

Metal Oxide Varistors (MOV)

Features

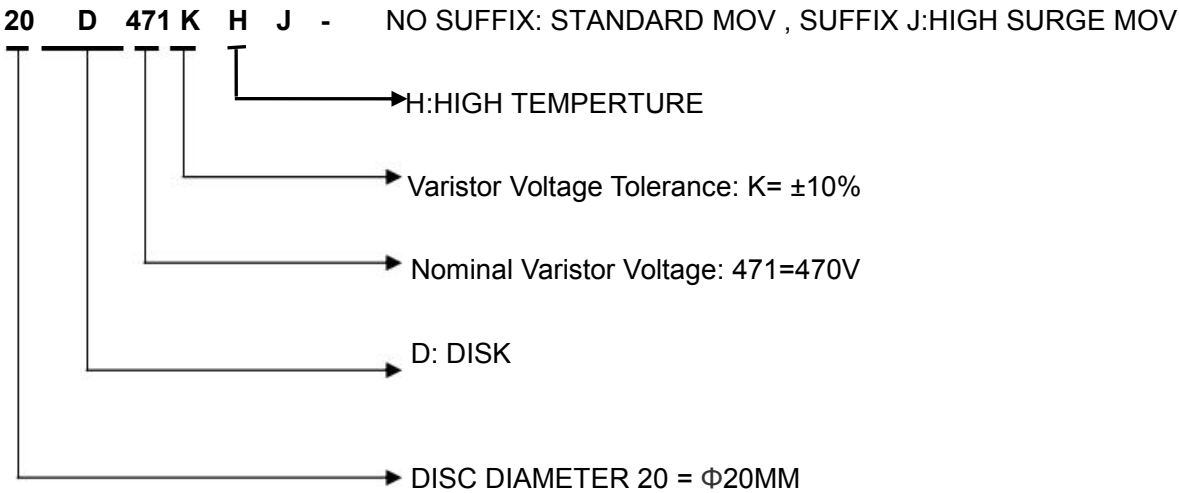
- Wide operating voltage (V1mA) range from 18V to 1800V
- Fast responding to transient over-voltage
- Large absorbing transient energy capability
- Low clamping ratio and no follow-on current
- Meets MSL level 1, per J-STD-020
- UL 1449 4th SPD Type 5
- Operating Temperature: -40℃ ~ +125℃
- Storage Temperature: -40℃ ~ +150℃
- 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
- Relay and electromagnetic valve surge absorption

Description of Part Number



Delivery Time

Standard MOV	Delivery Time	High Surge MOV	Delivery Time
20D180KH~20D182KH	15days	20D180KHJ~20D182KHJ	15days

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	
	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	V _C (V)AT100A	I _{max}	(J)	1KHz(pf)	UL / CUL	VDE
20D180KH	11	14	18(15.3~20.7)	36	2000A	11	28500	-	-
20D220KH	14	18	22(19.8~24.2)	43	2000A	14	18500	-	-
20D270KH	17	22	27(24.3~29.7)	53	2000A	16	13000	-	√
20D330KH	20	26	33(29.7~36.3)	65	2000A	23	11500	-	√
20D390KH	25	31	39(35.1~42.9)	77	2000A	26	8500	-	√
20D470KH	30	38	47(42.3~51.7)	93	2000A	30	7400	-	√
20D560KH	35	45	56(50.4~61.6)	100	2000A	41	6500	-	√
20D680KH	40	56	68(61.2~74.8)	135	2000A	46	5800	-	√
20D820KH	50	65	82(73.8~90.2)	135	6500A	38	4900	√	√
20D101KH	60	85	100(90~110)	165	6500A	45	4000	√	√
20D121KH	75	100	120(108~132)	200	6500A	55	3300	√	√
20D151KH	95	125	150(135~165)	250	6500A	70	2700	√	√
20D181KH	115	150	180(162~198)	300	6500A	85	2200	√	√
20D201KH	130	170	200(180~220)	340	6500A	95	2000	√	√
20D221KH	140	180	220(198~242)	360	6500A	100	1800	√	√
20D241KH	150	200	240(216~264)	395	6500A	108	1650	√	√
20D271KH	175	225	270(243~297)	455	6500A	127	1500	√	√
20D301KH	190	250	300(270~330)	500	6500A	136	1300	√	√
20D331KH	210	275	330(297~363)	550	6500A	150	1200	√	√
20D361KH	230	300	360(324~396)	595	6500A	163	1100	√	√
20D391KH	250	320	390(351~429)	650	6500A	180	1000	√	√
20D431KH	275	350	430(387~473)	710	6500A	190	930	√	√
20D471KH	300	385	470(423~517)	775	6500A	220	850	√	√
20D511KH	320	415	510(459~561)	845	6500A	220	780	√	√
20D561KH	350	460	560(504~616)	925	6500A	220	710	√	√
20D621KH	385	505	620(558~682)	1025	6500A	220	650	√	√
20D681KH	420	560	680(612~748)	1120	6500A	230	600	√	√
20D751KH	460	615	750(675~825)	1240	6500A	255	580	√	√
20D821KH	510	670	820(738~902)	1355	6500A	282	525	√	√
20D911KH	550	745	910(819~1001)	1500	6500A	310	495	√	√
20D102KH	625	825	1000(900~1100)	1650	6500A	342	480	√	-
20D112KH	680	895	1100(990~1210)	1815	6500A	383	460	√	-
20D182KH	1000	1465	1800(1620~1980)	2970	6500A	625	320	-	-

Specifications are subject to change without notice

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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	
	V _{AC} (V)	V _{DC} (V)						UL / CUL	VDE
High Surge MOV			V _{1mA} (V)	V _C (V)AT100A	I _{max}	(J)	1KHz(pf)		
20D180KHJ	11	14	18(15.3~20.7)	36	3000A	13	28500	-	-
20D220KHJ	14	18	22(19.8~24.2)	43	3000A	16	18500	-	-
20D270KHJ	17	22	27(24.3~29.7)	53	3000A	19	13000	-	-
20D330KHJ	20	26	33(29.7~36.3)	65	3000A	24	11500	-	-
20D390KHJ	25	31	39(35.1~42.9)	77	3000A	28	8500	-	-
20D470KHJ	30	38	47(42.3~51.7)	93	3000A	34	7400	-	-
20D560KHJ	35	45	56(50.4~61.6)	100	3000A	41	6500	-	-
20D680KHJ	40	56	68(61.2~74.8)	135	3000A	49	5800	-	-
20D820KHJ	50	65	82(73.8~90.2)	135	10000A	56	4900	-	-
20D101KHJ	60	85	100(90~110)	165	10000A	70	4000	-	-
20D121KHJ	75	100	120(108~132)	200	10000A	85	3300	-	-
20D151KHJ	95	125	150(135~165)	250	10000A	106	2700	-	-
20D181KHJ	115	150	180(162~198)	300	10000A	130	2200	-	-
20D201KHJ	130	170	200(180~220)	340	10000A	140	2000	-	-
20D221KHJ	140	180	220(198~242)	360	10000A	155	1800	-	-
20D241KHJ	150	200	240(216~264)	395	10000A	168	1650	-	-
20D271KHJ	175	225	270(243~297)	455	10000A	190	1500	-	-
20D301KHJ	190	250	300(270~330)	500	10000A	210	1300	-	-
20D331KHJ	210	275	330(297~363)	550	10000A	228	1200	-	-
20D361KHJ	230	300	360(324~396)	595	10000A	255	1100	-	-
20D391KHJ	250	320	390(351~429)	650	10000A	275	1000	-	-
20D431KHJ	275	350	430(387~473)	710	10000A	305	930	-	-
20D471KHJ	300	385	470(423~517)	775	10000A	350	850	-	-
20D511KHJ	320	415	510(459~561)	845	10000A	360	780	-	-
20D561KHJ	350	460	560(504~616)	925	10000A	380	710	-	-
20D621KHJ	385	505	620(558~682)	1025	10000A	390	650	-	-
20D681KHJ	420	560	680(612~748)	1120	10000A	400	600	-	-
20D751KHJ	460	615	750(675~825)	1240	10000A	420	580	-	-
20D821KHJ	510	670	820(738~902)	1355	10000A	460	525	-	-
20D911KHJ	550	745	910(819~1001)	1500	10000A	510	495	-	-
20D102KHJ	625	825	1000(900~1100)	1650	10000A	565	480	-	-
20D112KHJ	680	895	1100(990~1210)	1815	10000A	620	460	-	-
20D182KHJ	1000	1465	1800(1620~1980)	2970	10000A	750	320	-	-

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Dimension(mm)

Straight Leads

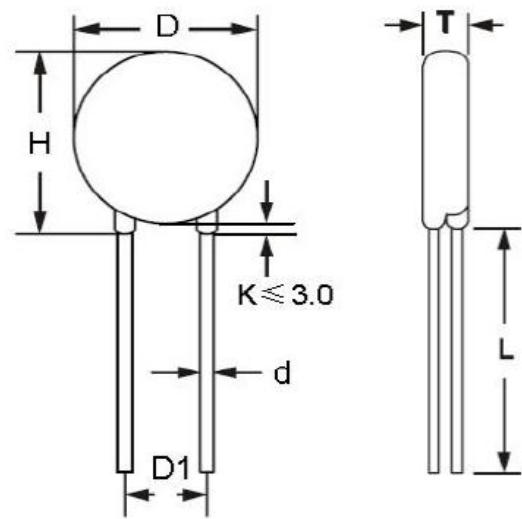


TABLE1		TABLE2			
Symbol	Dimensions	Part number	T(±1.0mm)	Part number	T(±1.0mm)
H(Max)	26.5mm	20D180KH	3.95mm	20D361KH	4.08mm
L(Min)	22.0mm	20D220KH	4.04mm	20D391KH	4.25mm
D(Max)	23.0mm	20D270KH	4.19mm	20D431KH	4.47mm
D1(±0.8)	7.5±0.8/10.0±1.0	20D330KH	4.40mm	20D471KH	4.69mm
T	TABLE2	20D390KH	4.16mm	20D511KH	4.91mm
d(±0.05)	0.8mm/1.0mm	20D470KH	4.37mm	20D561KH	5.18mm
		20D560KH	4.02mm	20D621KH	5.51mm
		20D680KH	4.32mm	20D681KH	5.84mm
		20D820KH	3.48mm	20D751KH	6.23mm
		20D101KH	3.65mm	20D781KH	6.39mm
		20D121KH	3.80mm	20D821KH	6.61mm
		20D151KH	3.52mm	20D911KH	6.87mm
		20D181KH	3.66mm	20D102KH	8.34mm
		20D201KH	3.76mm	20D112KH	8.86mm
		20D221KH	3.84mm	20D122KH	8.39mm
		20D241KH	3.95mm	20D142KH	9.96mm
		20D271KH	4.00mm	20D162KH	10.48mm
		20D301KH	4.05mm	20D182KH	11.53mm
		20D331KH	4.22mm		

Packing Information

Part Number	Quantity	Packaging Option	Packaging Specification
20DxxxKH	250PCS	Plastic bag	Bulk 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 Varistor brand names and marks are all patent applications of the company. Customers who use or sell our Varistors that are not specifically designated for such applications are at their own risk.

4) All Varistors 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 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 our Varistor products 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 our Varistor products comply with the IEC 61249-2-21 JEDEC JS709A standard.