



Features

- Wide range of operating voltages from 5 Vrms to 1000 Vrms (6 Vdc to 1465 Vdc)
- Fast response time of less than 25ns, instantly clamping of transient over-voltage
- Capable to handle high surge current
- High energy protection capability
- Low clamping voltages for efficient surge behavior
- Low capacitance values, ideal for digital switching circuit protection
- High insulation resistance, preventing electric arcing to adjacent components or circuits

Application

- Transistors, diodes, integrated circuits (IC), thyristors or Triac semiconductor protection
- Surge protection for consumer electronics
- Surge protection for industrial appliances
- Surge protection for electronic home appliances, gas or petroleum operated appliances
- Relay and electromagnetic surge absorption.



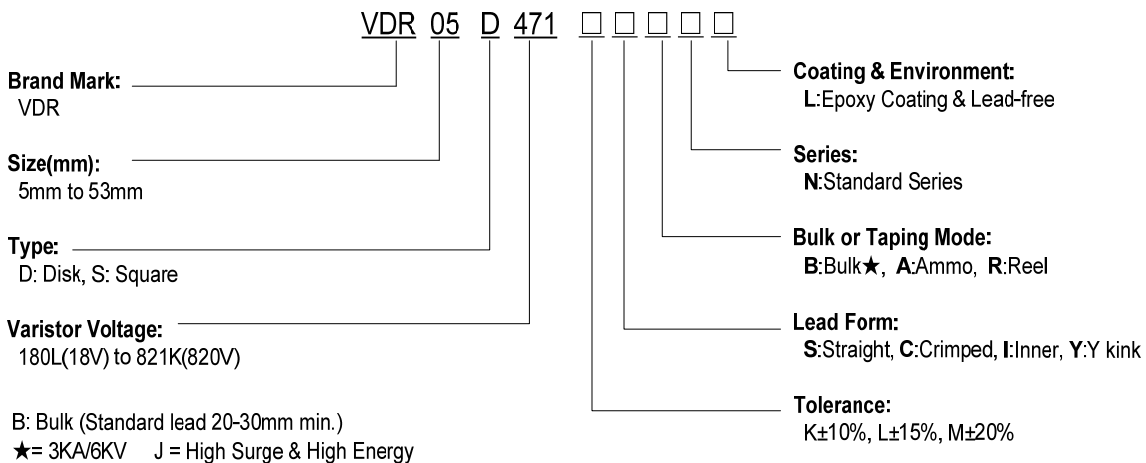
General Characteristics

- Operating Temperature: -40° C ~ +85° C
- Storage Temperature: -40° C ~ +125° C
- Working Surface Temperature: +115° C
- Insulation Resistance: > 100 MΩ
- Coating (Epoxy Resin): Flame-Retardant to UL94V-0

Material

- Coating: Epoxy Resin
- Lead Wires: Copper
- Electrode: Silver
- Disc: Zinc Oxide

Part Numbering System



Ordering Information

Series	Amp code	Packaging Code	Qty
05D			



Electrical Characteristics

Part No.	Maximum Allowable Voltage		Energy 10/1000 μ S		Withstanding Surge Current 8/20 μ S				Rated Power (W)	Varistor Voltage (V)	Max Clamping Voltage (V)	Capacitance (pF)
	ACrms (V)	DC (V)	Standard (J)	High Surge (J)	Standard (A)		High Surge(A)					
					1 TIME	2 TIME	1 TIME	2 TIME				
05D180L	10	14	0.4	0.6	100	50	250	125	0.01	18(15-21)	38	1400
05D220K	14	18	0.6	0.7	100	50	250	125	0.01	22(20-24)	43	1150
05D270K	17	22	0.7	0.9	100	50	250	125	0.01	27(24-30)	53	930
05D330K	20	26	0.8	1.1	100	50	250	125	0.01	33(30-36)	65	760
05D390K	25	31	1.1	1.2	100	50	250	125	0.01	39(35-43)	77	640
05D470K	30	38	1.4	1.5	100	50	250	125	0.01	47(42-52)	93	530
05D560K	35	45	1.5	1.8	100	50	250	125	0.01	56(50-62)	110	450
05D680K	40	56	1.8	2.2	100	50	250	125	0.01	68(61-75)	135	370

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	ACrms (V)	DC (V)	Standard (J)	High Surge (J)	Standard (A)		High Surge(A)					
					1 TIME	2 TIME	1 TIME	2 TIME				
05D820K	50	65	2.6	3.8	400	200	800	600	0.1	82(74-90)	135	300
05D101K	60	85	2.8	4.0	400	200	800	600	0.1	100(90-110)	165	250
05D121K	75	100	4.2	5.0	400	200	800	600	0.1	120(108-132)	200	210
05D151K	95	125	4.2	7.0	400	200	800	600	0.1	150(135-165)	250	165
05D181K	115	150	5.6	8.0	400	200	800	600	0.1	180(162-198)	300	140
05D201K	130	170	7.7	8.7	400	200	800	600	0.1	200(185-225)	330	125
05D221K	140	180	8.8	9.0	400	200	800	600	0.1	220(198-242)	360	110
05D241K	150	200	9.8	11.0	400	200	800	600	0.1	240(216-264)	395	110
05D271K	175	225	10.5	13.0	400	200	800	600	0.1	270(243-297)	455	95
05D301K	190	250	11.8	14.0	400	200	800	600	0.1	300(270-330)	505	85
05D331K	210	275	14.0	14.5	400	200	800	600	0.1	330(297-363)	550	75
05D361K	230	300	14.0	16.0	400	200	800	600	0.1	360(324-396)	595	70
05D391K	250	320	15.4	17.0	400	200	800	600	0.1	390(351-429)	650	65
05D431K	275	350	16.8	20.0	400	200	800	600	0.1	430(387-473)	710	60
05D471K	300	385	18.2	20.8	400	200	800	600	0.1	470(423-517)	775	55
05D511K	320	415	19.6	21.0	400	200	800	600	0.1	510(459-561)	845	50
05D561K	350	460	19.6	23.0	400	200	800	600	0.1	560(504-616)	920	45
05D621K	385	505	21.0	25.0	400	200	800	600	0.1	620(558-682)	1025	40
05D681K	420	560	21.0	29.0	400	200	800	600	0.1	680(612-748)	1120	35
05D751K	460	615	22.4	32.0	400	200	800	600	0.1	750(675-825)	1240	30

05D Series Metal-Oxide Varistor



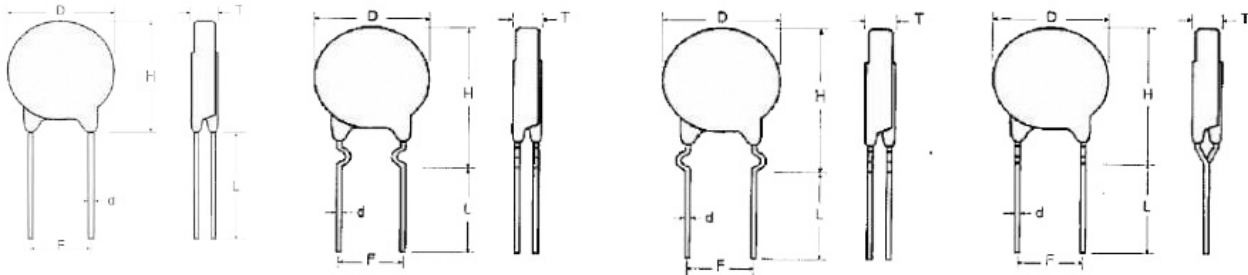
Product Dimensions (mm)

S Type(Straight Lead)

I Type(Inner Crimped Lead)

C Type(Out Crimped Lead)

Y Lead Type(Y Kink Lead)



Part No.	D Max.	H Max.		L min.	F ±0.8	d ±0.05	T Max.
		SB	CB/IB/YB				
05D101K	7.0	9.0	12.0	20.0	5.0	0.6	4.3
05D121K	7.0	9.0	12.0	20.0	5.0	0.6	4.5
05D151K	7.0	9.0	12.0	20.0	5.0	0.6	4.8
05D180L	7.0	9.0	12.0	20.0	5.0	0.6	3.8
05D181K	7.0	9.0	12.0	20.0	5.0	0.6	4.1
05D201K	7.0	9.0	12.0	20.0	5.0	0.6	4.1
05D220K	7.0	9.0	12.0	20.0	5.0	0.6	3.8
05D221K	7.0	9.0	12.0	20.0	5.0	0.6	4.2
05D241K	7.0	9.0	12.0	20.0	5.0	0.6	4.3
05D270K	7.0	9.0	12.0	20.0	5.0	0.6	3.9
05D271K	7.0	9.0	12.0	20.0	5.0	0.6	4.5
05D301K	7.0	9.0	12.0	20.0	5.0	0.6	4.7
05D330K	7.0	9.0	12.0	20.0	5.0	0.6	3.9
05D331K	7.0	9.0	12.0	20.0	5.0	0.6	4.8
05D361K	7.0	9.0	12.0	20.0	5.0	0.6	5.0
05D390K	7.0	9.0	12.0	20.0	5.0	0.6	4.1
05D391K	7.0	9.0	12.0	20.0	5.0	0.6	5.1
05D431K	7.0	9.0	12.0	20.0	5.0	0.6	5.3
05D470K	7.0	9.0	12.0	20.0	5.0	0.6	4.1
05D471K	7.0	9.0	12.0	20.0	5.0	0.6	5.6
05D511K	7.0	9.0	12.0	20.0	5.0	0.6	5.8
05D560K	7.0	9.0	12.0	20.0	5.0	0.6	4.5
05D561K	7.0	9.0	12.0	20.0	5.0	0.6	6.2
05D621K	7.0	9.0	12.0	20.0	5.0	0.6	6.4
05D680K	7.0	9.0	12.0	20.0	5.0	0.6	4.5
05D681K	7.0	9.0	12.0	20.0	5.0	0.6	6.4
05D751K	7.0	9.0	12.0	20.0	5.0	0.6	6.5
05D820K	7.0	9.0	12.0	20.0	5.0	0.6	4.1

