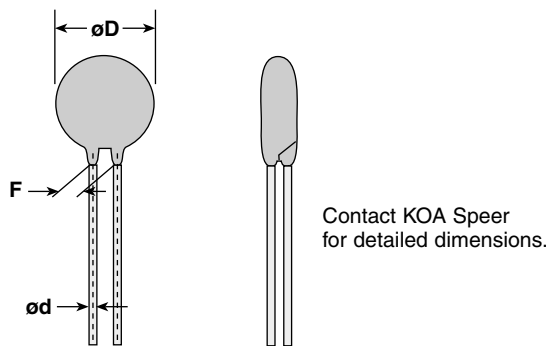


features

- Flame retardant coating (UL94V-0)
- Excellent transient voltage suppression characteristics
- Higher surge current
- Wide varistor voltage
- V-I characteristics are the same in both polarity
- Marking: Green body color with black marking

circuit protection

dimensions and construction



Type	Dimensions inches (mm)		
	øD (max.)	ød	F
05U	.276 - .295 (7.0 - 7.5)	.024 (0.6)	.197±.039 (5.0±1.0)
07U	.276 - .374 (9.0 - 9.5)		
10U	.472 - .531 (12.0 - 13.5)	.031 (0.8)	.295±.039 (7.5±1.0)
10UB	.472 (12.0)	.024 (0.6)	.197±.039 (5.0±1.0)
14U	.630 - .669 (16.0 - 17.0)	.031 (0.8)	.295±.039 (7.5±1.0)
20U	.846 - .886 (21.5 - 22.5)	.039 (1.0)	.394±.039 (10±1.0)

ordering information

NV	D	05	U	C	MHT	A	220
Type	Style	Diameter	Series	Termination Material	Taping	Packaging	Varistor Voltage
	Disc	05 07 10 14 20	U UB (D10 only)	C: Sn-Cu	MT: 5mm straight taping MHT: 5mm inside kink taping 10UB: GHT: 7.5mm straight taping GJT: 7.5mm outside kink taping	A: Ammo BK: Bulk	22V 022 220V 220 1800V 1820

For further information on packaging, please refer to Appendix C.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

applications and ratings

Type D05U	Varistor Voltage	Maximum Allowable Voltage		Clamping Voltage		Maximum (2ms) Energy	Maximum Peak Current (2 pulses)	Capacitance (ref.)	Operating Temperature	Storage Temperature
	V _c I _c = 0.1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{1A} (V)	V _{5A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD05UT220	20 - 27	14	18	48	—	0.5	125	1600	-40°C to +85°C	-40°C to +125°C
NVD05UT270	25 - 32	17	22	60	—	0.7		1400		
NVD05UT330	30 - 39	20	26	77	—	0.8		1200		
NVD05UT390	37 - 47	25	31	86	—	0.9		1000		
NVD05UT470	45 - 54	30	38	104	—	1.1		800		
NVD05UT560	52 - 62	35	45	123	—	1.3		600		
NVD05UT680	60 - 76	40	56	150	—	1.6		300		
NVD05T820	74 - 90	50	65	—	145	1.7	200	600		
NVD05UT101	90 - 110	60	85	—	175	3.0	400			
NVD05UT121	108 - 132	75	100	—	210	3.5	350			
NVD05UT151	135 - 165	95	125	—	260	4.5	300			
NVD05UT201	185 - 225	130	170	—	355	6.0	130			
NVD05UT221	198 - 242	140	180	—	380	6.5	120			
NVD05UT241	216 - 264	150	200	—	415	7.5	110			
NVD05UT271	247 - 303	175	225	—	475	8.0	100			
NVD05UT331	297 - 363	210	270	—	570	9.5	90			
NVD05UT361	342 - 396	230	300	—	620	11.0	80			
NVD05UT391	367 - 429	250	320	—	675	12.0	70			
NVD05UT431	407 - 473	275	350	—	745	13.5				
NVD05UT471	437 - 517	300	385	—	810	15.0				

Type D07U	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{2.5A} (V)	V _{10A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD07UT220	20 - 27	14	18	43	—	1.1	250	4000	-40°C to +85°C	-40°C to +125°C
NVD07UT270	25 - 32	17	22	53	—	1.3		3000		
NVD07UT330	30 - 39	20	26	65	—	1.6		2500		
NVD07UT390	37 - 47	25	31	73	—	1.9		2000		
NVD07UT470	45 - 54	30	38	93	—	2.3		1700		
NVD07UT560	52 - 62	35	45	110	—	2.7		1300		
NVD07UT680	60 - 76	40	56	135	—	3.3		1000		
NVD07T820	74 - 90	50	65	—	135	3.5	600	500		
NVD07UT101	90 - 110	60	85	—	165	6.0	1250	700		
NVD07UT121	108 - 132	75	100	—	200	7.0		590		
NVD07UT151	135 - 165	95	125	—	250	9.0		500		

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applications and ratings (continued)

Type D07U	Varistor Voltage	Maximum Allowable Voltage		Clamping Voltage		Maximum Energy (2ms)	Maximum Peak Current (2 pulses)	Capacitance (ref.)	Operating Temperature	Storage Temperature
	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{2.5A} (V)	V _{10A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD07UT201	185 - 225	130	170	—	340	12.5	1250	210	-40°C to +85°C	-40°C to +125°C
NVD07UT221	198 - 242	140	180	—	360	13.5		200		
NVD07UT241	216 - 264	150	200	—	395	15.0		180		
NVD07UT271	247 - 303	175	225	—	455	17.0		160		
NVD07UT331	297 - 363	210	270	—	545	20.0		150		
NVD07UT361	342 - 396	230	300	—	595	23.0		140		
NVD07UT391	367 - 429	250	320	—	650	25.0		130		
NVD07UT431	407 - 473	275	350	—	710	27.5		120		
NVD07UT471	437 - 517	300	385	—	775	30.0		110		

circuit protection

Type D010U/10UB	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{5A} (V)	V _{25A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}	
NVD10U(10UB)T220	20 - 27	14	18	43	—	2.6	500	5500	-40°C to +85°C	-40°C to +125°C	
NVD10U(10UB)T270	25 - 32	17	22	53	—	3.2		4000			
NVD10U(10UB)T330	30 - 39	20	26	65	—	4.0		3000			
NVD10U(10UB)T390	37 - 47	25	31	77	—	4.4		2500			
NVD10U(10UB)T470	45 - 54	30	38	93	—	5.7		2200			
NVD10U(10UB)T560	52 - 62	35	45	110	—	6.7		2000			
NVD10U(10UB)T680	60 - 76	40	56	135	—	8.2		1700			
NVD10(10B)T820	74 - 90	50	65	—	135	8.0		800			
NVD10U(10UB)T101	90 - 110	60	85	—	165	12.0	1700	-40°C to +85°C			-40°C to +125°C
NVD10U(10UB)T121	108 - 132	75	100	—	200	14.5	1400				
NVD10U(10UB)T151	135 - 165	95	125	—	250	18.0	1100				
NVD10U(10UB)T201	185 - 225	130	170	—	340	25.0	500				
NVD10U(10UB)T221	198 - 242	140	180	—	360	27.5	470				
NVD10U(10UB)T241	216 - 264	150	200	—	395	30.0	430				
NVD10U(10UB)T271	247 - 303	175	225	—	455	35.0	400				
NVD10UT331	297 - 363	210	270	—	545	42.0	350				
NVD10UT361	342 - 396	230	300	—	595	45.0	330				
NVD10UT391	367 - 429	250	320	—	650	50.0	300				
NVD10UT431	407 - 473	275	350	—	710	55.0	260	2500			
NVD10UT471	437 - 517	300	385	—	775	60.0	220				
NVD10UT511	474 - 561	320	410	—	845	67.0	175				

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applications and ratings (continued)

Type D010U/10UB	Varistor Voltage	Maximum Allowable Voltage		Clamping Voltage		Maximum (2mg) Energy	Maximum Peak Current (2 pulses)	Capacitance (ref.)	Operating Temperature	Storage Temperature
	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{5A} (V)	V _{25A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD10UT621	577 - 682	380	505	—	1025	67.0	2500	160	-40°C to +85°C	-40°C to +125°C
NVD10UT681	637 - 748	420	560	—	1120					
NVD10UT751	697 - 825	460	615	—	1240	70.0		140		
NVD10UT781	737 - 858	485	640	—	1290			135		
NVD10UT821	767 - 902	510	670	—	1355	80.0		130		
NVD10UT911	857 - 1000	550	745	—	1500	90.0		120		
NVD10UT112	1070 - 1210	680	895	—	1815	110.0		90		
NVD10UT182	1700 - 1980	1000	1465	—	2970	183.0		100		

Type D014U	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{10A} (V)	V _{50A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD14UT220	20 - 27	14	18	43	—	5.3	1000	10000	-40°C to +85°C	-40°C to +125°C
NVD14UT270	25 - 32	17	22	53	—	6.5		8000		
NVD14UT330	30 - 39	20	26	65	—	7.9		7000		
NVD14UT390	37 - 47	25	31	77	—	9.4		6000		
NVD14UT470	45 - 54	30	38	93	—	11.0		4500		
NVD14UT560	52 - 62	35	45	110	—	13.0		4000		
NVD14UT680	60 - 76	40	56	135	—	16.0		3000		
NVD14T820	74 - 90	50	65	—	135	14.0	2500	800		
NVD14T101	90 - 110	60	85	—	165	18.0		700		
NVD14UT121	108 - 132	75	100	—	200	30.0	5000	2700		
NVD14UT151	135 - 165	95	125	—	250	37.5		2200		
NVD14UT201	185 - 225	130	170	—	340	50.0		740		
NVD14UT221	198 - 242	140	180	—	360	55.0		720		
NVD14UT241	216 - 264	150	200	—	395	60.0		710		
NVD14UT271	247 - 303	175	225	—	455	70.0		690		
NVD14UT331	297 - 363	210	270	—	545	80.0		4500		
NVD14UT361	342 - 396	230	300	—	595	90.0	620			
NVD14UT391	367 - 429	250	320	—	650	100	600			
NVD14UT431	407 - 473	275	350	—	710	110	570			
NVD14UT471	437 - 517	300	385	—	775	125	530			
NVD14UT511	474 - 561	320	410	—	845	136	500			
NVD14UT621	577 - 682	380	505	—	1025		420			

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applications and ratings (continued)

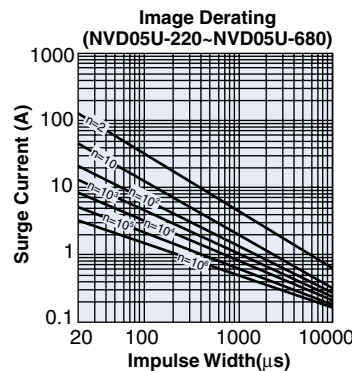
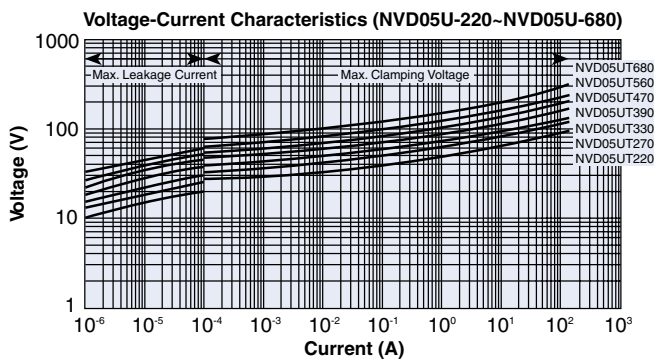
Type D014U	Varistor Voltage	Maximum Allowable Voltage		Clamping Voltage		Maximum (2mg) Energy	Maximum Peak Current (2 pulses)	Capacitance (ref.)	Operating Temperature	Storage Temperature
	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{10A} (V)	V _{50A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD14UT681	637 - 748	420	560	—	1120	136	4500	370	-40°C to +85°C	-40°C to +125°C
NVD14UT751	697 - 825	460	615	—	1240	150		320		
NVD14UT781	737 - 858	485	640	—	1290	165		300		
NVD14UT821	767 - 902	510	670	—	1355	180		270		
NVD14UT911	857 - 1000	550	745	—	1500	360		200		
NVD14UT182	1700 - 1980	1000	1465	—	2970	360		120		

Type D20U	V _c I _c = 1mA (V)	a.c. r.m.s. (v)	d.c. (v)	V _{100A} (V)	E (J)	I _p (A)	C (pF) (1k - 1MHz)	T _{opt}	T _{stg}
NVD20UT201	185 - 225	130	170	340	100	7000	1350	-40°C to +85°C	-40°C to +125°C
NVD20UT221	198 - 242	140	180	360	110		1300		
NVD20UT241	216 - 264	150	200	395	120		1200		
NVD20UT271	247 - 303	175	225	455	135		1100		
NVD20UT361	342 - 396	230	300	595	180	6500	800		
NVD20UT391	367 - 429	250	320	650	195		750		
NVD20UT431	407 - 473	275	350	710	215		700		
NVD20UT471	437 - 517	300	385	775	250		650		
NVD20UT621	577 - 682	380	505	1025	273		530		
NVD20UT681	637 - 748	420	560	1120			480		
NVD20UT751	697 - 825	460	615	1240	300		450		
NVD20UT781	737 - 858	485	640	1290			430		
NVD20UT821	767 - 902	510	670	1355			325	420	
NVD20UT911	857 - 1000	550	745	1500			360	380	

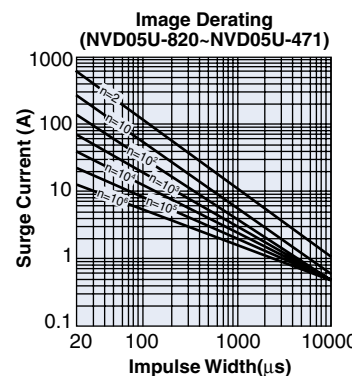
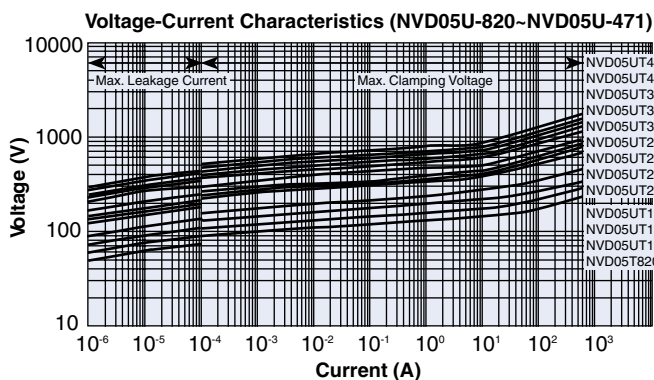
circuit protection

environmental applications

Typical Characteristics (Ta = +25°C) D05U



Surge current is related to impulse width and its repetition times.

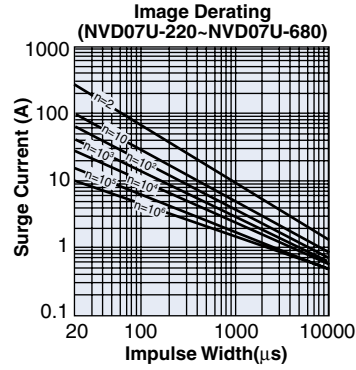
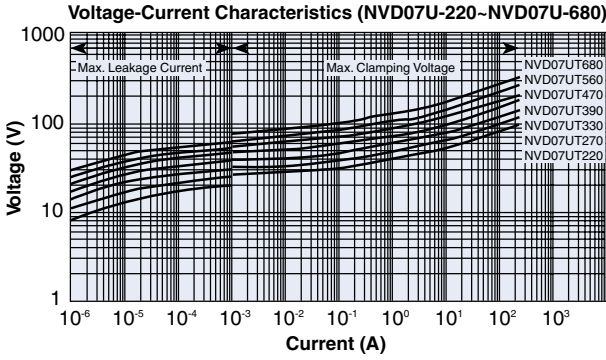


Surge current is related to impulse width and its repetition times.

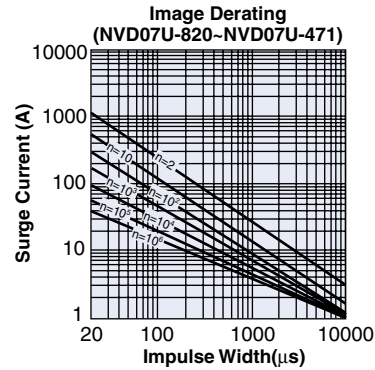
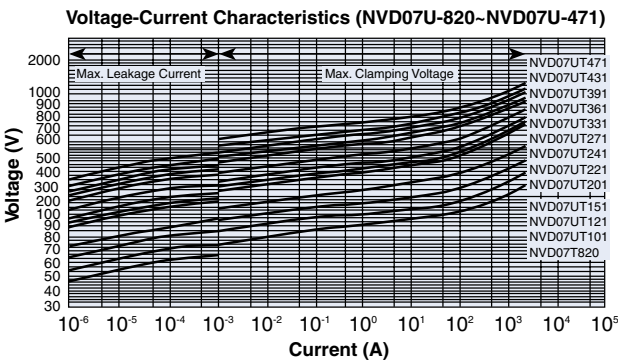
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environmental applications (continued)

Typical Characteristics (Ta = +25°C) D07U

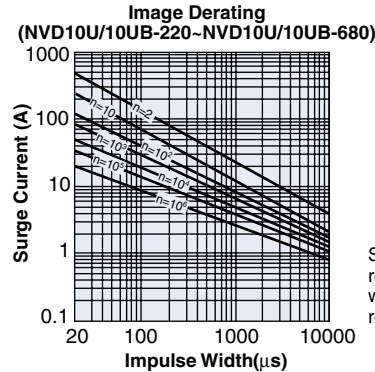
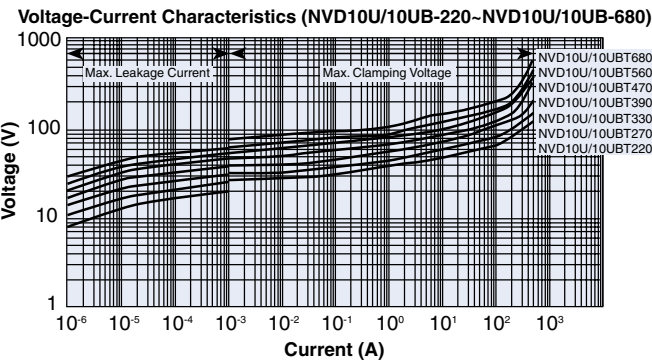


Surge current is related to impulse width and its repetition times.

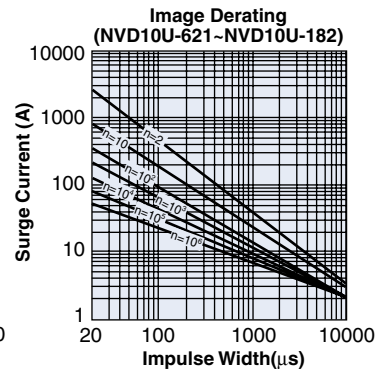
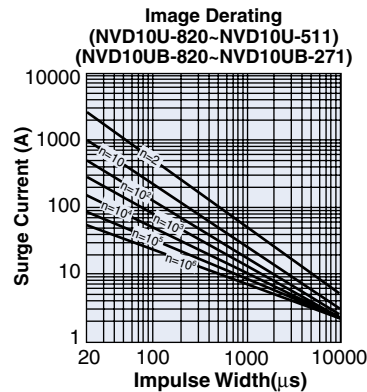
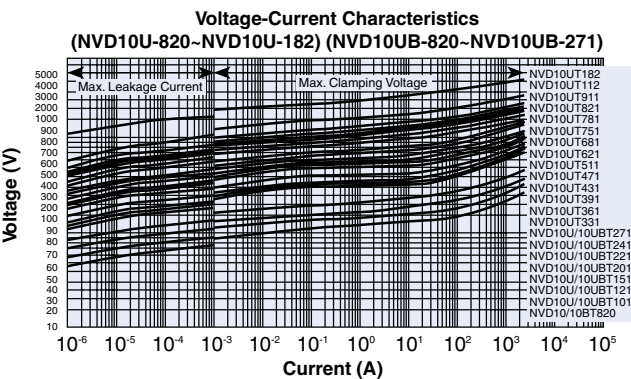


Surge current is related to impulse width and its repetition times.

Typical Characteristics (Ta = +25°C) D10U/10UB



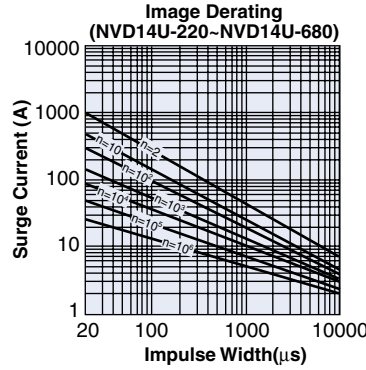
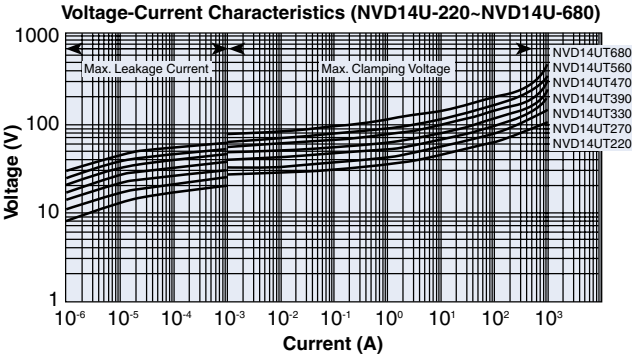
Surge current is related to impulse width and its repetition times.



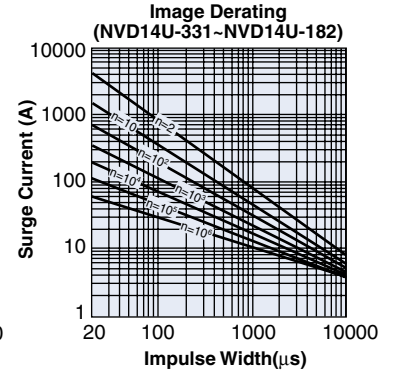
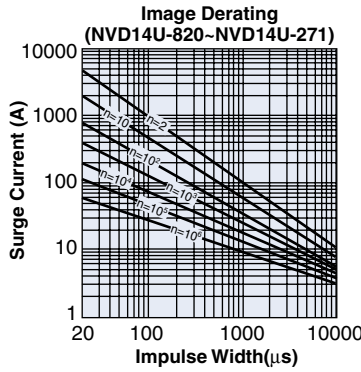
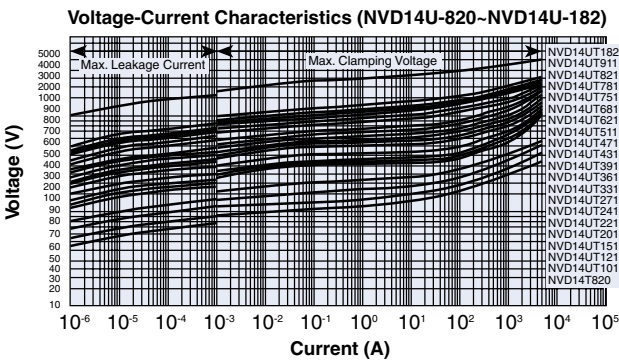
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environmental applications (continued)

Typical Characteristics (Ta = +25°C) D14U

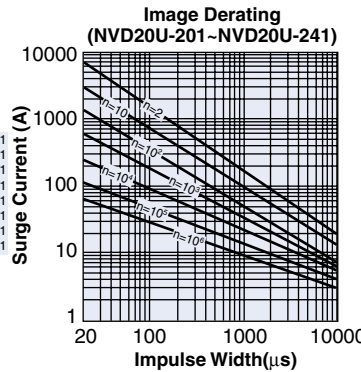
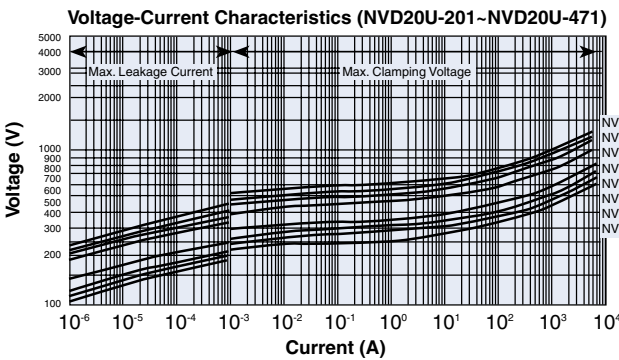


Surge current is related to impulse width and its repetition times.

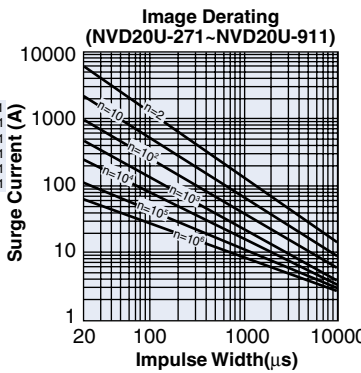
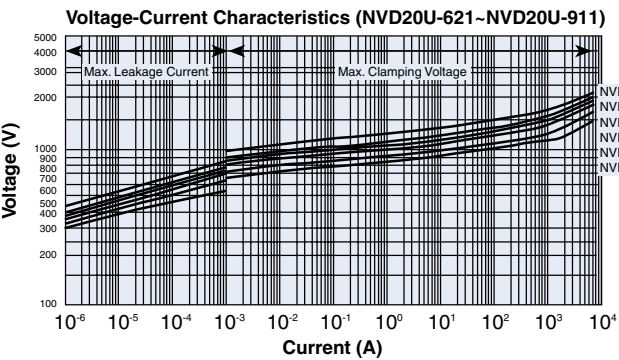


circuits protection

Typical Characteristics (Ta = +25°C) D20U



Surge current is related to impulse width and its repetition times.



Surge current is related to impulse width and its repetition times.

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