

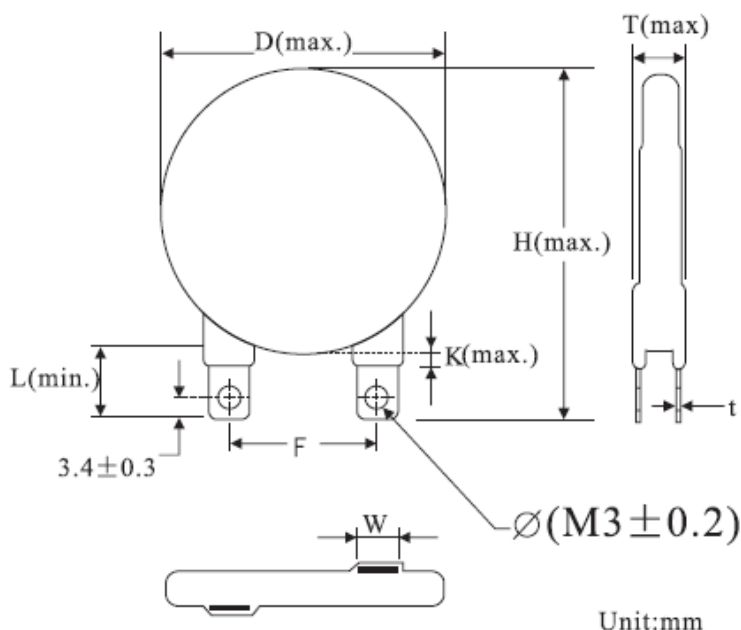
# 規格承認書

## SPECIFICATION FOR APPROVAL

Rev1.0	SPECIFICATION	NO.		
PART NO.	ZOV40D201K~162K	PAGE: 1 OF 5		
		DATE: 2017年10月18日		
UL	E315524	CSA	LR115266	VDE /

### 1.OUTLINE

#### 1.1 DIMENSIONS



**Table1**

Unit:mm	
Symbol	Dimension
D(max.)	45.0
H(max.)	60.2
F(±1.0)	25.4
T(max.)	Table2
d(±0.25)	0.5
L(min.)	14.5
K(max.)	3.2
W(±0.5)	7.0
ΦM3(±0.2)	3.2
Epoxy Colour : Green	

**Table2**

Unit:mm			
Model	T	Model	T
201K	6.2	751K	9.4
241K	6.4	781K	9.6
271K	6.6	821K	9.8
331K	6.9	911K	10.4
361K	7.1	951K	10.6
391K	7.3	102K	11.2
431K	7.5	112K	11.8
471K	7.8	122K	12.3
511K	8.0	142K	13.3
621K	8.7	162K	14.3
681K	9.0		

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### Electrical characteristics

ZOV Part Number	Maximum Allowable Voltage		Varistor voltage V1.0 mA	IR3  μA	@	Maximum Clamping Voltage		Withstanding Surge Current		Maximum Ebergt (JOULE)  10/1000μs	Typical Capacitance (Reference)  @1KHz  (pf)
	Ac.rms	DC				VC	IP	1 time	2 times		
	(V)	(V)	(V)	(A)		(A)	(A)				
40D201K	130	170	200(185-225)	40	21	340	300	40000	30000	370	8400
40D241K	150	200	240(216-264)			395				430	8000
40D271K	175	225	270(243-297)			455				470	7600
40D331K	210	275	330(297-363)			550				550	6700
40D361K	230	300	360(324-396)			595				570	6200
40D391K	250	320	390(351-429)			650				590	5100
40D431K	275	350	430(387-473)			710				660	4900
40D471K	300	385	470(423-517)			775				720	4300
40D511K	320	415	510(459-561)			845				770	4200
40D621K	385	505	620(558-682)			1025				860	3800
40D681K	420	560	680(612-748)			1120				900	3500
40D751K	460	615	750(675-825)			1240				940	3200
40D781K	485	640	780(702-858)			1290				980	3000
40D821K	510	670	820(738-902)			1355				1080	2900
40D911K	550	745	910(819-1001)			1500				1150	2200
40D951K	575	765	950(855-1045)			1570				1200	2000
40D102K	625	825	1000(900-1100)			1650				1260	1800
40D112K	680	895	1100(990-1210)			1815				1380	1600
40D122K	750	990	1200(1080-1320)			1980				1460	1500
40D142K	880	1140	1400(1260-1540)			2310				1550	1300
40D162K	1000	1280	1600(1440-1760)	2640	1700	1150					

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### 2.ELETRICAL PARAMETER

2.1	Max. Allowable Voltage	Reference p2*	At 1.0mA DC
2.2	Varistor Voltage(Test Time For 30ms)		V0.1mA □ V1mA ■
2.3	Rated Wattage		
2.4	Max. Clamping Voltage		Test Current Waveform 8/20μs
2.5	Withstanding Surge Current		Test Current Waveform 8/20μs
2.6	Max. Energy		Test Current Waveform 10/1000μs
2.7	Typical Capacitance		@1KHz
2.8	Leakage Current		At 80% of Varistor Voltage
2.9	Nonlinear Exponent (α)		$\alpha = \log \frac{I_1}{I_2} / \log \frac{V_1}{V_2}$
2.10	Impulse Life		≅ ±10%(V1mA)

### 3.MATERIAL LIST

3.1	Drawing	略		
3.2	Material Chart RoHs	Item	Composition	Manufacturer
		Coating	Epoxy Resin	Made in China, and in line with the UL 94-V0 testing, meet the environmental requirements
		Lead	Cu wire	Made in China, meet the environmental requirements
		Electrode	Silver	Made in China, meet the environmental requirements
		Disk	Zinc Oxide	Made in China, meet the environmental requirements
		Solder	Sn:96.5%CU 0.5%Ag3.0%	Made in China, meet the environmental requirements

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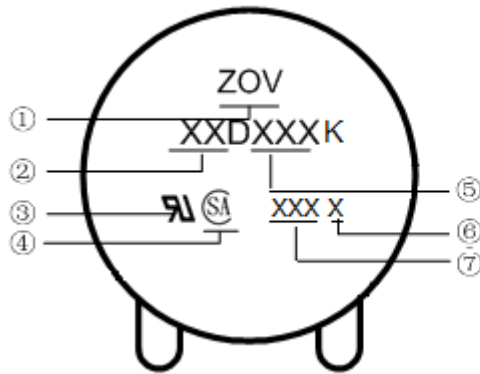
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<b>4.MECHANICAL REQUIREMENTS</b>					
4.1	Tensile of Terminations	No Outstanding Damage	1.0Kgf; 10Sec.		
4.2	Bending of Terminations	No Outstanding Damage	0.5Kgf; 90° ,3 Times		
4.3	Vibration	No Outstanding Damage	Freq:10-55hz;Amp:0.75mm,1Min		
4.4	Solderability	Min. 95% of The Terminal Should Be Covered With Solder Uniformly	Solder Temp:245±5°C Immersed Time: ≤5Sec.		
4.5	Resistance of soldering heat	$\Delta V1mA/V1mA$ $\cong \pm 5\%$	Solder Temp: 260±5°C Immersed Time: 10±1Sec.		
<b>5.ENVIRONMENTAL REQUIREMENTS</b>					
5.1	High Temperature Storage	$\Delta V1mA/V1mA$ $\cong \pm 5\%$	Ambient Temp: 125±2°C Duration:1000h		
5.2	Low Temperature Storage	$\Delta V1mA/V1mA$ $\cong \pm 5\%$	Ambient Temp: -40±2°C Duration:1000h		
5.3	High Humidity Storage/Damp Heat	$\Delta V1mA/V1mA$ $\cong \pm 5\%$	Ambient Temp: 40±2°C 90-95% R.H. Duration:1000h		
5.4	Temperature Cycle	$\Delta V1mA/V1mA$ $\cong \pm 5\%$	Step	Temperature (°C)	Period (min)
			1	-40±3	30 ±3
			2	Room Temp	15 ±3
			3	85±3	30 ±3
4	Room Temp	15 ±3			
5.5	High Temperature Load	$\Delta V1mA/V1mA$ $\cong \pm 10\%$	Ambient temp:85±2°C Duration:1000h Load: MAX. Allowable Voltage		
5.6	High Humidity Load	$\Delta V1mA/V1mA$ $\cong \pm 10\%$	Ambient Temp: 40±2°C 90-95%R.H.Duration:1000H Load: MAX. Allowable Voltage		
5.7	Operating Temperature Range	-40°C ~ +85°C			
5.8	Storage Temperature Range	-40°C ~ +125°C			

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### 6. MARKING CODE



- ① ZOV Logo
- ② Disk Size
- ③ UL Accreditation Logo
- ④ CSA Accreditation Logo
- ⑤ Varistor Voltage
- ⑥ Special standard P: Normal code
- ⑦ Date Code

### 7. QUANTITY

Packaging Dimensions (Unit: mm)	Quantity
Bulk 	60pcs/box (201K~511K)
	32pcs/box (621K~162K)