



METAL OXIDE VARISTORS

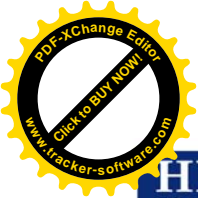
Transient voltage surge suppressors

●10D Series

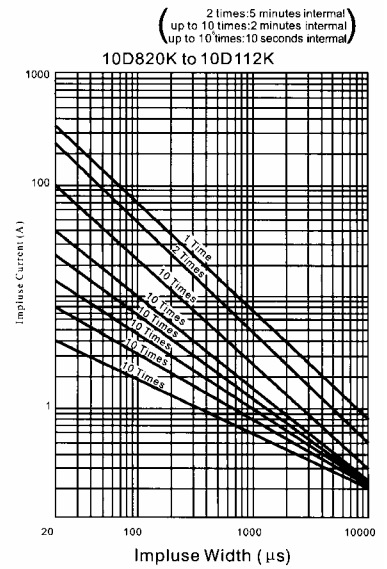
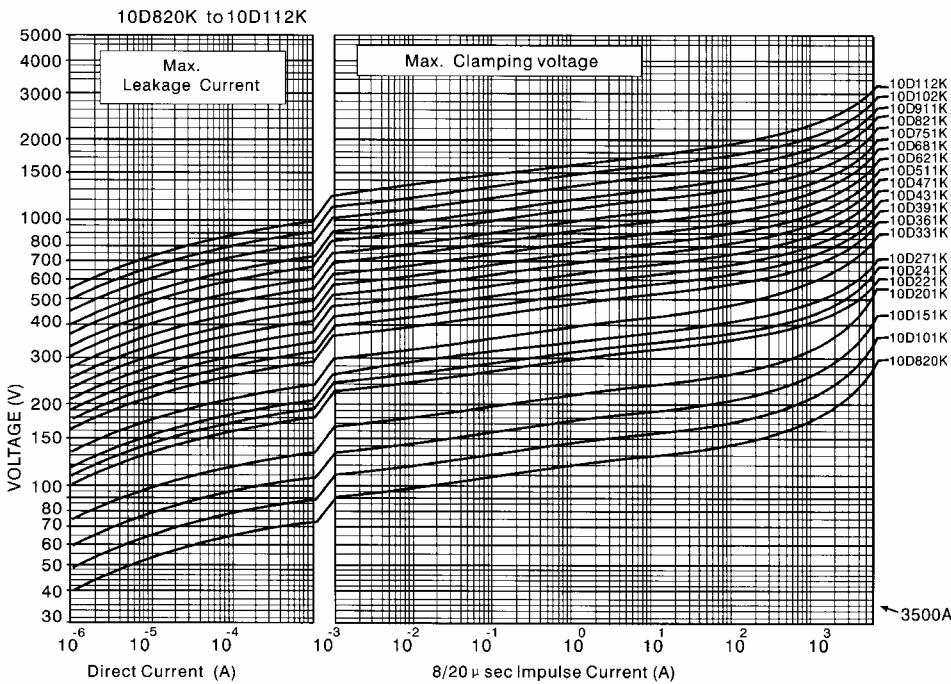
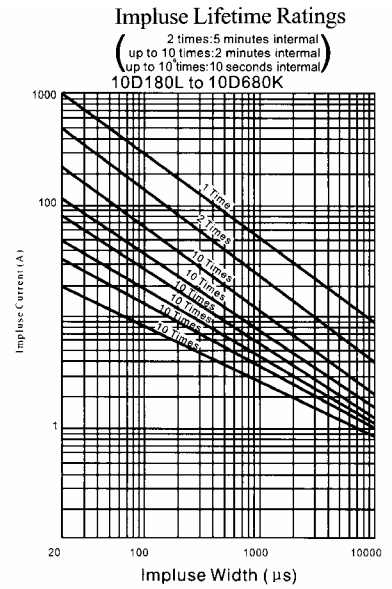
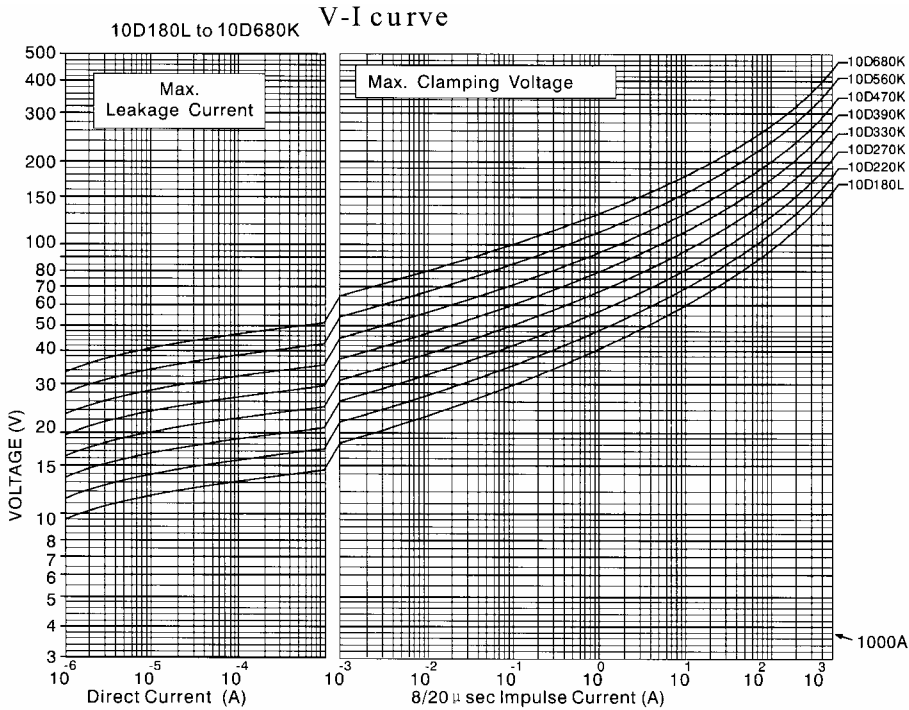
Model Number		Maximum Allowable Voltage		Varistor Voltage V 1m (V)	Clamping Voltage (MAX.)		Maximum Peak current (8/20µs)		Maximum Energy (10/1000µs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)	UL	SE	D'E	
		AC (V)	DC (V)		VC (V)	IP (A)	Standard (A)	High Surge	Standard	High Surge						
Standard	High Surge															
10D180L	J	11	14	18(15-21)	36	5	500	1000	2.1	3.0	0.05	5600	*	*	*	
10D220K	J	14	18	22(20 -24)	43				2.5	5.0		4500	*	*	*	
10D270K	J	17	22	27(24 -30)	53				3.0	6.0		3700	*	*	*	
10D330K	J	20	26	33(30 -36)	65				4.0	7.0		3000	*	*	*	
10D390K	J	25	31	39(35 - 43)	77				4.6	9.0		2400	*	*	*	
10D470K	J	30	38	47(42 - 52)	93				5.5	11		2100	*	*	*	
10D560K	J	35	45	56(50 - 62)	110				7.0	13		1800	*	*	*	
10D680K	J	40	56	68(61 - 75)	135				8.2	15		1500	*	*	*	
10D820K	J	50	65	82(74 - 90)	135	25	2500	3500	12.0	17	0.4	1200	*	*	*	
10D101K	J	60	85	100(90 - 110)	165				15.0	18		1000	*	*	*	
10D121K	J	75	100	120(108 - 132)	200				18.0	21		830	*	*	*	
10D151K	J	95	125	150(135 - 165)	250				22.0	25		670	*	*	*	
10D181K	J	115	150	180(162 - 198)	300				27.0	30		560	*	*	*	
10D201K	J	130	170	200(185 - 225)	340				30.0	35		500	*	*	*	
10D221K	J	140	180	220(198 - 242)	360				32.0	39		450	*	*	*	
10D241K	J	150	200	240(216 - 264)	395				35.0	42		420	*	*	*	
10D271K	J	175	225	270(243 - 297)	455				40.0	49		370	*	*	*	
10D301K	J	190	250	300(270 - 330)	500				40.0	54		330	*	*	*	
10D331K	J	210	275	330(297 - 363)	550				43.0	58		300	*	*	*	
10D361K	J	230	300	360(324 - 396)	595				47.0	65		280	*	*	*	
10D391K	J	250	320	390(351 - 429)	650				60.0	70		260	*	*	*	
10D431K	J	275	350	430(387 - 473)	710				65.0	80		230	*	*	*	
10D471K	J	300	385	470(423 - 517)	775				70.0	85		210	*	*	*	
10D511K	J	320	415	510(459 - 561)	845				70.0	90		200	*	*	*	
10D561K	J	350	460	560(504 - 616)	925				70.0	92		180	*	*	*	
10D621K	J	385	505	620(558 - 682)	1025				70.0	95		160	*	*	*	
10D681K	J	420	560	680(612 - 748)	1120				70.0	98		150	*	*	*	
10D751K	J	460	615	750(675 - 825)	1240				75.0	100		130	*	*	*	
10D781K	J	485	640	780(702 - 858)	1290	80.0	105	130	*	*	*					
10D821K	J	510	670	820(738 - 902)	1355	85.0	110	120	*	*	*					
10D911K	J	550	745	910(819 -1001)	1500	93.0	130	110	*	*	*					
10D102K	J	625	825	1000(900 - 1100)	1650	102.0	140	100	*	*	*					
10D112K	J	680	895	1100(990 - 1210)	1815	115.0	155	90	*	*	*					

OPERATING TEMPERATURE RANGE: - 40°C TO +105°C

STORAGE TEMPERATURE RANGE: - 40°C TO +125°C

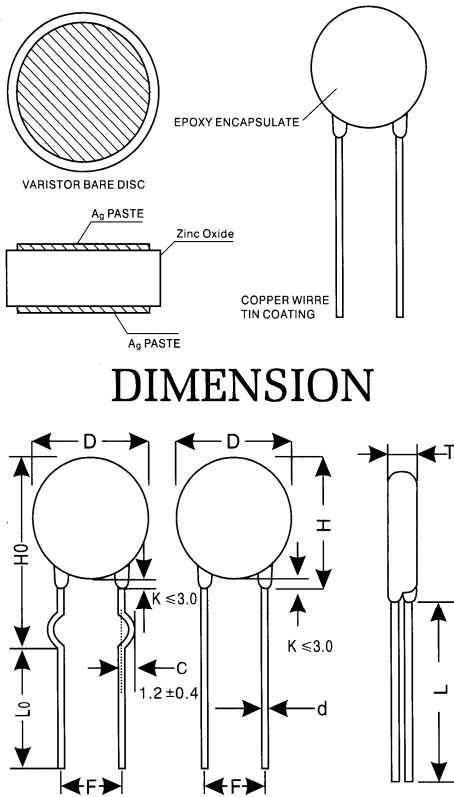


● 10D Series





Materials and Dimensions



Dimension table

UNIT :mm

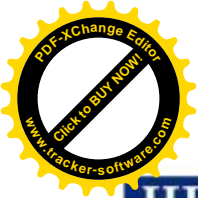
Series	D max	H max	Ho max	d	c±0.4	F
05D	7	10.5	13	0.6	1.2	5±0.8
07D	9	12	13.5	0.6	1.2	5±0.8
10D	13	17	17.5	0.8	1.4	7.5±0.8
14D	17	20	21	0.8	1.4	7.5±0.8
		22	23	0.8		*10±0.8
20D	24	28	30	0.8	1.4	10±0.8
		30	32	1.0		
25D	30	33	34	1.0	1.6	10±0.8
						*12.5±1.0

*non standard lead space, available upon request.

Thickness (T)max. Table

Part No.	05D	07D	10D	14D	20D	25D
180L	4.5	4.5	4.6	4.6	4.8	4.8
220K	4.6	4.6	4.7	4.7	5.4	4.9
270K	4.7	4.7	4.8	4.8	5.5	5.0
330K	4.9	4.9	5.0	5.0	5.6	5.2
390K	4.8	4.8	4.9	4.9	5.5	5.5
470K	4.9	4.9	5.0	5.0	5.6	5.6
560K	5.0	5.0	5.1	5.1	5.7	5.7
680K	5.2	5.2	5.3	5.3	5.8	5.8
820K	4.1	4.1	4.5	4.5	4.9	4.9
101K	4.3	4.3	4.7	4.7	5.1	5.1
121K	4.5	4.5	4.9	4.9	5.3	5.3
151K	4.8	4.8	5.2	5.2	5.6	5.6
181K	4.3	4.3	4.8	4.8	5.2	5.2
201K	4.4	4.4	4.8	4.8	5.2	5.4
221K	4.5	4.5	4.9	4.9	5.3	5.5
241K	4.6	4.6	5.0	5.0	5.4	5.6
271K	4.9	4.9	5.2	5.2	5.6	5.8
301K	5.0	5.0	5.3	5.3	5.7	5.9

Part No.	05D	07D	10D	14D	20D	25D
331K	5.1	5.1	5.6	5.6	6.0	6.1
361K	5.2	5.2	5.7	5.7	6.2	6.4
391K	5.4	5.4	5.8	5.8	6.4	6.6
431K	5.7	5.7	6.2	6.2	6.7	6.9
471K	6.0	6.0	6.5	6.5	7.0	7.2
511K	6.2	6.4	6.5	6.5	7.0	7.2
561K	6.5	6.4	6.5	6.5	7.0	7.2
621K	-	7.1	7.1	7.1	7.5	7.7
681K	-	7.3	7.4	7.6	7.8	8.0
751K	-	-	7.8	7.8	8.2	8.4
781K	-	-	7.9	7.9	8.3	8.5
821K	-	-	8.1	8.1	8.5	8.7
911K	-	-	8.6	8.6	9.0	9.2
102k	-	-	9.1	9.1	9.5	9.7
112K	-	-	9.7	9.7	10.1	10.3
122K				10.4	10.6	10.8
152K				13.4	12.6	14.8
182K	-	-	-	14.4	13.2	15.2



Taping Specification

Straight Leads (05D, 07D, 10D)

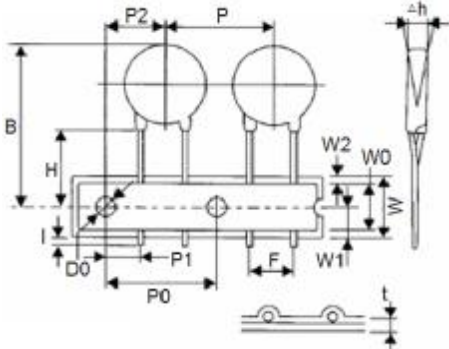


Fig. 1

Straight Leads (14D, 20D)

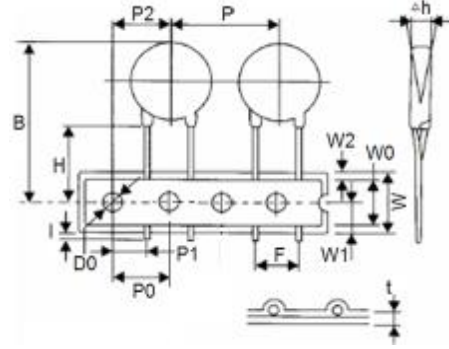


Fig. 2

Outside Crimped Leads (05D, 07D, 10D)

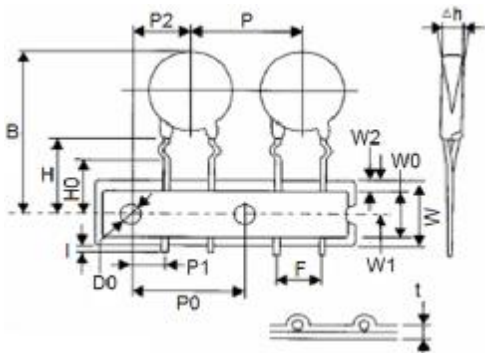


Fig. 3

Outside Crimped Leads (14D, 20D)

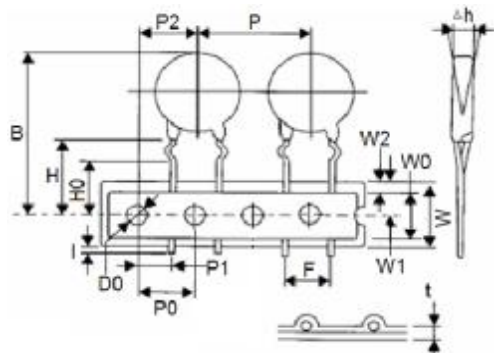


Fig. 4

Vertical Crimped Leads (05D, 07D, 10D)

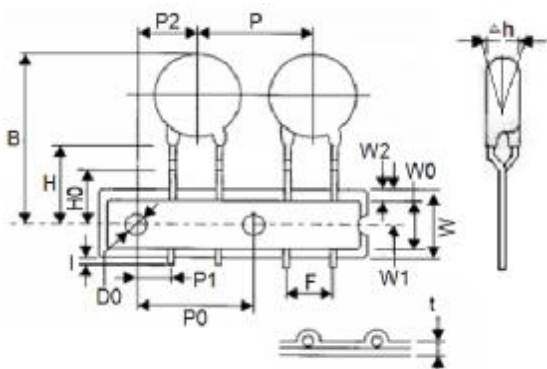


Fig. 5

Vertical Crimped Leads (14D, 20D)

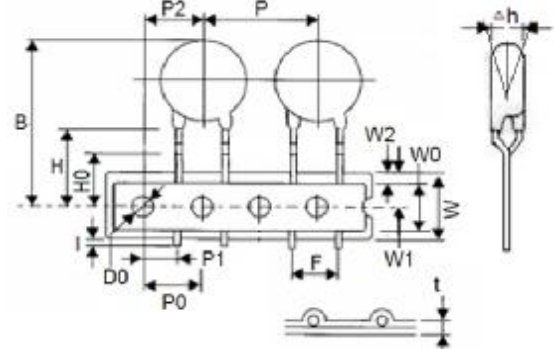
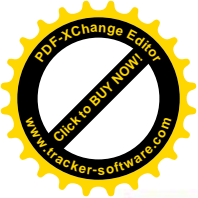


Fig. 6



METAL OXIDE VARISTORS

Transient voltage surge suppressors

Symbol	Parameter	Series				
		05D	07D	10D	14D	20D
P	Pitch of Component	12.7±1.0	12.7±1.0	15.0±1.0	25.4±1.0	25.4±1.0
P ₀	Feed Hole Pitch	12.7±0.3	12.7±0.3	15.0±0.3	12.7±1.0	12.7±1.0
P ₁	Feed Hole Center to Lead	3.85±0.7	3.85±0.7	3.75±0.7	8.95±0.7	7.7±0.7
P ₂	Hole Center to Component Center	6.35±1.3	6.35±1.3	7.5±1.3	12.7±1.3	12.7±1.3
F	Lead to Lead Distance	5.0±0.8	5.0±0.8	7.5±0.8	7.5±0.8	10.0±0.8
Δh	Component Alignment	0±2	0±2	0±2	0±4	0±4
W	Tape Width	18.0±1.0	18.0±1.0	18.0±1.0	18.0±1.0	18.0±1.0
W ₀	Hold Down Tape Width	12.0±1.0	12.0±1.0	12.0±1.0	12.0±1.0	12.0±1.0
W ₁	Hold Position	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5
W ₂	Hold Down Tape Position	3.0max	3.0max	3.0max	3.0max	3.0max
H	Height from Tape Center to Component	20.0±2.0	20.0±2.0	20.0±2.0	20.0±2.0	20.0±2.0
B	Component Height	32.0max	32.0max	36.0max	40.0max	45.0max
H ₀	Height from Tape Center to Component	16.0±1.0	16.0±1.0	16.0±1.0	16.0±1.0	16.0±1.0
I	Length of Clipped Lead	1.0max	1.0max	1.0max	1.0max	1.0max
D ₀	Feed Hole Diameter	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2
t	Total Tape Thickness	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3

Unit: mm

Remark: Standard Feed Hole Pitch of 10D is 15.0mm, 12.7mm is special type available on request.

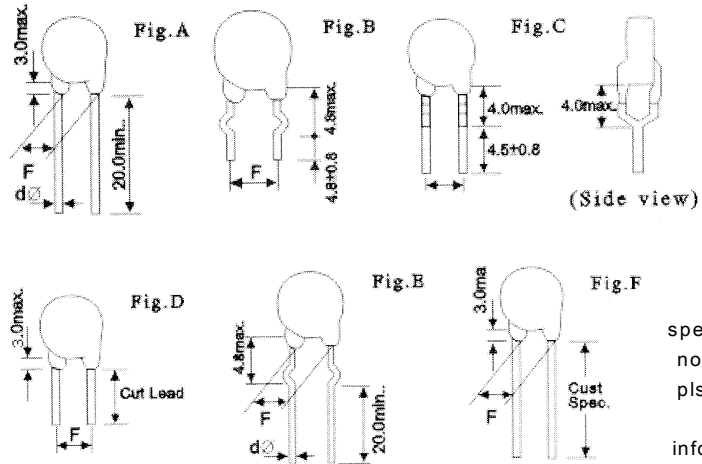
Packaging Specifications

Packing	Dimensions in mm	Series		Quantit
		Series	Series	
T/Box		05D	180L-471K	1500
		07D	511K-182K	1000
		10D	180L-561K	1000
			621K-182K	500
		14D	180L-561K	500
			621K-182K	400
		20D		500
Reel		05D	180L-511K	2000
			561K~	1500
		07D	180L-471K	2000
			511K~	1500
		10D	180L-681K	1000
			751K~	750
		14D	180L-561K	750
			621K	500
20D		500		



***Lead Style**

Code	Configuration
A	Straight Long
B	Outside Crimped Short
C	Vertical Crimped
D	Straight Short
E	Outside Crimped Long
F	Cust. Spec.(Over 25mm)



For specification not shown, pls contact us for information.

***Package**

Measurement: Series / Q'ty	Min. / Plastic bag	Box (mm)	Carton (mm)	Short cut leads
		D x W x H 240 x 170 x 100	D x W x H 370 x 250 x 230	
05D	1000 pcs	5,000pcs/5 bags	20,000pcs/4 boxes	2 times long leads Q'ty
07D(180L~391 K)	1000 pcs	5,000pcs/10 bags	20,000pcs/4 boxes	
07D(431K~681 K)	1000 pcs	4,000pcs/8 bags	16,000pcs/4 boxes	
10D(180L~391 K)	500 pcs	2000pcs/8 bags	8,000pcs/4 boxes	
10D(431K~112 K)	500 pcs	1,500pcs/6 bags	6,000pcs/4 boxes	
14D(180L~471 K)	500 pcs	1,500pcs/6 bags	6,000pcs/4 boxes	
14D(511K~182 K)	500 pcs	1,250pcs/5 bags	5,000pcs/4 boxes	
20D(180L~391 K)	250 pcs	1,000pcs/5 bags	4,000pcs/4 boxes	
20D(431K~182 K)	250 pcs	800pcs/4 bags	3,200pcs/4 boxes	
25D(180L~621 K)	200 pcs	200pcs/2 bags	800pcs/4 boxes	
25D(681 K~162 K)	200 pcs	100pcs/2 bags	400pcs/4 boxes	