

SHenzhen Ruilongyuan Electronics Co.,Ltd			
Product name	Thermally Protected Varistors	Product Type	KOV20D-460Kb
File serial number	SP-SPD-286	Product code	10.20.40.4604-2000
Classification	☐ Reference	☐ Sample	☐ Qualified ☒ Changed

KOV20D-460Kb

Thermally Protected Varistors

Prepared by :	Lucy	Date:	2025.05.27
Reviewed by:	Jim	Date:	2025.05.27
Approved by:	Robert	Date:	2025.05.27

Customer Confirmation		
Customer Name		
Customer Materials		
Conclusion	☐ Qualified ☐ Nonconforming	
Effective Date		
Handled by:	Audit:	Approved:

Revision Version	Description	Page	Date
X0	Reference	5	2024.09.23
A0	Qualified	5	2024.11.19
A1	The packaging was changed from 150pcs to 100pcs	5	2025.03.04
A2	Add TUV certification mark	5	2025.05.27

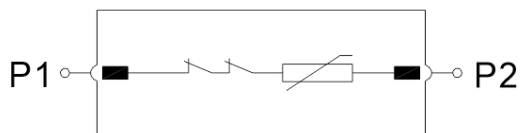
1. Description

KOV@K is a combination of varistors (MOV) and thermal protection component. Since varistor has the characteristics of aging or degrading; KOV@K can separate the varistor from the main circuitry by opening the thermal protection component when the varistor (MOV) degrades or fails. It is often used in which requires high reliability and weather withstanding, such as photovoltaic inverters, communication equipment, and power supplies in data centers, etc.

2. Features

- ┆ Mechanical tripping thermal protection, fast response
- ┆ Small size, space-saving
- ┆ Sealing material flammability rating V0 (UL 94)
- ┆ It can meet the operating temperature of -40 ~ 95 °C
- ┆ RoHS and REACH compliant

3. Circuit Diagram



4. Applications

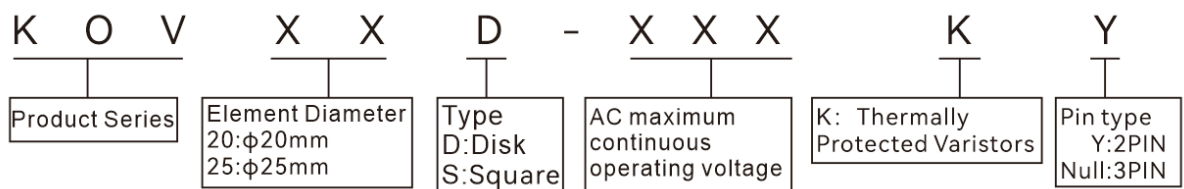
AC Line Protection

- ┆ White goods
- ┆ Power line communications
- ┆ Smoke alarm systems
- ┆ High value consumer goods
- ┆ Satisfy UL 1449 SPD 5th edition

DC Line Protection

- ┆ Solar inverters
- ┆ Power supplies
- ┆ Distribution systems

5. Part Number Code



6. Absolute Maximum Ratings (@TA=25°C unless otherwise noted)

Parameter	Symbol	Typ	Value	Unit
Operating Temperature	T _{OPR}	25	-40 -95	°C
Storage Temperature	T _{STG}	25	-40 -105	°C

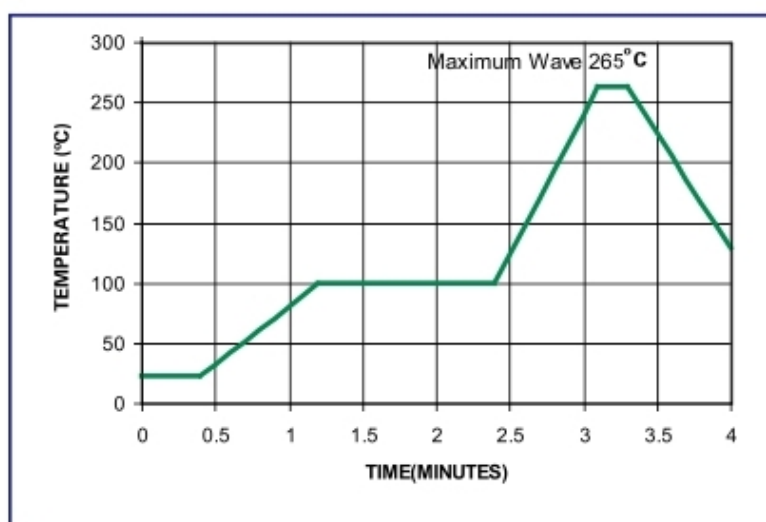
7. Electrical Characteristics(@TA=25°C unless otherwise noted)

Type Number	Varistor Voltage	Max. Allowable Voltage		Max. Energy (10/1000μs)		Max. Clamping Voltage (8/20μs)		Withstanding Surge Current (8/20μs)		Rated Power	Typical Capacitance (Reference)
	V _{1mA} (V)	V _{AC} (V)	V _{DC} (V)	(J) Standard	(J) High Surge	I _P (A)	V _C (V)	I _n (kA)	I _{max} (kA)	(W)	@1KHz(pf)
KOV20D-460Kb	675~825	460	615	260	525	100	1240	5	10	1.0	850

8. Agency Approvals

Icom	Description
ROSH	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
Ⓟ	Mean lead free
/	/

9. Wave Soldering Parameters (For Reference Only)



Items	Temp. (°C)	Time (s)
Preheating	80 to 100	60 to 150
Dwelling	250 to 265	2 to 4

10. Recommended Hand-Soldering Parameters

Items	Condition
Lron Temperature	350°C(Max.)
Soldering Time	4 Seconds (Max.)
Distance Between Soldering Point And The Botton Of Product	2mm(Min.)

11. Dimensions

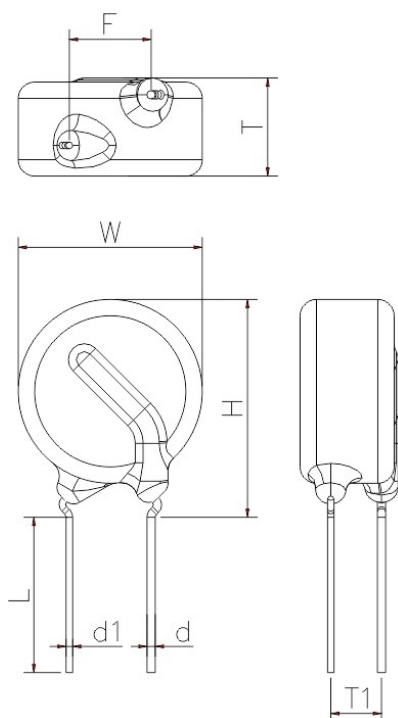
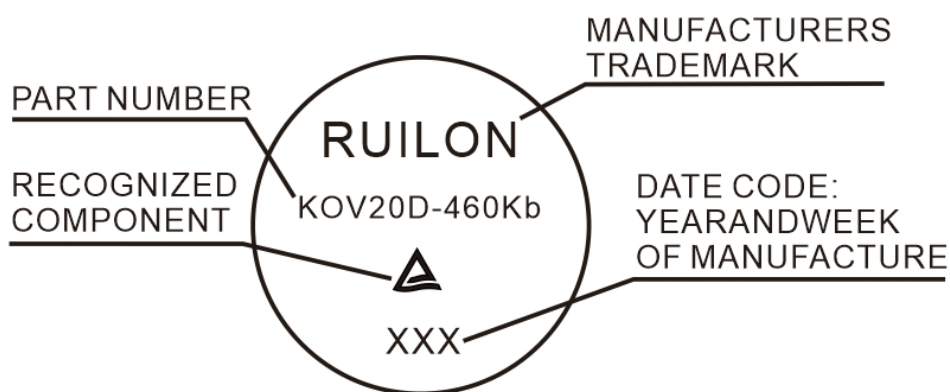


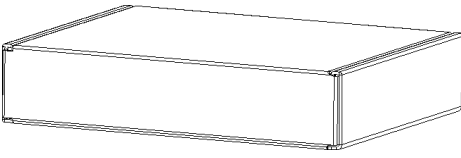
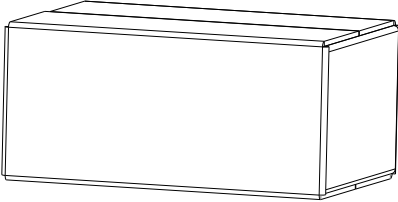
TABLE 1		
Symbol	Millimeters	Inches
W(max)	24.0	0.945
H(max)	28.0	1.102
L(min)	15.0	0.591
F (±1.0)	10.0	0.394
d(±0.05)	Φ1.0	0.039
d1(±0.05)	Φ0.8	0.0315
T(max)	12.0	0.472
T1 (±1.0)	6.4	0.252

12. Typical Part Marking



13. Packaging Information - 20 mm Disc

BULK:

Inner box size	Outer box size	Quantity
Size: 260*208*55(mm) 	Size: 435*275*200(mm) 	• 1200 pcs. per carton • 100 pcs. per bag • 2 bags per inner box • 6 inner boxes per carton