HUAAN 华兴安电子 HUAAN LIMITED

VDR05D Straight Leads Series

Metal Oxide Varistors (MOV)

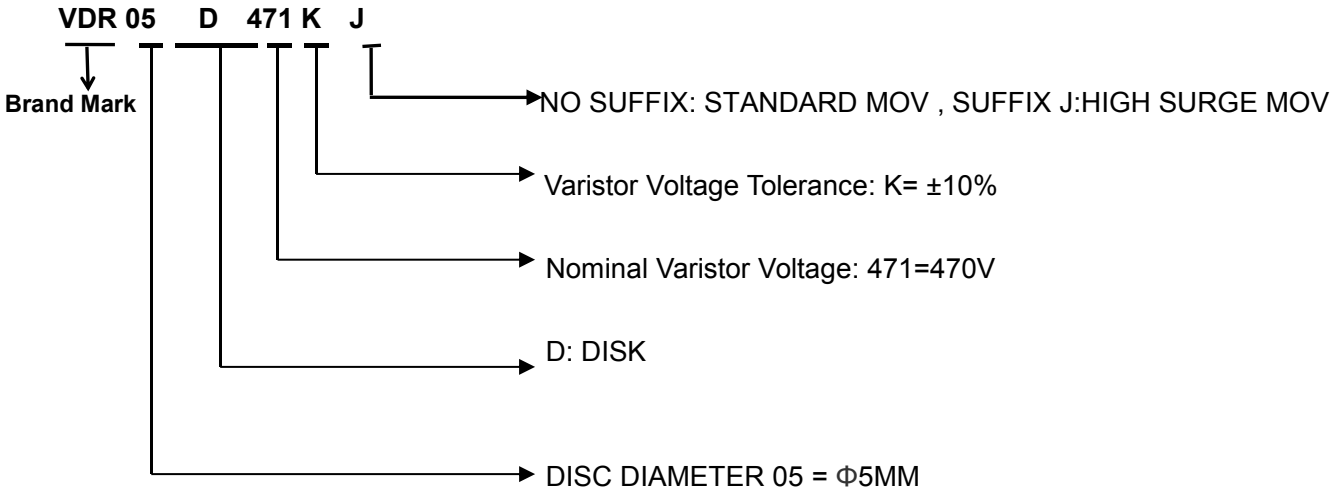
Features

·Wide operating voltage (V1mA) range from 18V to 750V
·Fast responding to transient over-voltage
·Large absorbing transient energy capability
·Low clamping ratio and no follow-on current
·Meets MSL level 1, per J-STD-020
·Operating Temperature：-40℃ ~ +85℃
·Storage Temperature：-40℃ ~ +125℃
·Safety certification:

Applications

·Transistor, diode, IC, thyristor or triac semiconductor protection
·Surge protection in consumer electronics
·Surge protection in industrial electronics
·Surge protection in electronic home appliances, gas and petroleum appliances
·Surge protection in electronic home appliances, gas and petroleum appliances
·Relay and electromagnetic valve surge absorption

Description of Part Number



Delivery Time

Standard MOV	Delivery Time	High Surge MOV	Delivery Time
VDR05D180L~VDR05D751K	12days	VDR05D180LJ~ VDR05D751KJ	14days

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Electrical Characteristics

Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage	Max Surge Current 8/20μs	Maximum Energy (10/1000μs)	Typical Capacitance (Reference)	Safety Certification		Delivery time
Standard MOV	V_{AC}(V)	V_{DC}(V)	V_{1mA}(V)	Vc(V) AT 5A	Imax Standard	(J) Standard	1KHz(pf)	UL/CUL	VDE	days
VDR05D180L	11	14V	18(15.3~20.7)	40	100A	0.4	1400	√	√	12days
VDR05D220K	14	18	22(19.8~24.2)	48	100A	0.5	1150	√	√	12days
VDR05D270K	17	22	27(24.3~29.7)	60	100A	0.6	930	√	√	12days
VDR05D330K	20	26	33(29.7~36.3)	73	100A	0.8	760	√	√	12days
VDR05D390K	25	31	39(35.1~42.9)	80	100A	0.9	640	√	√	12days
VDR05D470K	30	38	47(42.3~51.7)	104	100A	1.1	530	√	√	12days
VDR05D560K	35	45	56(50.4~61.6)	123	100A	1.3	450	√	√	12days
VDR05D680K	40	56	68(61.2~74.8)	145	100A	1.6	370	√	√	12days
VDR05D820K	50	65	82(73.8~90.2)	150	400A	2.5	300	√	√	12days
VDR05D101K	60	85	100(90~110)	177	400A	3.0	250	√	√	12days
VDR05D121K	75	100	120(108~132)	210	400A	4.0	210	√	√	12days
VDR05D151K	95	125	150(135~165)	260	400A	4.1	165	√	√	12days
VDR05D181K	115	150	180(162~198)	320	400A	4.9	140	√	√	12days
VDR05D201K	130	170	200(180~220)	355	400A	6.5	125	√	√	12days
VDR05D221K	140	180	220(198~242)	380	400A	7.5	110	√	√	12days
VDR05D241K	150	200	240(216~264)	415	400A	8.0	100	√	√	12days
VDR05D271K	175	225	270(243~297)	475	400A	8.5	95	√	√	12days
VDR05D301K	190	250	300(270~330)	520	400A	9.0	85	√	√	12days
VDR05D331K	210	275	330(297~363)	570	400A	9.5	75	√	√	12days
VDR05D361K	230	300	360(324~396)	620	400A	10.0	70	√	√	12days
VDR05D391K	250	320	390(351~429)	675	400A	12.0	65	√	√	12days
VDR05D431K	275	350	430(387~473)	745	400A	13.0	60	√	√	12days
VDR05D471K	300	385	470(423~517)	810	400A	15.0	55	√	√	12days
VDR05D511K	320	415	510(459~561)	845	400A	16.0	50	√	-	12days
VDR05D561K	350	460	560(504~616)	920	400A	16.0	45	√	-	12days
VDR05D621K	385	505	620(558~682)	1025	400A	21.0	40	√	-	12days
VDR05D681K	420	560	680(612~748)	1120	400A	21.0	35	√	-	12days
VDR05D751K	460	615	750(675~825)	1240	400A	22.4	30	-	-	12days

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Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage	Max Surge Current 8/20μs	Maximum Energy (10/1000μs)	Typical Capacitance (Reference)	Safety Certification		Delivery time
High Surge MOV	V_{AC}(V)	V_{DC}(V)	V_{1mA}(V)	V_C(V) AT 5A	Imax High Surge	(J) High Surge	1KHz(pf)	UL	VDE	days
VDR05D180LJ	11	14	18(15.3~20.7)	40	250A	0.6	1400	-	-	14days
VDR05D220KJ	14	18	22(19.8~24.2)	48	250A	0.7	1150	-	-	14days
VDR05D270KJ	17	22	27(24.3~29.7)	60	250A	0.9	930	-	-	14days
VDR05D330KJ	20	26	33(29.7~36.3)	73	250A	1.1	760	-	-	14days
VDR05D390KJ	25	31	39(35.1~42.9)	80	250A	1.2	640	-	-	14days
VDR05D470KJ	30	38	47(42.3~51.7)	104	250A	1.5	530	-	-	14days
VDR05D560KJ	35	45	56(50.4~61.6)	123	250A	1.8	450	-	-	14days
VDR05D680KJ	40	56	68(61.2~74.8)	145	250A	2.2	370	-	-	14days
VDR05D820KJ	50	65	82(73.8~90.2)	150	800A	4.0	300	-	-	14days
VDR05D101KJ	60	85	100(90~110)	177	800A	4.1	250	-	-	14days
VDR05D121KJ	75	100	120(108~132)	210	800A	4.9	210	-	-	14days
VDR05D151KJ	95	125	150(135~165)	260	800A	6.5	165	-	-	14days
VDR05D181KJ	115	150	180(162~198)	320	800A	7.5	140	-	-	14days
VDR05D201KJ	130	170	200(180~220)	355	800A	8.5	125	-	-	14days
VDR05D221KJ	140	180	220(198~242)	380	800A	9.0	110	-	-	14days
VDR05D241KJ	150	200	240(216~264)	415	800A	10.5	100	-	-	14days
VDR05D271KJ	175	225	270(243~297)	475	800A	11.0	95	-	-	14days
VDR05D301KJ	190	250	300(270~330)	520	800A	12.0	85	-	-	14days
VDR05D331KJ	210	275	330(297~363)	570	800A	13.0	75	-	-	14days
VDR05D361KJ	230	300	360(324~396)	620	800A	16.0	70	-	-	14days
VDR05D391KJ	250	320	390(351~429)	675	800A	17.0	65	-	-	14days
VDR05D431KJ	275	350	430(387~473)	745	800A	20.0	60	-	-	14days
VDR05D471KJ	300	385	470(423~517)	810	800A	21.0	55	-	-	14days
VDR05D511KJ	320	415	510(459~561)	845	800A	22.5	50	-	-	14days
VDR05D561KJ	350	460	560(504~616)	920	800A	24.0	45	-	-	14days
VDR05D621KJ	385	505	620(558~682)	1025	800A	25.0	40	-	-	14days
VDR05D681KJ	420	560	680(612~748)	1120	800A	29.0	35	-	-	14days
VDR05D751KJ	460	615	750(675~825)	1240	800A	32.0	30	-	-	14days

Dimension(mm) Straight Leads

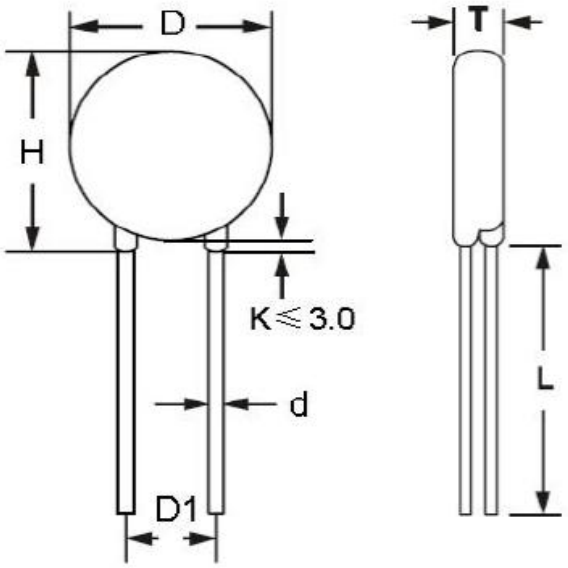

TABLE1		TABLE2			
Symbol	Dimensions	Part number	T(±1.0mm)	Part number	T(±1.0mm)
H(Max)	10.0mm	VDR05D180L	2.70mm	VDR05D221K	2.70mm
L(Min)	20.0mm	VDR05D220K	2.80mm	VDR05D241K	2.80mm
D(Max)	7.5mm	VDR05D270K	2.90mm	VDR05D271K	3.10mm
D1(±0.8)	5.0mm	VDR05D330K	3.10mm	VDR05D301K	3.20mm
T	TABLE2	VDR05D390K	3.00mm	VDR05D331K	3.30mm
d(±0.05)	0.6mm	VDR05D470K	3.10mm	VDR05D361K	3.40mm
		VDR05D560K	3.20mm	VDR05D391K	3.60mm
		VDR05D680K	3.40mm	VDR05D431K	3.80mm
		VDR05D820K	2.50mm	VDR05D471K	4.20mm
		VDR05D101K	2.60mm	VDR05D511K	4.40mm
		VDR05D121K	2.80mm	VDR05D561K	4.70mm
		VDR05D151K	3.0mm	VDR05D621K	4.70mm
		VDR05D181K	2.50mm	VDR05D681K	4.27mm
		VDR05D201K	2.60mm	VDR05D751K	5.10mm

Packing Information

Part Number	Quantity	Packaging Option	Packaging Specification
VDR05DxxxK	1000PCS	Plastic bag	Bulk Pack

Bulk Pack

Ammo Pack

Notice for use

To avoid damage to other equipment due to fire or deterioration caused by varistor, please refer to and observe the following principles:

1) When a high current or high voltage flows into the varistor, the varistor itself may be damaged, heated, smoke, catch fire and burst.

To avoid this, fuses or circuit breakers can be installed at both ends of the varistor or power supply;

The fuses of the following specifications are for reference only:

Diameter	05D	07D	10D	14D	20D
Rated current of fuse	1-2A	2-3A	3-5A	3-10A	5-15A

2) Do not allow the current and energy flowing into the varistor to exceed its rated value.

3) The marked VDR product brand names and marks are all patent applications of the company. Customers who use or sell VDR products that are not specifically designated for such applications are at their own risk.

4) All VDR products, product specifications and data are subject to change without notice, please improve. For any data sheet Or any other data sheet. Any errors included. Inaccurate or incomplete shall not be liable.

5) Regarding the suitability of products for specific applications. It is the customer's responsibility to confirm that products with the characteristics described in the product specifications application. The data provided in the parameter data sheets and / or specifications may vary for different applications and performance may vary over time Variety. All operating parameters, including typical parameters, must be provided by the customer ’s technical experts. Product specifications will not expand or Modify the VDR procurement terms and conditions in other ways, including but not limited to the guarantees described therein.

6) Do not place flammable substances near the varistor.

7) The varistor can only emit a small amount of heat energy, so it is not suitable for use in equipment that often generates sudden heat.

In addition, the higher the working environment of the varistor, the smaller the proportion of heat dissipated.

Varistors can only dissipate a small amount of heat energy, so they are not suitable for use in equipment that often generates sudden heat.

If a large amount of heat acts on the varistor in an instant, it is possible that the heat energy cannot be dissipated within the pulse time And the varistor is damaged.

8) When welding, please be careful not to melt the welding points of the varistor and the resin coating.

Material category policy

All products of VDR hereby certify that RoHS-compliant products are in accordance with the definitions and

Restrictions on June 8, 2011 regarding restrictions on the use of certain hazardous substances (Reach) in electrical and electronic equipment. We confirm All VDR products comply with the IEC 61249-2-21 JEDEC JS709A standard.