

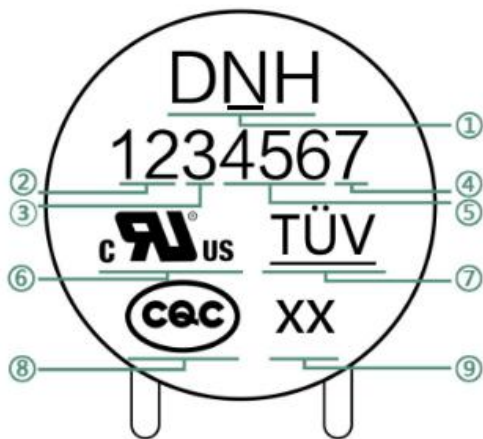
DNH[®] **Varistor**

SPECIFICATION FOR APPROVAL

Series 05D - 20D

Edition: A02

Marking



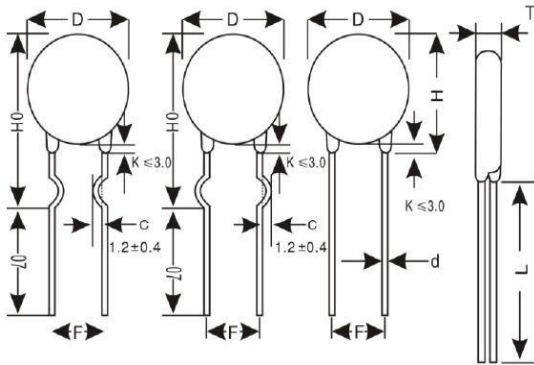
- ① Brand Mask
- ② Element Dia
- ③ Type
- ④ Tolerance
- ⑤ Varistor Voltage
- ⑥ CUL Accreditation Logo
- ⑦ TÜV Accreditation Logo
- ⑧ CQC Accreditation Logo
- ⑨ Technology

Part Number Code

DNH	-			D				K
Brand Mask		Element Dia		Nothing:Standard D: High Surge	Varistor Voltage From 180 to 182 Tow significant digits followed by no. of zeros Examples: 180=18V 101=100V 182=1800V			Nothing:Standard ML\K: High Surge
		05	$\Phi 5.0mm$					
		07	$\Phi 7.0mm$					
		10	$\Phi 10.0mm$					
		14	$\Phi 14.0mm$					
		20	$\Phi 20.0mm$					

T Thickness(Unit:mm)

DIMENSION



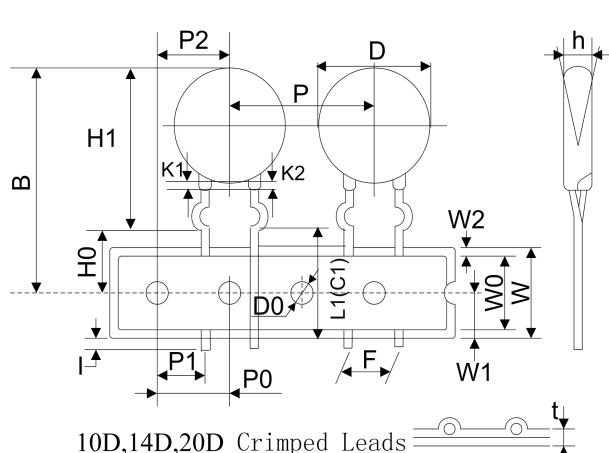
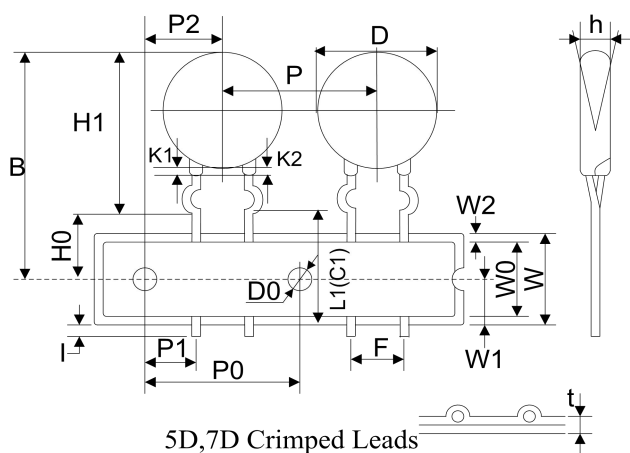
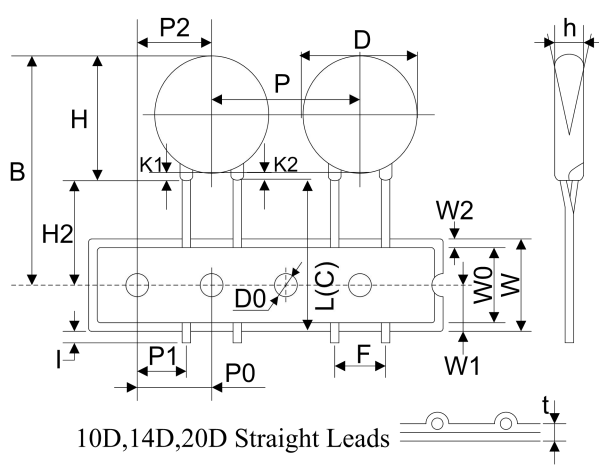
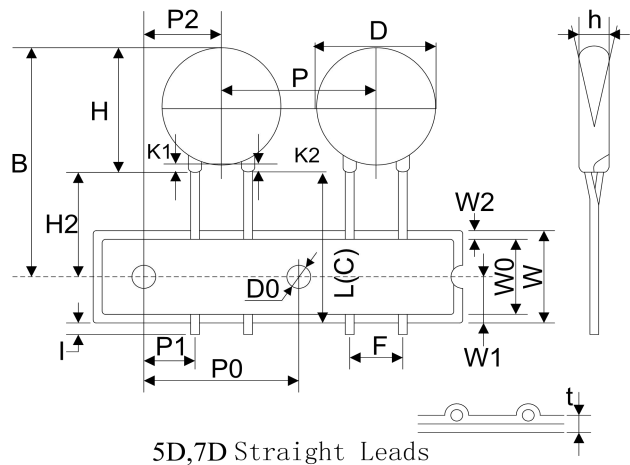
L0: 15mm min.

L: 20mm min.

Sizes	Max.			d ±0.05	F	C ±0.4
	D	H	H0			
05D	7.5	10.5	13	0.6	5±0.8	1.2
07D	9	12	13.5	0.6	5±0.8	
10D	12.5	16.5	17.5	0.8	7.5±0.8	1.4
14D	16.5	20	21	0.8	7.5±0.8	
20D	23	26.5	28	7.5/ 1.0	7.5±0.8 /10±1.0	1.6

Part Code	05D	07D	10D	14D	20D
180	1.4-3.6	1.4-3.6	1.8-4.0	1.8-4.0	2.2-4.4
220	1.5-3.7	1.5-3.7	1.9-4.1	1.9-4.1	2.3-4.5
270	1.7-3.9	1.7-3.9	2.1-4.3	2.1-4.3	2.5-4.7
330	1.6-4.0	1.6-4.0	2.0-4.4	2.0-4.4	2.4-4.6
390	1.7-4.1	1.7-4.1	2.1-4.5	2.1-4.5	2.6-4.8
470	1.9-4.2	1.9-4.2	2.3-4.6	2.3-4.6	2.7-4.9
560	2.1-4.3	2.1-4.3	2.5-4.7	2.5-4.7	2.8-5.1
680	2.4-4.6	2.4-4.6	2.7-5.0	2.7-5.0	2.7-5.4
820	1.8-4.0	1.8-4.0	2.2-4.4	2.2-4.4	2.6-4.8
101	2.0-4.2	2.0-4.2	2.4-4.6	2.4-4.6	2.8-5.0
121	2.2-4.4	2.2-4.4	2.6-4.8	2.6-4.8	3.0-5.2
151	1.8-4.0	1.8-4.0	2.2-4.4	2.2-4.4	2.6-4.8
181	1.9-4.1	1.9-4.1	2.3-4.5	2.3-4.5	2.7-4.9
201	2.0-4.2	2.0-4.2	2.4-4.6	2.4-4.6	2.7-5.0
221	2.1-4.3	2.1-4.3	2.5-4.7	2.5-4.7	2.8-5.1
241	2.2-4.4	2.2-4.4	2.6-4.8	2.6-4.8	2.9-5.2
271	2.4-4.6	2.4-4.6	2.8-5.0	2.8-5.0	2.9-5.4
301	2.5-4.7	2.5-4.7	2.9-5.1	2.9-5.1	3.0-5.4
331	2.5-4.7	2.5-4.7	2.9-5.1	2.9-5.1	3.0-5.5
361	2.7-4.9	2.7-4.9	3.1-5.3	3.1-5.3	3.2-5.7
391	2.8-5.0	2.8-5.0	3.2-5.4	3.2-5.4	3.3-5.8
431	3.0-5.2	3.0-5.2	3.4-5.6	3.4-5.6	3.5-6.0
471	3.2-5.4	3.2-5.4	3.6-5.8	3.6-5.8	3.6-6.2
511	3.4-5.6	3.4-5.6	3.8-6.0	3.8-6.0	3.7-6.4
561	3.6-5.8	3.6-5.8	4.0-6.2	4.0-6.2	3.8-6.8
621	3.8-6.1	3.8-6.1	4.2-6.5	4.2-6.5	4.1-7.1
681	4.0-6.4	4.0-6.4	4.4-6.8	4.4-6.8	4.3-7.4
751	4.1-6.5	4.1-6.5	4.5-7.3	4.5-7.3	4.6-7.7
781	/	4.4-6.6	4.8-7.4	4.8-7.4	4.7-8.0
821	/	4.5-6.8	4.9-7.7	4.9-7.7	4.9-8.1
911	/	/	5.3-8.0	5.3-8.0	5.1-8.4
102	/	/	5.4-8.2	5.4-8.2	5.6-8.5
112	/	/	5.8-8.7	5.8-8.7	6.0-9.1
122	/	/	6.0-8.7	6.0-9.2	6.4-9.6
142	/	/	6.9-10.2	7.0-10.2	7.2-10.6
152	/	/	7.4-10.7	7.4-10.7	7.4-11.1
162	/	/	/	7.7-11.2	7.7-12.0
182	/	/	/	7.7-11.4	7.7-12.5




Or Customer Request






Specs	P0	P1	P2	P	h	W	W0
Explain	/	± 0.7	± 1.3	± 1.0	/	± 1.0	± 1.0
5D	12.7 ± 0.3	3.85	6.35	12.7	0 ± 2	18.0	10.0
7D	12.7 ± 0.3	3.85	6.35	12.7	0 ± 2	18.0	10.0
10D	12.7 ± 1.0	8.95	12.7	25.4	0 ± 2	18.0	10.0
14D	12.7 ± 1.0	8.95	12.7	25.4	0 ± 4	18.0	10.0
20D(P7.5)	12.7 ± 1.0	8.95	12.7	25.4	0 ± 4	18.0	10.0
20D(P10)	12.7 ± 1.0	7.7	12.7	25.4	0 ± 4	18.0	10.0

Specs	W1	W2	H0	H2	D0	t	B	I
Explain	(± 0.5)	Max	± 1.0	± 2.0	± 0.2	± 0.3	Max	Max
5D	9.0	3.0	17.0	20.0	4.0	0.6	32	1
7D	9.0	3.0	17.0	20.0	4.0	0.6	32	1
10D	9.0	3.0	17.0	20.0	4.0	0.6	36	1
14D	9.0	3.0	17.0	20.0	4.0	0.6	40	1
20D(P7.5)	9.0	3.0	17.0	20.0	4.0	0.6	45	1
20D(P10)	9.0	3.0	17.0	20.0	4.0	0.6	45	1




● 05D Specification

D <u>N</u> H PART No. Φ 5.0mm		Maximum Allowable Voltage		Varistor Voltage V _{1.0mA}	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)			
		AC rms	DC		VC	IP	Standard	High Surge	Standard	High Surge					
		Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)				
05180	05D180M	11	14	18(15-21.6)	40	1	100	250	0.4	0.6	0.01	1400	*	*	*
05220	05D220L	14	18	22(19.5-26)	48				0.5	0.7		1150	*	*	*
05270	05D270K	17	22	27(24-31)	60				0.6	0.9		930	*	*	*
05330	05D330K	20	26	33(29.5-36.5)	73				0.8	1.1		760	*	*	*
05390	05D390K	25	31	39(35-43)	80		50×2	100×2	0.9	1.2		640	*	*	*
05470	05D470K	30	38	47(42-52)	104				1.1	1.5		530	*	*	*
05560	05D560K	35	45	56(50-62)	123				1.3	1.8		450	*	*	*
05680	05D680K	40	56	68(61-75)	145				1.6	2.2		370	*	*	*
05820	05D820K	50	65	82(74-90)	150	5	400	800	2.5	4.0	0.10	300	*	*	*
05101	05D101K	60	85	100(90-110)	175				3.0	4.1		250	*	*	*
05121	05D121K	75	100	120(108-132)	210				4.0	4.9		210	*	*	*
05151	05D151K	95	125	150(135-165)	260				4.8	6.5		165	*	*	*
05181	05D181K	115	150	180(162-198)	320				5.9	7.5		140	*	*	*
05201	05D201K	130	170	200(185-225)	355				6.5	8.5		125	*	*	*
05221	05D221K	140	180	220(198-242)	380				7.0	9.0		110	*	*	*
05241	05D241K	150	200	240(216-264)	415				8.0	10.5		100	*	*	*
05271	05D271K	175	225	270(243-297)	475				8.5	11.0		95	*	*	*
05301	05D301K	190	250	300(270-330)	520		200×2	400×2	9.0	12.0		85	*	*	*
05331	05D331K	210	275	330(297-363)	570				9.5	13.0		75	*	*	*
05361	05D361K	230	300	360(324-396)	620				10.0	16.0		70	*	*	*
05391	05D391K	250	320	390(351-429)	675				12.0	17.0		65	*	*	*
05431	05D431K	275	350	430(387-473)	745				13.0	20.0		60	*	*	*
05471	05D471K	300	385	470(423-517)	810				15.0	21.0		55	*	*	*
05511	05D511K	320	415	510(459-561)	845				16.0	22.5		50	*	*	*
05561	05D561K	350	460	560(504-616)	920				16.8	24.0		45	*	*	*
05621	05D621K	385	505	620(558-682)	1025				17.7	26.6		40	*	*	*
05681	05D681K	420	560	680(612-748)	1120				19.4	29.1		38	*	*	*




● 07D Specification

DNH PART No. Φ 7.0mm		Maximum Allowable Voltage		Varistor Voltage V _{1.0mA}	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)			
		AC rms	DC		VC	IP	Standard	High Surge	Standard	High Surge					
		Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)				
07180	07D180M	11	14	18(15-21.6)	36	2.5	250	500	0.9	2.0	0.02	2800	*	*	*
07220	07D220L	14	18	22(19.5-26)	43				1.1	2.4		2300	*	*	*
07270	07D270K	17	22	27(24-31)	53				1.4	3.0		1800	*	*	*
07330	07D330K	20	26	33(29.5-36.5)	65				1.7	3.5		1500	*	*	*
07390	07D390K	25	31	39(35-43)	77				2.1	4.0		1300	*	*	*
07470	07D470K	30	38	47(42-52)	93				2.5	5.0		1100	*	*	*
07560	07D560K	35	45	56(50-62)	110				3.1	6.0		890	*	*	*
07680	07D680K	40	56	68(61-75)	135				3.6	7.0		740	*	*	*
07820	07D820K	50	65	82(74-90)	135	10	1250	1750	5.5	10.0	0.25	600	*	*	*
07101	07D101K	60	85	100(90-110)	165				6.5	12.0		500	*	*	*
07121	07D121K	75	100	120(108-132)	200				7.8	13.0		420	*	*	*
07151	07D151K	95	125	150(135-165)	250				9.7	15.0		330	*	*	*
07181	07D181K	115	150	180(162-198)	300				11.7	16.0		280	*	*	*
07201	07D201K	130	170	200(185-225)	340				13.0	17.0		250	*	*	*
07221	07D221K	140	180	220(198-242)	360				14.0	19.0		230	*	*	*
07241	07D241K	150	200	240(216-264)	395				15.0	21.0		210	*	*	*
07271	07D271K	175	225	270(243-297)	455				18.0	24.0		185	*	*	*
07301	07D301K	190	250	300(270-330)	500				20.0	26.0		165	*	*	*
07331	07D331K	210	275	330(297-363)	550				23.0	28.0		150	*	*	*
07361	07D361K	230	300	360(324-396)	595				24.0	32.0		140	*	*	*
07391	07D391K	250	320	390(351-429)	650				26.0	35.0		130	*	*	*
07431	07D431K	275	350	430(387-473)	710				28.0	40.0		115	*	*	*
07471	07D471K	300	385	470(423-517)	775				29.0	42.0		105	*	*	*
07511	07D511K	320	415	510(459-561)	845				31.0	45.0		100	*	*	*
07561	07D561K	350	460	560(504-616)	925				35.0	49.0		90	*	*	*
07621	07D621K	385	505	620(558-682)	1025				38.0	55.0		80	*	*	*
07681	07D681K	420	560	680(612-748)	1120				42.0	60.0		75	*	*	*
07751	07D751K	460	615	750(675-825)	1240				45.0	64.0		70	*	*	*
07781	07D781K	485	640	780(702-858)	1290				48.0	69.0		65	*	*	*
07821	07D821K	510	670	820(738-902)	1355				52.0	73.0		60	*	*	*




● 10D Specification

D _N H PART No. Φ 10.0mm		Maximum Allowable Voltage		Varistor Voltage V _{1.0mA}	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)			
		AC rms	DC		VC	IP	Standard	High Surge	Standard	High Surge					
		Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)				
10180	10D180M	11	14	18(15-21.6)	36	5	500	1000	2.1	3.0	0.05	5600	*	*	*
10220	10D220L	14	18	22(19.5-26)	43				2.5	5.0		4500	*	*	*
10270	10D270K	17	22	27(24-31)	53				3.0	6.0		3700	*	*	*
10330	10D330K	20	26	33(29.5-36.5)	65				4.0	7.0		3000	*	*	*
10390	10D390K	25	31	39(35-43)	77				4.6	9.0		2400	*	*	*
10470	10D470K	30	38	47(42-52)	93				5.5	11.0		2100	*	*	*
10560	10D560K	35	45	56(50-62)	110				7.0	13.0		1800	*	*	*
10680	10D680K	40	56	68(61-75)	135				8.2	15.0		1500	*	*	*
10820	10D820K	50	65	82(74-90)	135	25	2500	3500	12.0	17.0	0.40	1200	*	*	*
10101	10D101K	60	85	100(90-110)	165				15.0	18.0		1000	*	*	*
10121	10D121K	75	100	120(108-132)	200				18.0	21.0		830	*	*	*
10151	10D151K	95	125	150(135-165)	250				22.0	25.0		670	*	*	*
10181	10D181K	115	150	180(162-198)	300				27.0	30.0		560	*	*	*
10201	10D201K	130	170	200(185-225)	340				30.0	35.0		500	*	*	*
10221	10D221K	140	180	220(198-242)	360				32.0	39.0		450	*	*	*
10241	10D241K	150	200	240(216-264)	395				35.0	42.0		420	*	*	*
10271	10D271K	175	225	270(243-297)	455				37.0	49.0		370	*	*	*
10301	10D301K	190	250	300(270-330)	500				40.0	54.0		330	*	*	*
10331	10D331K	210	275	330(297-363)	550				43.0	58.0		300	*	*	*
10361	10D361K	230	300	360(324-396)	595				47.0	65.0		280	*	*	*
10391	10D391K	250	320	390(351-429)	650				60.0	70.0		260	*	*	*
10431	10D431K	275	350	430(387-473)	710				65.0	80.0		230	*	*	*
10471	10D471K	300	385	470(423-517)	775				67.0	85.0		210	*	*	*
10511	10D511K	320	415	510(459-561)	845				69.0	90.0		200	*	*	*
10561	10D561K	350	460	560(504-616)	925				70.0	92.0		180	*	*	*
10621	10D621K	385	505	620(558-682)	1025				72.0	95.0		160	*	*	*
10681	10D681K	420	560	680(612-748)	1120				75.0	98.0		150	*	*	*
10751	10D751K	460	615	750(675-825)	1240				77.0	100.0		130	*	*	*
10781	10D781K	485	640	780(702-858)	1290				80.0	105.0		125	*	*	*
10821	10D821K	510	670	820(738-902)	1355				85.0	110.0		120	*	*	*
10911	10D911K	550	745	910(819-1001)	1500				93.0	130.0		110	*	*	*
10102	10D102K	625	825	1000(900-1100)	1650				102.0	140.0		100	*	*	*
10112	10D112K	680	895	1100(990-1210)	1815				115.0	155.0		90	*	*	*

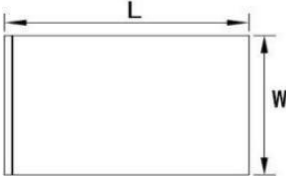
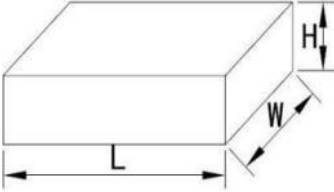
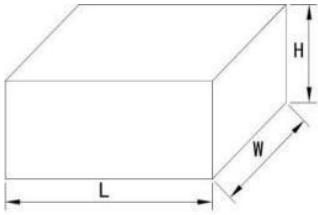
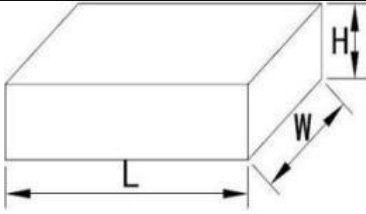
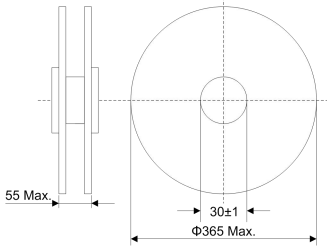
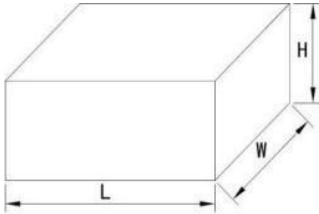
● 14D Specification

D <u>N</u> H PART No. Φ 14.0mm		Maximum Allowable Voltage		Varistor Voltage V _{1.0mA}	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power	Typical Capacitance (Reference)			
		AC. rms	DC		VC	IP	Standard	High Surge	Standard	High Surge					
		Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)				
14180	14D180M	11	14	18 (15-21.6)	36	10	1000 500×2	2000 1000×2	4.0	7.0	0.10	11100	*	*	*
14220	14D220L	14	18	22 (19.5-26)	43				5.0	8.0		9100	*	*	*
14270	14D270K	17	22	27 (24-31)	53				6.0	10		7400	*	*	*
14330	14D330K	20	26	33 (29.5-36.5)	65				7.5	12		6100	*	*	*
14390	14D390K	25	31	39 (35-43)	77				8.6	13		5100	*	*	*
14470	14D470K	30	38	47 (42-52)	93				10.0	17		4300	*	*	*
14560	14D560K	35	45	56 (50-62)	110				11.0	20		3600	*	*	*
14680	14D680K	40	56	68 (61-75)	135				14.0	24		2900	*	*	*
14820	14D820K	50	65	82 (74-90)	135	50	4500 2500×2	6000 4500×2	22.0	27	0.60	2400	*	*	*
14101	14D101K	60	85	100 (90-110)	165				28.0	33		2000	*	*	*
14121	14D121K	75	100	120 (108-132)	200				32.0	40		1700	*	*	*
14151	14D151K	95	125	150 (135-165)	250				40.0	53		1300	*	*	*
14181	14D181K	115	150	180 (162-198)	300				50.0	60		1100	*	*	*
14201	14D201K	130	170	200 (185-225)	340				57.0	70		1000	*	*	*
14221	14D221K	140	180	220 (198-242)	360				60.0	78		900	*	*	*
14241	14D241K	150	200	240 (216-264)	395				63.0	84		830	*	*	*
14271	14D271K	175	225	270 (243-297)	455				70.0	99		740	*	*	*
14301	14D301K	190	250	300 (270-330)	500				77.0	108		670	*	*	*
14331	14D331K	210	275	330 (297-363)	550				85.0	115		610	*	*	*
14361	14D361K	230	300	360 (324-396)	595				93.0	130		560	*	*	*
14391	14D391K	250	320	390 (351-429)	650				100	140		510	*	*	*
14431	14D431K	275	350	430 (387-473)	710				115	155		460	*	*	*
14471	14D471K	300	385	470 (423-517)	775				118	175		430	*	*	*
14511	14D511K	320	415	510 (459-561)	845				121	180		390	*	*	*
14561	14D561K	350	460	560 (504-616)	925				125	185		360	*	*	*
14621	14D621K	385	505	620 (558-682)	1025				128	190		320	*	*	*
14681	14D681K	420	560	680 (612-748)	1120				130	200		290	*	*	*
14751	14D751K	460	615	750 (675-825)	1240				143	210		270	*	*	*
14781	14D781K	485	640	780 (702-858)	1290				148	220		260	*	*	*
14821	14D821K	510	670	820 (738-902)	1355				157	235		240	*	*	*
14911	14D911K	550	745	910 (819-1001)	1500				175	255		220	*	*	*
14102	14D102K	625	825	1000 (900-1100)	1650				190	280		200	*	*	*
14112	14D112K	680	895	1100 (990-1210)	1815				213	310		180	*	*	*
14122	14D122K	750	990	1200 (1080-1320)	1980				232	324		160	*	*	*
14142	14D142K	880	1140	1400 (1260-1540)	2310				238	327		150	*	*	*
14162	14D162K	1000	1280	1600 (1440-1760)	2640				243	331		140	*	*	*
14182	14D182K	1100	1465	1800 (1620-1980)	2970				250	335		130	*	*	*

● 20D Specification

D <u>N</u> H PART No. Φ 20.0mm		Maximum Allowable Voltage		Varistor Voltage V _{1.0mA}	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)			
		AC. rms	DC		VC	IP	Standard	High Surge	Standard	High Surge					
		Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)				
20180	20D180M	11	14	18 (15-21.6)	36	20	<div>2000</div> <div>1000×2</div>	<div>3000</div> <div>2000×2</div>	11	13	0.20	28500	*	*	*
20220	20D220L	14	18	22 (19.5-26)	43				14	16		18500	*	*	*
20270	20D270K	17	22	27 (24-31)	53				16	19		13000	*	*	*
20330	20D330K	20	26	33 (29.5-36.5)	65				23	24		11500	*	*	*
20390	20D390K	25	31	39 (35-43)	77				26	28		8500	*	*	*
20470	20D470K	30	38	47 (42-52)	93				30	34		7400	*	*	*
20560	20D560K	35	45	56 (50-62)	110				38	44		6500	*	*	*
20680	20D680K	40	56	68 (61-75)	135				41	49		5800	*	*	*
20820	20D820K	50	65	82 (74-90)	135	100	<div>6500</div> <div>4500×2</div>	<div>10000</div> <div>6500×2</div>	45	56	1.00	4900	*	*	*
20101	20D101K	60	85	100 (90-110)	165				50	70		4000	*	*	*
20121	20D121K	75	100	120 (108-132)	200				55	85		3300	*	*	*
20151	20D151K	95	125	150 (135-165)	250				70	106		2700	*	*	*
20181	20D181K	115	150	180 (162-198)	300				85	130		2200	*	*	*
20201	20D201K	130	170	200 (185-225)	340				95	140		2000	*	*	*
20221	20D221K	140	180	220 (198-242)	360				100	155		1800	*	*	*
20241	20D241K	150	200	240 (216-264)	395				108	168		1650	*	*	*
20271	20D271K	175	225	270 (243-297)	455				127	190		1500	*	*	*
20301	20D301K	190	250	300 (270-330)	500				136	210		1300	*	*	*
20331	20D331K	210	275	330 (297-363)	550				150	228		1200	*	*	*
20361	20D361K	230	300	360 (324-396)	595				163	255		1100	*	*	*
20391	20D391K	250	320	390 (351-429)	650				180	275		1000	*	*	*
20431	20D431K	275	350	430 (387-473)	710				190	305		930	*	*	*
20471	20D471K	300	385	470 (423-517)	775				204	350		850	*	*	*
20511	20D511K	320	415	510 (459-561)	845				210	360		780	*	*	*
20561	20D561K	350	460	560 (504-616)	925				215	380		710	*	*	*
20621	20D621K	385	505	620 (558-682)	1025				224	390		650	*	*	*
20681	20D681K	420	560	680 (612-748)	1120				230	400		600	*	*	*
20751	20D751K	460	615	750 (675-825)	1240				255	420		530	*	*	*
20781	20D781K	485	640	780 (702-858)	1290				265	440		510	*	*	*
20821	20D821K	510	670	820 (738-902)	1355				282	460		500	*	*	*
20911	20D911K	550	745	910 (819-1001)	1500				310	510		440	*	*	*
20102	20D102K	625	825	1000 (900-1100)	1650				342	565		400	*	*	*
20112	20D112K	680	895	1100 (990-1210)	1815				383	620		360	*	*	*
20122	20D122K	750	990	1200 (1080-1320)	1980				408	660		350	*	*	*
20142	20D142K	880	1140	1400 (1260-1540)	2310				532	784		340	*	*	*
20162	20D162K	1000	1280	1600 (1440-1760)	2640				606	896		330	*	*	*
20182	20D182K	1100	1465	1800 (1620-1980)	2970				625	990		320	*	*	*

1.Packing material size

Content	Illustration	Material	Measurement
Inner pocket		PE bag	L=230mm W=180mm
Inner box		Box	L=240mm W=170mm H=25mm
Outer carton		Carton	L=365mm W=255mm H=255mm
Tape & Box		Box	L=345mm W=250mm H=60mm
Tape & Reel	 	Reel&box	L=365mm W=365mm H=60mm

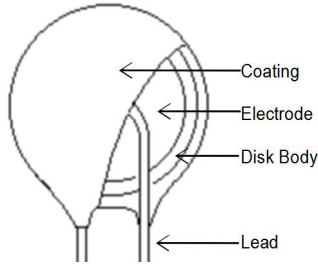
2.Package Quantity

Spec		Bulk			Taping	
		Pcs/bag	Pcs/box	Pcs/Outer Carton	Pcs/volume	Pcs/box
05D	180K-391K	1000	2000	16000	2000	1500
	431K-681K				1500	1000
07D	180K-331K	1000	2000	16000	2000	1500
	361K-391K				1500	1500
	431K-471K				1500	1000
	561K-681K				1500	1000
	751K-821K	500	1000	8000	-	-
10D	180K-331K	500	1000	8000	1000	750
	361K-621K				750	500
	681K-112K	400	800	6400	500	300
	122K-182K	300	600	4800	500	300
14D	180K-331K	400	800	6400	750	750
	361K-621K	300	600	4800	500	500
	681K-112K	250	500	4000	500	500
	122K-182K	150	300	2400	500	500
20D	180K-301K	250	500	4000	400	400
	331K-561K	200	400	3200	300	300
	621K-112K	150	300	2400	150	150
	122K-182K	100	200	1600	-	-
25D	201K-621K	100	200	1600	-	-
	681K-122K	50	100	800	-	-

3.Eletrical Parameter

3.1	Temperature Coefficient of Varistor Voltage	$-0.05 \leq T_c \leq 0.05 (\% / ^\circ \text{C})$	$\left \frac{V_{1\text{mA}@85^\circ\text{C}} - V_{1\text{mA}@25^\circ\text{C}}}{V_{1\text{mA}@25^\circ\text{C}}} \times \frac{1}{60} \times 100\% (\% / ^\circ \text{C}) \right $
			$\left \frac{V_{1\text{mA}@-40^\circ\text{C}} - V_{1\text{mA}@25^\circ\text{C}}}{V_{1\text{mA}@25^\circ\text{C}}} \times \frac{1}{65} \times 100\% (\% / ^\circ \text{C}) \right $
3.2	Impulse Life	$\leq \pm 10\% (V_{1\text{mA}})$	Test Current Waveform 8/20 μs

4.Material List

4.1	Drawing			
4.2	Material Chart RoHs	Item	Composition	Manufacturer
		Coating	Epoxy Resin	Made in China, and in line with the UL 94-V0 testing, meet the environmental requirements
		Lead	Cp/Cu wire	Made in China, meet the environmental requirements
		Electrode	Silver	Made in China, meet the environmental requirements
		Disk	Zinc Oxide	Made in China, meet the environmental requirements
		Solder	Sn:96.5%CU 0.5%Ag3.0%	Made in China, meet the environmental requirements

5.Mechanical Requirements

5.1	Tensile of Terminations	No Outstanding Damage	0.6/0.8mm: 1.0Kgf; 10Sec. 1.0mm: 2.0Kgf; 10Sec.
5.2	Bending of Terminations	No Outstanding Damage	0.6/0.8mm: 0.5Kgf; 90° ,3 Times 1.0mm: 1.0Kgf; 90° ,3 Times.
5.3	Vibration	No Outstanding Damage	Freq:10-55hz;Amp:0.75mm,1Min.
5.4	Solderability	Min. 95% of The Terminal Should Be Covered With Solder Uniformly	Solder Temp:245±5℃ Immersed Time: ≤5Sec.
5.5	Resistance of soldering heat	△ V1mA/V1mA ≡ ±5%	Solder Temp: 260±5℃ Immersed Time: 10±1Sec.

6.Environmental Requirements

6.1	High Temperature Storage	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 5\%$	Ambient Temp: 125±2℃ Duration:1000h																											
6.2	Low Temperature Storage	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 5\%$	Ambient Temp: -40±2℃ Duration:1000h																											
6.3	High Humidity Storage/Damp Heat	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 5\%$	Ambient Temp: 40±2℃ 90-95% R.H. Duration:1000h																											
6.4	Temperature Cycle	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 5\%$	Step	Temperature (℃)	Period (min.)																									
			1	-40±3	30 ±3																									
			2	Room Temp	15 ±3																									
			3	85±3	30 ±3																									
			4	Room Temp	15 ±3																									
6.5	Surge Life	The change of Vb shall be measured after the impulse listed below which is applied 10,000 times continuously with the interval of ten seconds at room temperature. <table><tr><td rowspan="2">05 series</td><td>180K to 680K</td><td>10A (8/20μs)</td></tr><tr><td>820K to 751K</td><td>30A (8/20μs)</td></tr><tr><td rowspan="2">07 series</td><td>180K to 680K</td><td>25A (8/20μs)</td></tr><tr><td>820K to 821K</td><td>50A (8/20μs)</td></tr><tr><td rowspan="2">10 series</td><td>180K to 680K</td><td>50A (8/20μs)</td></tr><tr><td>820K to 112K</td><td>100A (8/20μs)</td></tr><tr><td rowspan="2">14 series</td><td>180K to 680K</td><td>75A (8/20μs)</td></tr><tr><td>820K to 182K</td><td>150A (8/20μs)</td></tr><tr><td rowspan="2">20 series</td><td>180K to 680K</td><td>100A (8/20μs)</td></tr><tr><td>820K to 182K</td><td>200A (8/20μs)</td></tr></table>	05 series	180K to 680K	10A (8/20μs)	820K to 751K	30A (8/20μs)	07 series	180K to 680K	25A (8/20μs)	820K to 821K	50A (8/20μs)	10 series	180K to 680K	50A (8/20μs)	820K to 112K	100A (8/20μs)	14 series	180K to 680K	75A (8/20μs)	820K to 182K	150A (8/20μs)	20 series	180K to 680K	100A (8/20μs)	820K to 182K	200A (8/20μs)	$\frac{\Delta V_b}{V_b} \leq \pm 10\%$		
				05 series	180K to 680K	10A (8/20μs)																								
			820K to 751K		30A (8/20μs)																									
			07 series	180K to 680K	25A (8/20μs)																									
				820K to 821K	50A (8/20μs)																									
			10 series	180K to 680K	50A (8/20μs)																									
				820K to 112K	100A (8/20μs)																									
			14 series	180K to 680K	75A (8/20μs)																									
				820K to 182K	150A (8/20μs)																									
			20 series	180K to 680K	100A (8/20μs)																									
				820K to 182K	200A (8/20μs)																									
			6.6	High Temperature Load	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 10\%$	Ambient temp:85±2℃ Duration:1000h Load: MAX. Allowable Voltage																								
6.7	High Humidity Load	$\Delta V_{1mA}/V_{1mA}$ $\cong \pm 10\%$	Ambient Temp: 40±2℃ 90-95%R.H.Duration:1000H Load: MAX. Allowable Voltage																											
6.8	Operating Temperature Range	-40℃ ~ +85℃																												
6.9	Storage Temperature Range	-40℃ ~ +125℃																												