

CNR 05D 突波吸收器

Device Ratings and Characteristics

元件的額定值與特性

Part No. 型號	Maximum Allowable Voltage 最大容許電壓		Varistor Voltage 突波吸收器動作電壓 (@0.1mA)			Maximum Clamping Voltage 抑制電壓 @ Test Current (8/20μs)		Maximum Energy 最大吸收 能量 (J)	Maximum Peak Current 最大 電流耐量 (8/20μs)	Rated Power 消耗 功率	Typical Capacitance 參考電容值 (@1KHz)	Standards 安規
	ACrms(V)	DC(V)	Min.	Vb(Vdc)	Max.	Vc (V)	Ip (A)	10/1000μs	(A)	(W)	(pF)	
CNR-05D180K	11	14	14.4	18	21.6	44	1	0.4	100	0.01	1600	☆
CNR-05D220K	14	18	18.7	22	26.0	51	1	0.5	100	0.01	1500	☆
CNR-05D270K	17	22	23.0	27	31.1	60	1	0.6	100	0.01	1450	☆
CNR-05D330K	20	26	29.5	33	36.5	73	1	0.8	100	0.01	1400	☆
CNR-05D390K	25	31	35	39	46	86	1	0.9	100	0.01	700	☆
CNR-05D470K	30	38	42	47	55	104	1	1.1	100	0.01	650	☆
CNR-05D560K	35	45	50	56	66	123	1	1.3	100	0.01	600	☆
CNR-05D680K	40	56	61	68	80	150	1	1.6	100	0.01	580	☆
CNR-05D820K	50	65	74	82	90	145	5	2.5	400	0.10	310	☆ ◎
CNR-05D101K	60	85	90	100	110	175	5	3.0	400	0.10	290	☆ ◎
CNR-05D121K	75	100	108	120	132	210	5	4.0	400	0.10	270	☆ ◎
CNR-05D151K	95	125	135	150	165	260	5	4.8	400	0.10	240	☆ ◎
CNR-05D181K	115	150	162	180	198	325	5	5.9	400	0.10	140	☆ ◎
CNR-05D201K	130	170	185	200	225	355	5	6.5	400	0.10	120	☆ △ ※ ◎
CNR-05D221K	140	180	198	220	242	380	5	7.0	400	0.10	110	☆ △ ※ ◎
CNR-05D241K	150	200	216	240	264	415	5	8.0	400	0.10	110	☆ △ ※ ◎
CNR-05D271K	175	225	247	270	303	475	5	8.5	400	0.10	100	☆ △ ※ ◎
CNR-05D301K	195	250	270	300	330	505	5	9.0	400	0.10	100	☆ △ ※ ◎
CNR-05D331K	210	275	297	330	363	600	5	10.0	400	0.10	90	☆ △ ※ ◎
CNR-05D361K	230	300	324	360	396	620	5	10.0	400	0.10	80	☆ △ ※ ◎
CNR-05D391K	250	320	351	390	429	675	5	12.0	400	0.10	80	☆ △ ※ ◎
CNR-05D431K	275	350	387	430	473	745	5	13.0	400	0.10	70	☆ △ ※ ◎
CNR-05D471K	300	385	423	470	517	810	5	15.0	400	0.10	70	☆ △ ※ ◎
CNR-05D511K	320	410	459	510	561	880	5	15.0	400	0.10	65	☆ △ ※ ◎
CNR-05D561K	350	460	504	560	616	940	5	15.0	400	0.10	65	☆ △ ※ ◎
CNR-05D621K	385	505	558	620	682	1050	5	15.0	400	0.10	65	☆ △ ※ ◎
CNR-05D681K	420	560	612	680	748	1150	5	15.0	400	0.10	60	☆ △ ※ ◎
CNR-05D751K	460	615	675	750	825	1290	5	15.0	400	0.10	60	☆ △ ※ ◎

Related Standards

安規說明

RoHS

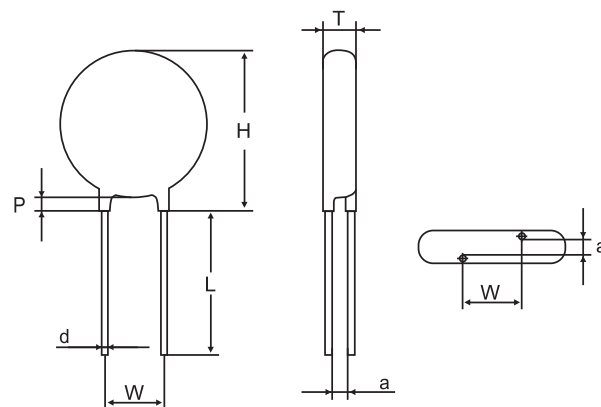
Standard No. 安規號碼	UL 1414	UL 1449 (3rd Edition)	CSA	VDE
Title 名稱	Across-The-Line Components	Surge Protective Device	Accessories and Parts for Electronic Products	Varistors for use in Electronic equipment
File No. 檔案號碼	E165143	E316325	LR109736-1	21557-4790-001
Symbols 符號	△	☆	※	◎

Dimension of Component for Standard Product 標準品之尺寸規格

Dimension Table

Unit: mm

Model Symbol	05D	07D	10D	14D	18D	20D
D(max.)	7.5	9.0	14.0	17.5	23.0	25.0
H(max.)	10.0	12.0	17.0	20.5	26.0	28.0
W(±1.0)	5.0	5.0	7.5	7.5	7.5	7.5/10.0
P(max.)	3.0					
L(min)	25.0					
d(±0.05)	0.6	0.6	0.8	0.8	0.8	0.8/1.0
	Cuorcp	Cuorcp	Cuorcp	Cuorcp 182 Konly Cu	Cuorcp	Cuorcp 1.0 Konly Cu



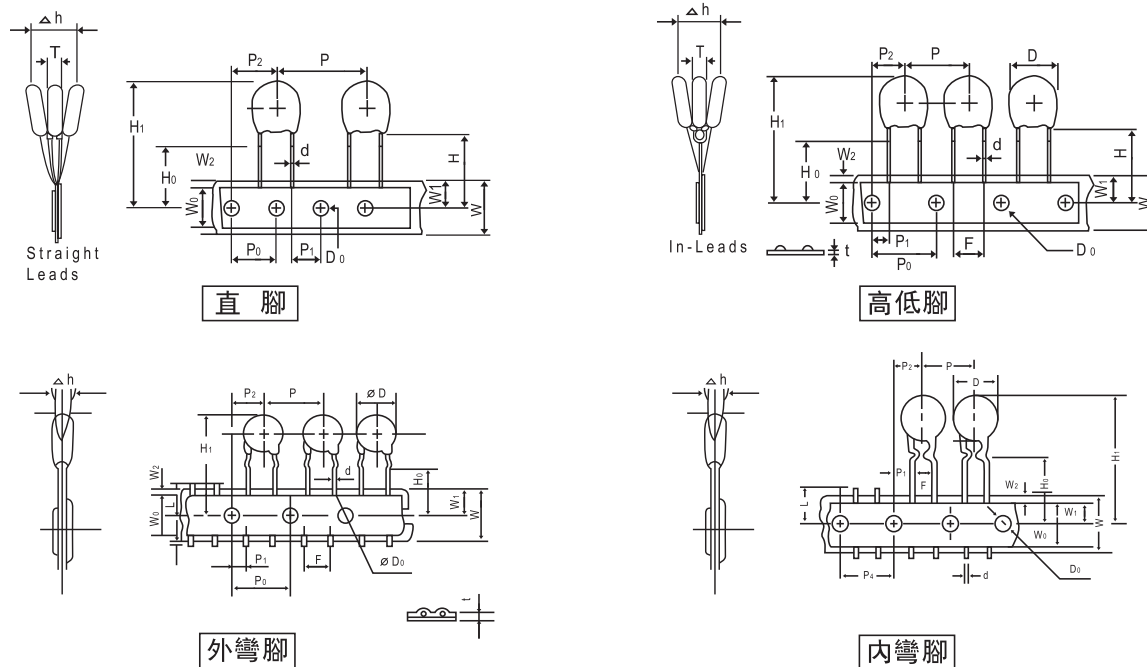
T max. Table

Unit: mm

Part No.	05D	07D	10D	14D	18D	20D	^a (±0.4)
180K	3.3	3.5	3.9	4.0	4.2	4.3	1.0
220K	3.6	3.8	4.2	4.3	4.5	4.6	1.1
270K	3.8	4.0	4.4	4.5	4.7	4.8	1.2
330K	3.3	3.5	3.9	4.0	4.2	4.3	1.1
390K	3.5	3.7	4.1	4.2	4.4	4.5	1.3
470K	3.7	3.9	4.3	4.4	4.6	4.7	1.4
560K	4.0	4.2	4.6	4.7	4.9	5.0	1.5
680K	4.3	4.5	4.9	5.0	5.2	5.3	1.7
820K	3.3	3.5	3.9	4.0	4.2	4.3	1.0
101K	3.6	3.8	4.2	4.3	4.5	4.6	1.0
121K	3.8	4.0	4.4	4.5	4.7	4.8	1.1
151K	4.1	4.3	4.7	4.8	5.0	5.1	1.3
181K	3.2	3.4	3.8	3.9	4.1	4.2	1.0
201K	3.3	3.5	3.9	4.0	4.2	4.3	1.0
221K	3.4	3.6	4.0	4.1	4.3	4.4	1.1
241K	3.5	3.7	4.1	4.2	4.4	4.5	1.2
271K	3.7	3.9	4.2	4.3	4.5	4.6	1.3

Part No.	05D	07D	10D	14D	18D	20D	^a (±0.4)
301K	3.9	4.1	4.3	4.4	4.6	4.7	1.4
331K	4.0	4.2	4.5	4.6	4.8	4.9	1.5
361K	4.1	4.3	4.7	4.8	5.0	5.1	1.2
391K	4.2	4.4	4.8	4.9	5.1	5.2	1.3
431K	4.4	4.6	5.0	5.1	5.3	5.4	1.4
471K	4.6	4.8	5.2	5.3	5.5	5.6	1.5
511K	4.8	5.0	5.3	5.4	5.6	5.7	1.7
561K	5.0	5.2	5.5	5.6	5.8	5.9	1.8
621K	5.3	5.5	5.7	5.8	6.0	6.1	2
681K	5.4	5.6	5.8	5.9	6.1	6.2	2.2
751K	5.6	5.8	6.0	6.1	6.3	6.4	2.4
781K	5.8	6.0	6.3	6.4	6.6	6.7	2.5
821K	-	6.3	6.5	6.6	6.8	6.9	2.6
911K	-	-	6.6	6.7	6.9	7.0	3
102K	-	-	7.0	7.1	7.3	7.4	3.3
112K	-	-	7.4	7.5	7.7	7.9	3.6
182K	-	-	-	11.5	11.7	11.9	5.5

Tape and Reel Specifications 捲帶裝尺寸規格



Symbol	PARAMETER	Model Size					
		□ 05D series	□ 07D series	□ 10D series	□ 10D series	□ 14D series	□ 14D series
P	Pitch of Component	12.7±1.0	12.7±1.0	12.7±1.0	15.0±1.0	25.4±1.0	30.0±1.0
P₀	Feed Hole Pitch	12.7±0.2	12.7±0.2	12.7±0.2	15.0±0.2	25.4±0.2	30.0±0.2
P₁	Feed Hole Center Lead	3.85±0.7	3.85±0.7	3.85±0.7	3.75±0.7	8.95±0.7	3.75±0.7
P₂	Hole Center to Component Center	6.35±0.7	6.35±0.7		7.5±1.3	12.7±0.7	7.5±0.7
F	Lead to Lead Distance	5.0±0.8	5.0±0.8	7.5±0.8	5.0±0.8	7.5±0.8	7.5±0.8
△h	Component Alignment	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max
W	Tape Width	18.0+1.0 18.0-0.5	18.0+1.0 18.0-0.5	18.0+1.0 18.0-0.5	18.0+1.0 18.0-0.5	18.0+1.0 18.0-0.5	18.0+1.0 18.0-0.5
W₀	Hold Down Tape Width	5.0 MIN.	5.0 MIN.	5.0 MIN.	5.0 MIN.	5.0 MIN.	5.0 MIN.
W₁	Hole Position	9.0+0.75 9.0-0.50	9.0+0.75 9.0-0.50	9.0+0.75 9.0-0.50	9.0+0.75 9.0-0.50	9.0+0.75 9.0-0.50	9.0+0.75 9.0-0.50
W₂	Hold Down Tape Position	3.0 Max	3.0 Max	3.0 Max	3.0 Max	3.0 Max	3.0 Max
H	Height from Tape Center to Component Base	18.0+2.0 18.0-0.0	18.0+2.0 18.0-0.0	18.0+2.0 18.0-0.0	18.0+2.0 18.0-0.0	18.0+2.0 18.0-0.0	18.0+2.0 18.0-0.0
H₀	Seating Plane Height	16.0±0.5	16.0±0.5	16.0±0.5	16.0±0.5	16.0±0.5	16.0±0.5
H₁	Component Height	29.0 Max	32.0 Max	36.0 Max	36.0 Max	40.0 Max	40.0 Max
D₀	Feed Hole Diameter	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2
t	Total Tape Thickness	0.7±0.2	0.7±0.2	0.7±0.2	0.7±0.2	0.7±0.2	0.7±0.2
L	Length of Clipped Lead	11.0 Max	11.0 Max	11.0 Max	11.0 Max	11.0 Max	11.0 Max

Unit : mm

Order Information of Taped Reel

Standard Products	Tape Reel Straight Lead	Tape Reel Crimped Lead	Min. Q'ty	Q'ty/Inner Box
CNR-05DXXXK	CNR-05DXXXK-TRS	CNR-05DXXXK-TRK	2000/1500	4000/3000
CNR-07DXXXK	CNR-07DXXXK-TRS	CNR-07DXXXK-TRK	2000/1500	4000/3000
CNR-10DXXXK	CNR-10DXXXK-TRS	CNR-10DXXXK-TRK	1500/1000	3000/2000
CNR-14DXXXK	CNR-14DXXXK-TRS	CNR-14DXXXK-TRK	1000/800	2000/1600

Note :

1."2000/1500" Packing in CNR-XXD180K to CNR-XXD271K are 2000 pcs, CNR-XXD301K to CNR-XXD471K with 1500 pcs.

2.Packing unit in pcs.

Packaging Specifications

Flat box				Reel				
Symbol	5D	7D	10D	Symbol	5D	7D	10D	14D
A	55 Max.			W	Approx. 45			55
B	330 Max.			D	360 Max.			
C	340 Max.			A	Approx. ϕ 30			
				B	Approx. ϕ 90			

Unit : mm

Order Information of Flat Box

Standard Products	Tape Box Straight Lead	Tape Box Crimped Lead	Max. Q'ty	Q'ty/Box
CNR-05DXXXK	CNR-05DXXXK-BTS	CNR-05DXXXK-BTK	2000/1500	4000/3000
CNR-07DXXXK	CNR-07DXXXK-BTS	CNR-07DXXXK-BTK	2000/1500	4000/3000
CNR-10DXXXK	CNR-10DXXXK-BTS	CNR-10DXXXK-BTK	1500/1000	3000/2000

Note :

1."2000/1500" Packing in CNR-XXD180K to CNR-XXD271K are 2000 pcs, CNR-XXD301K to CNR-XXD471K with 1500 pcs.

3.Packing unit in pcs.

Series			05D	07D	10D	14D
Symbol						
A max.	Varistor Voltage V1mA(V)	18 to 270	13.0	15.0	19.5	22.5
		360 to 470	13.0	15.0	20.5	23.5
D max.			7.5	9.0	14.0	17.5
K			1.2±0.4	1.2±0.4	1.4±0.4	1.4±0.4
W			5.0±1.0	5.0±1.0	7.5±1.0	7.5±1.0
ψ d			0.6	0.6	0.8	0.8

The diagram illustrates the physical dimensions of a varistor component. The main view shows a top-down perspective of the oval-shaped body with diameter D, a height A, and a central rectangular cutout with width K and depth CL. The bottom view shows the mounting pads with width W and thickness T.

T max. See standard product specification table.

Order Information of Crimp Leads

Standard Products	Tape Reel Straight Lead	Tape Reel Crimped Lead	Min. Q'ty	Q'ty/Inner Box
CNR-05DXXXK	CNR-05DXXXK-TRS	CNR-05DXXXK-TRK	2000/1500	4000/3000
CNR-07DXXXK	CNR-07DXXXK-TRS	CNR-07DXXXK-TRK	2000/1500	4000/3000
CNR-10DXXXK	CNR-10DXXXK-TRS	CNR-10DXXXK-TRK	1500/1000	3000/2000
CNR-14DXXXK	CNR-14DXXXK-TRS	CNR-14DXXXK-TRK	1000/800	2000/1600

Note :

1.Packing unit in pcs.

Impulse Life Time Rating Curves 額定脈衝壽命次數曲線

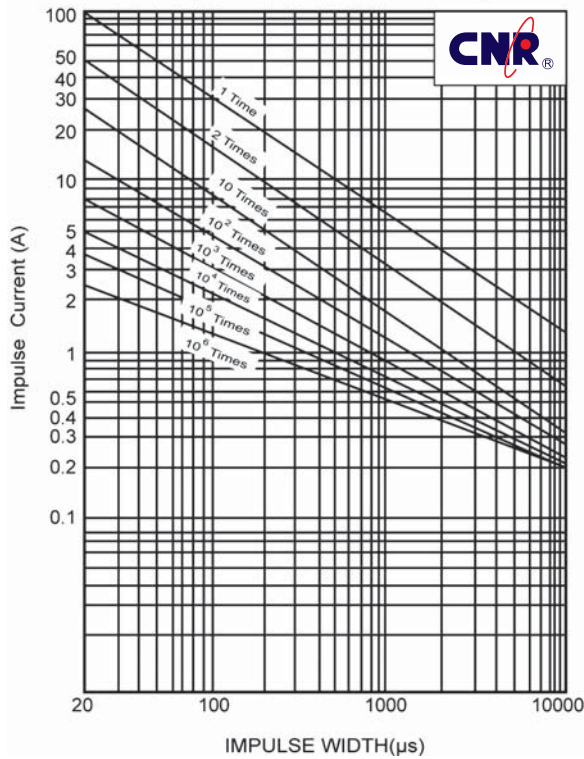
2 times: 5 minutes interval

up to 10 times: 2 minutes interval

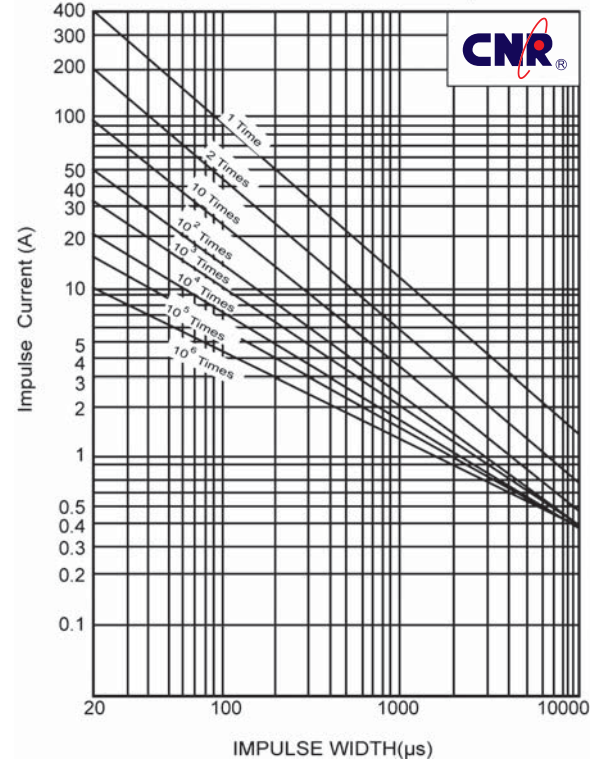
up to 10^6 times 10 seconds interval

5D Series

(CNR05D180K to CNR05D680K)

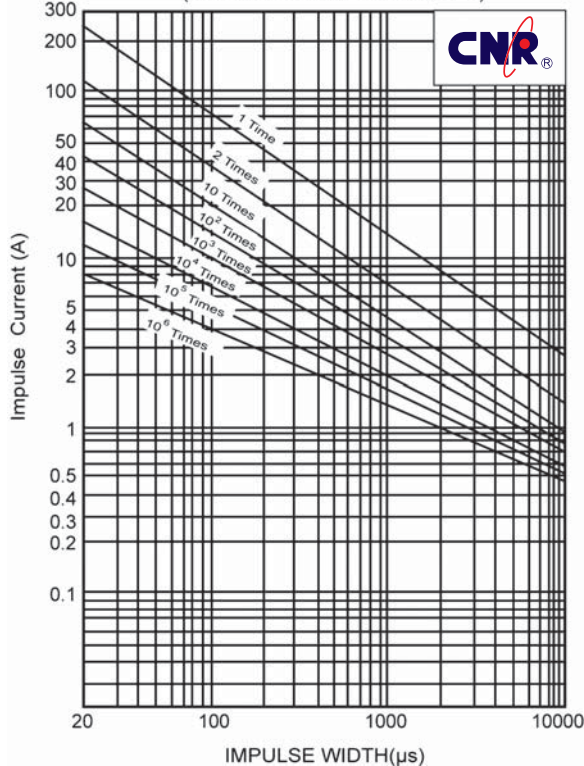


(CNR05D820K to CNR05D751K)

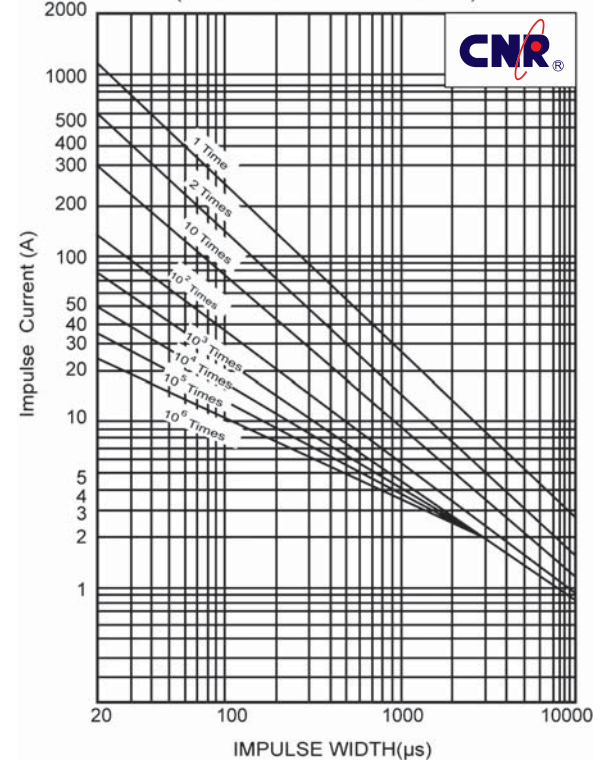


7D Series

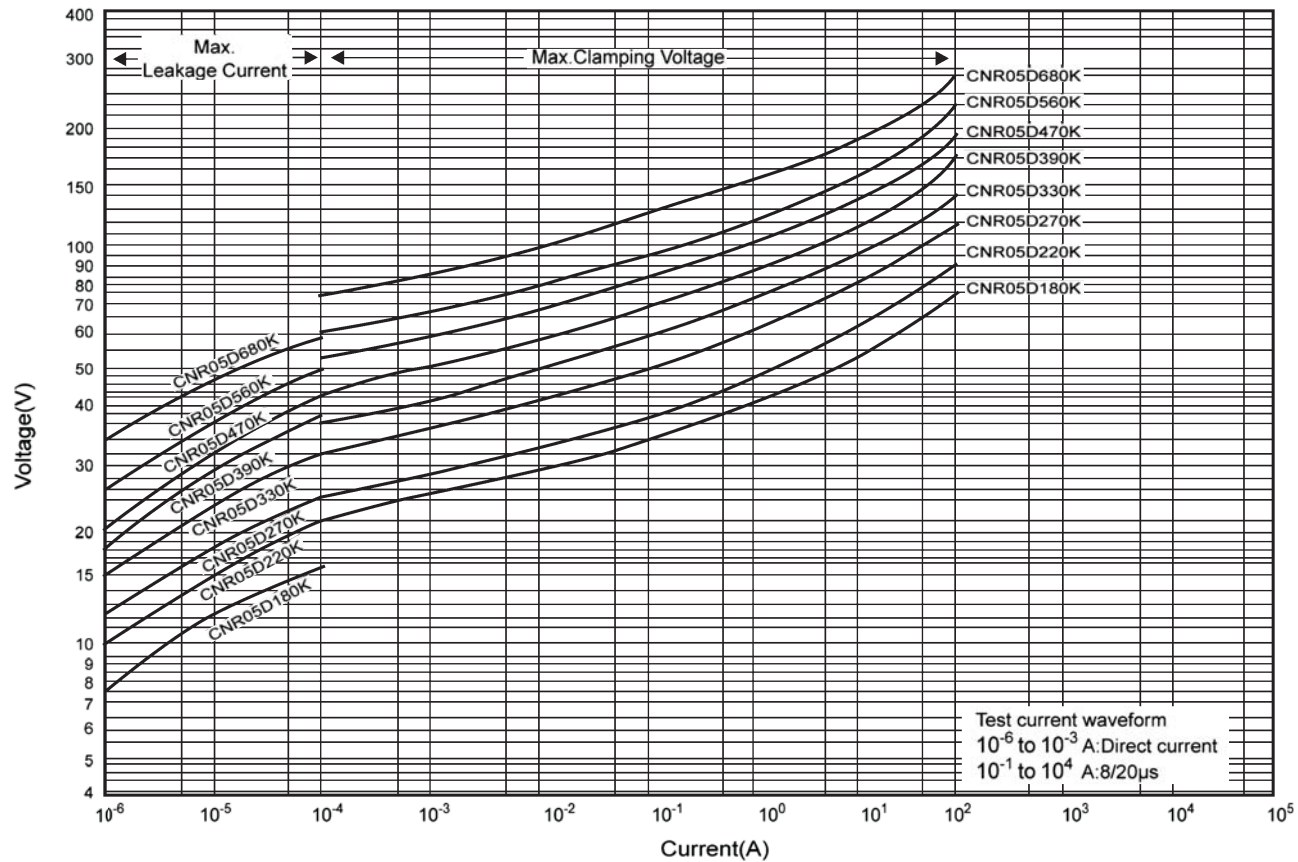
(CNR07D180K to CNR07D680K)



(CNR07D820K to CNR07D821K)



V-I Curve CNR05D180K to CNR05D680K 電壓-電流特性曲線



V-I Curve CNR05D820K to CNR05D751K 電壓-電流特性曲線

