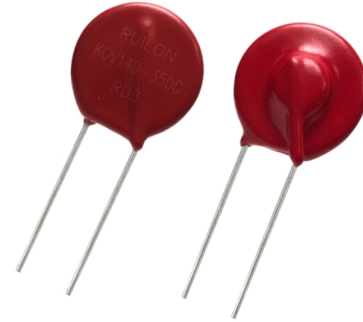


**Description**

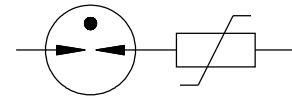
Ruilon combines its patented GDT and a Metal Oxide Varistor (MOV) to create a new and innovative KOV<sup>®</sup> Series Composite Surge Protective Unit. By combining the best features of both MOV and GDT technologies, the KOV<sup>®</sup> Series achieves high performance as a long life protector with low capacitance and, most importantly, very low leakage. The KOV<sup>®</sup> Series is ideally suited for any number of AC and DC power applications where a high level of performance is required over time.



**Features**

- I Hybrid design
- I Low leakage
- I Bidirectional protection
- I Low capacitance
- I RoHS and REACH compliant

**Circuit Diagram**



**Applications**

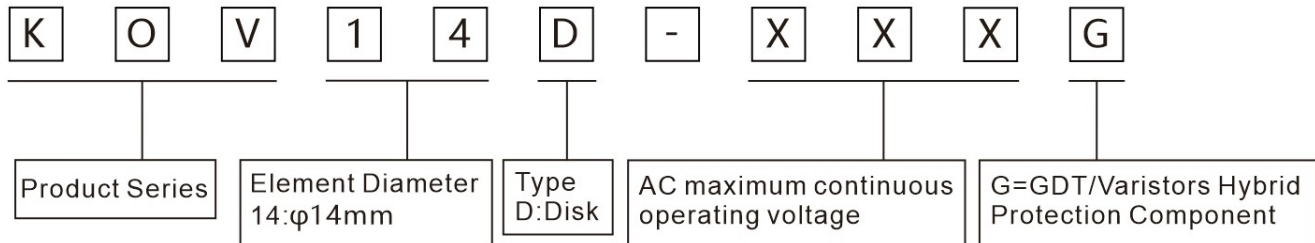
AC Line Protection

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

DC Line Protection

- I Solar inverters
- I Power supplies
- I Distribution systems

**Part Number Code**



**Absolute Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise noted)**



Parameter	Symbol	Typ	Value	Unit
Operating Temperature	T <sub>OPR</sub>	25	-40 -105	°C
Storage Temperature	T <sub>STG</sub>	25	-40 -125	°C

**Electrical Characteristics (@T<sub>A</sub>=25°C unless otherwise noted)**

Part No.	Operating				Protection					
	Max. Continuous Operating Voltage (MCOV)		Max. Leakage @ MCOV	Max Capacitance	Inom UL1449/4th.	UOC IEC61000-4-5	Ring Wave Surge IEEE 62.41	Protection Level Current Class (1) IEC 61051-1		Comply with safety standards IEC62368-1: 2018 GB4943.1-2022
	V <sub>rms</sub>	V <sub>DC</sub>	A <sub>rms</sub>	1MHz	15 Ops.	40 Ops.	200 A	Max .	Typ.	
	V	V	μA	pF	In(A)	Uoc(V)	Ops.	V <sub>fp</sub>	V <sub>C</sub>	
KOV14D-050G	50	65	< 1	4	3,000	6,000	± 250	700	150	50
KOV14D-060G	60	85	< 1	4	3,000	6,000	± 250	700	185	50
KOV14D-130G	130	170	< 1	4	3,000	6,000	± 250	700	360	50
KOV14D-150G	150	200	< 1	4	3,000	6,000	± 250	700	390	100
KOV14D-175G	175	225	< 1	4	3,000	6,000	± 250	1200	475	120
KOV14D-210G	210	275	< 1	4	3,000	6,000	± 250	1200	535	150
KOV14D-250G	250	320	< 1	4	3,000	6,000	± 250	1200	630	150
KOV14D-275G	275	350	< 1	4	3,000	6,000	± 250	1200	680	208
KOV14D-300G	300	385	< 1	4	3,000	6,000	± 250	1200	740	208
KOV14D-320G	320	415	< 1	4	3,000	6,000	± 250	1200	810	230
KOV14D-350G	350	460	< 1	4	3,000	6,000	± 250	1600	870	240
KOV14D-385G	385	505	< 1	4	3,000	6,000	± 250	1600	950	277
KOV14D-420G	420	560	< 1	4	3,000	6,000	± 250	1600	1050	300
KOV14D-460G	460	615	< 1	4	3,000	6,000	± 250	2200	1150	400
KOV14D-510G	510	670	< 1	4	3,000	6,000	± 250	2200	1330	480
KOV14D-550G	550	745	< 1	4	3,000	6,000	± 250	3000	1455	600
KOV14D-750G	750	990	< 1	4	3,000	6,000	± 250	3000	1930	690

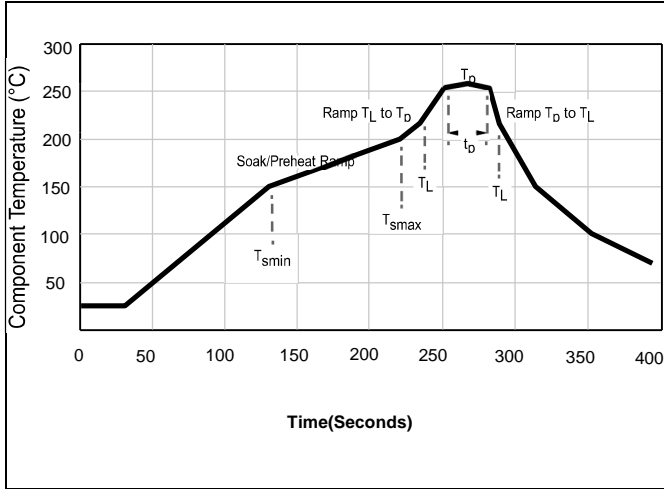
1) Front Level Protection (V<sub>fp</sub>) defined as measured with 10 % of peak current in accordance with IEC 61051-1.

**Agency Approvals**

Icon	Description
<b>ROSH</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003
	Mean lead free
	Compliance with UL1449 Certificated E337906

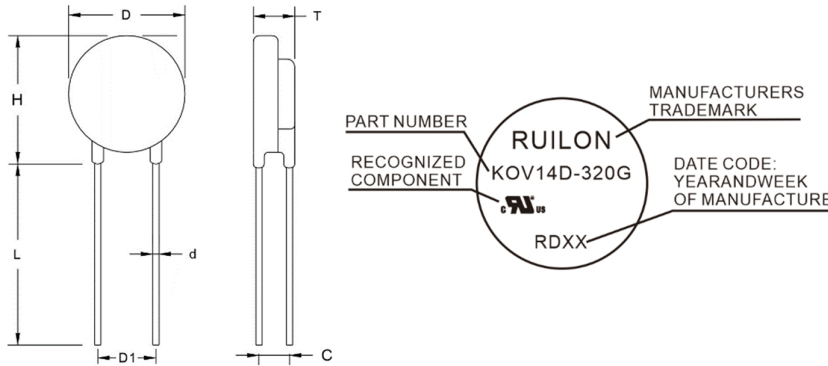
**Soldering Profile**

Users should ensure that they do not exceed the scope of IPC/JEDEC J-STD-020 (Pb-Free) during solder assembly.



Profile Feature	Profile Limits
Preheat temperature min. ( $T_{smin}$ )	150°C
Preheat temperature max. ( $T_{smax}$ )	200°C
Ramp time ( $T_{smax} - T_{smin}$ )	60 – 120 seconds
Ramp-up rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidus temperature ( $T_L$ )	217°C
Time maintained above ( $T_L$ )	60 – 150 seconds
Peak package body temperature	260°C
Time within 5 °C of peak temperature ( $T_p$ )	30 seconds max.
Ramp-down rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time from 25 °C to peak temperature	8 minutes max.

**Dimensions**



Symbol	Millimeters	Inches
H(max)	20.0	0.787
L(min)	15.0	0.591
D(max)	16.5	0.649
D1(± 1.0)	7.5	0.295
T(max)	TABLE2	
C(± 1.0)	TABLE2	
d(± 0.1)	0.8	0.031

Packaging Quantity: 200pcs/bag

TABLE2


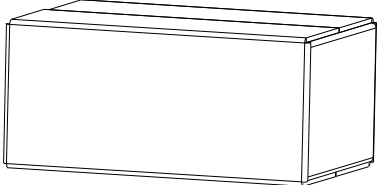
Model	T(max)		C		Model	T(max)		C	
	Millimeters	Inches	Millimeters	Inches		Millimeters	Inches	Millimeters	Inches
KOV14D-050G	6.5	0.256	4.0	0.157	KOV14D-320G	8.5	0.335	5.6	0.220
KOV14D-060G	6.6	0.260	4.0	0.157	KOV14D-350G	8.7	0.343	5.8	0.228
KOV14D-130G	7.1	0.280	4.0	0.157	KOV14D-385G	8.9	0.351	6.1	0.240
KOV14D-150G	7.3	0.287	4.2	0.165	KOV14D-420G	9.2	0.362	6.4	0.252
KOV14D-175G	7.5	0.295	4.4	0.173	KOV14D-460G	9.5	0.374	7.2	0.283
KOV14D-210G	7.6	0.299	4.7	0.185	KOV14D-510G	10.0	0.394	7.5	0.295
KOV14D-250G	7.9	0.311	5.0	0.197	KOV14D-550G	11.0	0.472	7.9	0.311
KOV14D-275G	8.1	0.319	5.2	0.205	KOV14D-750G	12.0	0.472	8.8	0.346
KOV14D-300G	8.3	0.327	5.4	0.213					

Construction



Packaging Information - 14 mm Disc

BULK:

Inner box size	Outer box size	Quantity
Size: 260*208*55(mm) 	Size: 435*275*200(mm) 	<ul style="list-style-type: none"> <li>• 2400 pcs. per carton</li> <li>• 200 pcs. per bag</li> <li>• 2 bags per inner box</li> <li>• 6 inner boxes per carton</li> </ul>