



KAG-ID: 428594

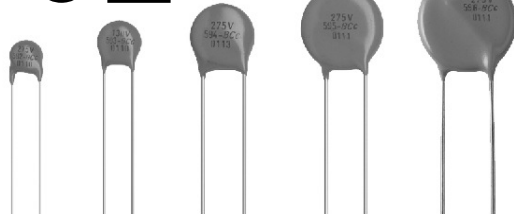
KV 8184 - 08.03.11 SA

KV48337 - 13.08.19 SA

2381 58.VDRH.....E

Vishay BCcomponents

VDR Metal Oxide Varistors High Surge



FEATURES

- Zinc oxide disc, epoxy coated
- Straight or kinked leads
- Higher current surge/size ratio capability up to 10 kA for H20 types
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Certified according to UL1449 edition 3, VDE/IEC 61051-1/2 and CSA



RoHS
COMPLIANT

APPLICATION

- Overvoltage and transient voltage protection

DESCRIPTION

The varistors consist of a disc of low- β ceramic material with two tinned solid copper leads. They are coated with a layer of ochre coloured epoxy, which provides electrical, mechanical and climatic protection. The encapsulation is resistant to all cleaning solvents in accordance with IEC 60068-2-45.

MOUNTING

The varistors are suitable for processing on automatic insertion and cutting and bending equipment.

Typical Soldering

235 °C, duration: 5 s (Pb-bearing)

245 °C, duration: 5 s (lead (Pb)-free)

Resistance to soldering heat

260 °C; duration: 10 s max.

MARKING

The varistors are marked with the following information:

- Maximum continuous RMS voltage
- Series number (582, 583, 584, 585 or 586)
- Manufacture logo
- Date of manufacture (YYWW)

INFLAMMABILITY

The varistors are non-flammable. The encapsulation is made of flammable-resistant epoxy lacquer in accordance with UL 94 V-0.

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Maximum continuous voltage in operating temperature range:		
RMS	11 to 680	V
DC	14 to 895	V
Maximum non-repetitive transient current I_{NRP} (8 x 20 μ s)	250 to 10 000	A
Detailed specification	Based on IEC 61051-1 IEC 61051-2 IEC 61051-2-2	
Storage temperature	- 40 to + 150	°C
Operating temperature	- 40 to + 125	°C

ORDERING INFORMATION

The varistors are available in a number of packaging options:

- Bulk
- On tape on reel
- On tape in ammpack

The basic ordering code for each option is given in tables titled Varistors on Tape on Reel, Varistors on Tape in Ammpack and Varistors in Bulk. To complete the catalog number and to determine the required operating parameters, see Electrical Data and Ordering Information table.

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ELECTRICAL DATA AND ORDERING INFORMATION											
MAXIMUM CONTINUOUS VOLTAGE		VOLTAGE ⁽³⁾ at 1 mA	MAXIMUM VOLTAGE at STATED CURRENT		MAXIMUM ENERGY ⁽⁴⁾ (10 x 1000 µs)	MAXIMUM NON-REP. TRANSIENT CURRENT ⁽⁵⁾ I _{NRP} (8 x 20 µs)	TYPICAL CAPACITANCE at 1 kHz	T (max.)	E	CATALOG NUMBERS ⁽¹⁾	
RMS ⁽²⁾ (V)	DC (V)	(V)	V (V)	I (A)	(J)	(A)	(pF)	(mm)	(mm)	12NC ⁽⁶⁾	SAP ⁽⁷⁾
11	14	18	40	1.0	0.7	250	1600	3.4	0.5 ± 0.3	2381 582 x110y	VDRH05B011xyE
			36	2.5	1.5	500	3600	3.4	0.5 ± 0.3	2381 583 x110y	VDRH07D011xyE
			36	5.0	2.6	1000	8000	3.8	0.7 ± 0.3	2381 584 x110y	VDRH10G011xyE
			36	10.0	5.2	2000	20 000	3.8	0.7 ± 0.3	2381 585 x110y	VDRH14M011xyE
			36	20.0	13.0	3000	40 000	4.2	0.9 ± 0.3	2381 586 x110y	VDRH20R011ByE
14	18	22	48	1.0	0.8	250	1300	3.4	0.7 ± 0.3	2381 582 x140y	VDRH05B014xyE
			43	2.5	1.7	500	2800	3.4	0.7 ± 0.3	2381 583 x140y	VDRH07D014xyE
			43	5.0	3.2	1000	6000	3.8	0.9 ± 0.3	2381 584 x140y	VDRH10G014xyE
			43	10.0	6.3	2000	15 000	3.8	0.9 ± 0.3	2381 585 x140y	VDRH14M014xyE
			43	20.0	16.0	3000	30 000	4.2	1.1 ± 0.3	2381 586 x140y	VDRH20R014ByE
17	22	27	60	1.0	1.1	250	1050	3.7	0.8 ± 0.3	2381 582 x170y	VDRH05B017xyE
			53	2.5	2.1	500	2000	3.7	0.8 ± 0.3	2381 583 x170y	VDRH07D017xyE
			53	5.0	3.9	1000	4000	4.1	1.0 ± 0.3	2381 584 x170y	VDRH10G017xyE
			53	10.0	7.8	2000	10 000	4.1	1.0 ± 0.3	2381 585 x170y	VDRH14M017xyE
			53	20.0	19.0	3000	20 000	4.5	1.2 ± 0.3	2381 586 x170y	VDRH20R017ByE
20	26	33	73	1.0	1.3	250	900	3.9	1.0 ± 0.3	2381 582 x200y	VDRH05B020xyE
			65	2.5	2.8	500	1500	3.9	1.0 ± 0.3	2381 583 x200y	VDRH07D020xyE
			65	5.0	4.8	1000	3000	4.3	1.2 ± 0.3	2381 584 x200y	VDRH10G020xyE
			65	10.0	9.5	2000	7500	4.3	1.2 ± 0.3	2381 585 x200y	VDRH14M020xyE
			65	20.0	24.0	3000	15 000	4.7	1.4 ± 0.3	2381 586 x200y	VDRH20R020ByE
25	31	39	86	1.0	1.5	250	500	4.2	1.2 ± 0.3	2381 582 x250y	VDRH05B025xyE
			77	2.5	3.0	500	1350	4.2	1.2 ± 0.3	2381 583 x250y	VDRH07D025xyE
			77	5.0	5.6	1000	2600	4.6	1.4 ± 0.3	2381 584 x250y	VDRH10G025xyE
			77	10.0	11.0	2000	6500	4.6	1.4 ± 0.3	2381 585 x250y	VDRH14M025xyE
			77	20.0	28.0	3000	13 000	5.0	1.6 ± 0.3	2381 586 x250y	VDRH20R025ByE
30	38	47	104	1.0	1.8	250	700	4.4	1.4 ± 0.5	2381 582 x300y	VDRH05B030xyE
			93	2.5	3.8	500	1600	4.4	1.4 ± 0.5	2381 583 x300y	VDRH07D030xyE
			93	5.0	6.8	1000	2700	4.8	1.6 ± 0.5	2381 584 x300y	VDRH10G030xyE
			93	10.0	14.0	2000	6000	4.8	1.6 ± 0.5	2381 585 x300y	VDRH14M030xyE
			93	20.0	34.0	3000	12 000	5.2	1.8 ± 0.5	2381 586 x300y	VDRH20R030ByE
35	45	56	123	1.0	2.2	250	560	4.8	1.7 ± 0.5	2381 582 x350y	VDRH05B035xyE
			110	2.5	4.4	500	1300	4.8	1.7 ± 0.5	2381 583 x350y	VDRH07D035xyE
			110	5.0	8.1	1000	2200	5.2	1.9 ± 0.5	2381 584 x350y	VDRH10G035xyE
			110	10.0	16.0	2000	4800	5.2	1.9 ± 0.5	2381 585 x350y	VDRH14M035xyE
			110	20.0	41.0	3000	9600	5.6	2.1 ± 0.5	2381 586 x350y	VDRH20R035ByE
40	56	68	150	1.0	2.6	250	460	5.1	2.1 ± 0.5	2381 582 x400y	VDRH05B040xyE
			135	2.5	5.4	500	1000	5.1	2.1 ± 0.5	2381 583 x400y	VDRH07D040xyE
			135	5.0	9.8	1000	1800	5.5	2.3 ± 0.5	2381 584 x400y	VDRH10G040xyE
			135	10.0	20.0	2000	3800	5.5	2.3 ± 0.5	2381 585 x400y	VDRH14M040xyE
			135	20.0	49.0	3000	7600	5.9	2.5 ± 0.5	2381 586 x400y	VDRH20R040ByE
50	65	82	145	5.0	3.5	800	370	3.5	0.6 ± 0.3	2381 582 x500y	VDRH05E050xyE
			135	10.0	7.0	1750	900	3.5	0.6 ± 0.3	2381 583 x500y	VDRH07K050xyE
			135	25.0	14.0	3500	1500	3.9	0.8 ± 0.3	2381 584 x500y	VDRH10S050xyE
			135	50.0	28.0	6000	3100	3.9	0.8 ± 0.3	2381 585 x500y	VDRH14V050xyE