Smart MOV Electronics 10D471K 10D-471K 10D391K 07D220K 14D391K Varistor

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL,REACH,RoHS,ISO VDE
- Model Number: 14D391K/14D391KJ
- Minimum Order Quantity: 500PCS
- Price: Negotiable
- Delivery Time: 5-8 work days

Product Specification

- Other Name: MOV
- Package Type: Φ10mm
- VAC: 250V
- VDC: 320V
- Varistor Voltage: 390(351~429)V
- IP: 25A
- VC: 650V
- Rated Power: 0.4W
- Typ. Capacitance: 2600pF
- Withstanding Surge Current: 2.5KA (1 Time)
- Highlight: **Smart MOV Electronics**, **10D391K Varistor**, **MOV 14D391K Varistor**

More Images

Product Description

Smart Electronics~Varistors 10D471K 10D-471K Varistors 10D391K 07D220K 14D391K

DATASHEET: 10D Series_v2306.1.pdf

Type Number		Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current				Maximum Energy (10/1000μs)		Rated Power	Typical Capacitance (Reference)
Standard	High Surge	V_{AC} (V)	V_{DC} (V)	V1mA (V)	I_P (A)	V_C (V)	I(A) Standard		I(A) High Surge		(J) Standard	(J) High Surge	(W)	@1KHZ (pf)
							1 Time	2 Times	1 Time	2 Times				
10D180K	10D180KJ	11	14	18(15~21.6)	5	36	500	250	2000	1000	2.1	3.0	0.05	5600
10D220K	10D220KJ	14	18	22(19.5~26)	5	43	500	250	2000	1000	2.5	5.0	0.05	4500
10D270K	10D270KJ	17	22	27(24~30)	5	53	500	250	2000	1000	3.0	6.0	0.05	3700
10D330K	10D330KJ	20	26	33(29.5~36.5)	5	66	500	250	2000	1000	4.0	7.0	0.05	3000
10D390K	10D390KJ	25	31	39(35~43)	5	77	500	250	2000	1000	4.6	9.0	0.05	2400
10D470K	10D470KJ	30	38	47(42~54)	5	93	500	250	2000	1000	5.5	11.0	0.05	2100
10D560K	10D560KJ	35	45	56(50~62)	5	100	500	250	2000	1000	7.0	13.0	0.05	1800
10D680K	10D680KJ	40	56	68(61~75)	5	135	500	250	2000	1000	8.2	15.0	0.05	1500
10D820K	10D820KJ	50	65	82(74~90)	25	135	2500	1250	3500	2500	12.0	17.0	0.4	1200
10D101K	10D101KJ	60	85	100(90~110)	25	165	2500	1250	3500	2500	15.0	18.0	0.4	1000
10D121K	10D121KJ	75	100	120(108~132)	25	200	2500	1250	3500	2500	18.0	21.0	0.4	830
10D151K	10D151KJ	95	125	150(135~165)	25	250	2500	1250	3500	2500	22.0	25.0	0.4	670
10D181K	10D181KJ	115	150	180(162~198)	25	300	2500	1250	3500	2500	27.0	30.0	0.4	560
10D201K	10D201KJ	130	170	200(185~225)	25	340	2500	1250	3500	2500	30.0	35.0	0.4	500
10D221K	10D221KJ	140	180	220(198~242)	25	360	2500	1250	3500	2500	32.0	39.0	0.4	450
10D241K	10D241KJ	150	200	240(216~264)	25	395	2500	1250	3500	2500	35.0	42.0	0.4	420
10D271K	10D271KJ	175	225	270(243~297)	25	455	2500	1250	3500	2500	40.0	49.0	0.4	370
10D301K	10D301KJ	190	250	300(270~330)	25	500	2500	1250	3500	2500	40.0	54.0	0.4	330
10D331K	10D331KJ	210	275	330(297~363)	25	550	2500	1250	3500	2500	40.0	58.0	0.4	300
10D361K	10D361KJ	230	300	360(324~396)	25	595	2500	1250	3500	2500	43.0	65.0	0.4	280
10D391K	10D391KJ	250	320	390(351~429)	25	650	2500	1250	3500	2500	47.0	70.0	0.4	260
10D431K	10D431KJ	275	350	430(387~473)	25	710	2500	1250	3500	2500	60.0	80.0	0.4	230
10D471K	10D471KJ	300	385	470(423~517)	25	775	2500	1250	3500	2500	65.0	85.0	0.4	210
10D511K	10D511KJ	320	415	510(459~561)	25	845	2500	1250	3500	2500	70.0	90.0	0.4	200
10D561K	10D561KJ	350	460	560(504~616)	25	925	2500	1250	3500	2500	70.0	92.0	0.4	180
10D621K	10D621KJ	385	505	620(558~682)	25	1025	2500	1250	3500	2500	70.0	95.0	0.4	160
10D681K	10D681KJ	420	560	680(612~748)	25	1120	2500	1250	3500	2500	70.0	98.0	0.4	150
10D751K	10D751KJ	460	615	750(675~825)	25	1240	2500	1250	3500	2500	70.0	100.0	0.4	130

10D781K	10D781KJ	485	640	780(702~858)	25	1290	2500	1250	3500	2500	80.0	105.0	0.4	130
10D821K	10D821KJ	510	670	820(738~902)	25	1355	2500	1250	3500	2500	85.0	110.0	0.4	120
10D911K	10D911KJ	550	745	910(819~1001)	25	1500	2500	1250	3500	2500	93.0	130.0	0.4	110
10D102K	10D102KJ	625	825	1000(900~1100)	25	1650	2500	1250	3500	2500	102.0	140.0	0.4	100
10D112K	10D112KJ	680	895	1100(990~1210)	25	1814	2500	1250	3500	2500	115.0	155.0	0.4	90

SOCAY®

Description:
The 10D series radial leaded varistors provides an ideal circuit protection solution for lower DC voltage applications by offering higher surge ratings than ever before available in such small discs.
The maximum peak surge current rating can reach up to 3.5KA (8/20 μs pulse) to protect against high peak surges, including indirect lightning strike interference, system switching transients and abnormal fast transients from the power source.

The basic parameters of the varistor are mainly composed of the following 12 items
1. Nominal varistor voltage (V): refers to the voltage value across the varistor when a pulse current of specified duration (generally 1mA and duration less than 400mS) passes through.
2. Voltage ratio: refers to the ratio of the voltage value generated when the current of the varistor is 1mA to the voltage value generated when the current of the varistor is 0.1mA.
3. Maximum limit voltage (V): The peak value of the voltage at both ends of the varistor under the maximum pulse peak current Ip that the varistor can withstand and the specified waveform.
4. Residual voltage ratio: When the current passing through the varistor is a certain value, the voltage generated at both ends of it is called the residual voltage of this current value. The residual voltage ratio is the ratio of the residual voltage to the nominal voltage.
5. Flow capacity (kA): Flow capacity, also called flow rate, refers to the maximum pulse (peak) current value.
6. Leakage current (mA): Leakage current, also called waiting current, refers to the current flowing through the varistor under the specified temperature and maximum DC voltage.
7. Voltage temperature coefficient: refers to the rate of change of the nominal voltage of the varistor within the specified temperature range (temperature is 20 ~70), that is, when the current through the varistor remains constant, 8. Current Temperature coefficient: refers to the relative change in the current flowing through the varistor when the temperature changes by 1°C when the voltage across the varistor remains constant.
8. Voltage nonlinear coefficient: refers to the ratio of the static resistance value to the dynamic resistance value of the varistor under a given external voltage.
9. Insulation resistance: refers to the resistance value between the lead wire (pin) of the varistor and the insulating surface of the resistor.
10. Static capacitance (PF): refers to the inherent capacitance of the varistor itself.
11. Rated power: The maximum power when the varistor voltage changes less than 10% after working for 1000 hours at a specific ambient temperature of 85°C.
12. Maximum impulse current (8/20us): Impact the varistor with a specific pulse current (8/20us waveform) once or twice (with an interval of 5 minutes each time), so that the change in the varistor voltage is still within 10% the maximum inrush current.

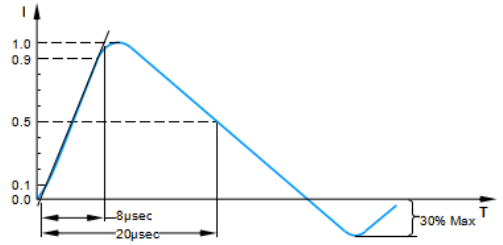
Applications:

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

Material	No Radioactive Material
Operating Temperature	-40 ~ +85
Storage Temperature	-55 ~ +125
Body	Nickel Plated
Leads	Tin Plated
Devices with No lead	Nickel Plated

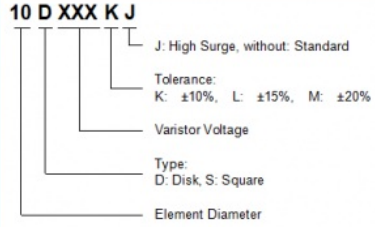
Part Number	Quantity	Packaging Option	Packaging Specification
10DXXXXX	500	Plastic bag	Bulk Pack

Electrical Rating

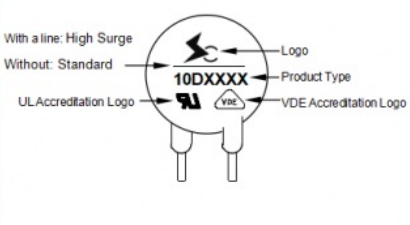
Item	Test Condition / Description	Requirement
Maximum Allowable Voltage	The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously.	To meet the specified value
Varistor Voltage	The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb.	
Maximum Clamping Voltage	The maximum voltage between two terminals with the specification standard impulse current. Applied waveform: 8/20μs 	
Rated Wattage	The maximum average power that can be applied within the specified ambient temperature.	
Energy	The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μs. or 2 msec. is applied.	
Withstanding Surge Current	The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μsec.) applied one time	
Varistor Voltage Temp. Coefficient	$\frac{Vb\ at\ 20℃ - Vb\ at\ 70℃}{Vb\ at\ 20℃} \times \frac{1}{50} \times 100(\%\ /\ ℃)$	0.05% / ℃ max
Surge Life	The change of Vb shall be measured after the impulse listed below is applied 10,000 times continuously with the interval of ten seconds at room temperature.	△Vb / Vb ≤ ±10%

5D Series	180K to 680K	10A (8/20μs)
	820K to 751K	20A (8/20μs)
7D Series	180K to 680K	25A (8/20μs)
	820K to 821K	50A (8/20μs)
10D Series	180K to 680K	50A (8/20μs)
	820K to 112K	100A (8/20μs)
14D Series	180K to 680K	75A (8/20μs)
	820K to 182K	150A (8/20μs)
20D Series	180K to 680K	100A (8/20μs)
	820K to 182K	200A (8/20μs)

Part Numbering



Part Marking



Package Dimensions Unit: mm

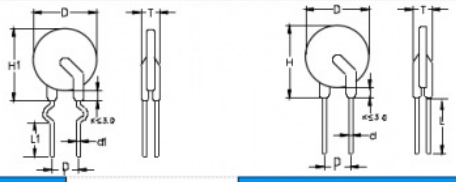


TABLE1	
Symbol	Dimensions
H(max.)	16.0
H1(max.)	16.0
L(min.)	15.0
L1(min.)	15.0
D(max.)	13.0
P(±0.8)	7.5
T(max.)	TABLE2
d(±0.05)	0.8
d1(±0.05)	0.8

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.6	301K	5.5
220K	4.7	331K	5.8
270K	4.8	361K	6.0
330K	5.0	391K	6.2
390K	5.3	431K	6.5
470K	5.4	471K	6.7
560K	5.5	511K	6.8
680K	5.6	561K	7.0
820K	4.7	621K	7.3
101K	4.9	681K	7.6
121K	5.1	751K	8.0
151K	5.4	781K	8.1
181K	4.8	821K	8.3
201K	5.0	911K	8.8
221K	5.1	102K	9.3
241K	5.2	112K	9.9
271K	5.4		

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