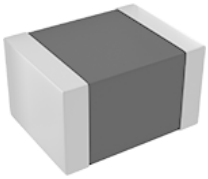
Multilayer Chip Varistor for Voltage Surge Suppression – SDVL Series

Operating Temp. : -55℃ ~+85℃



FEATURES

- SMD type, small size suitable for high density mounting
- Excellent clamping ratio and strong capability of voltage surge suppression
- Excellent solderability (Ni, Sn plating)

APPLICATIONS

- Lightning protection and voltage surge suppression for Power supply, Network Interface, LED lighting.
- Lightning protection and voltage surge suppression for security system, PLC.
- Industrial instrument, smart meters, etc.

PRODUCT IDENTIFICATION

SDVL	5650	S	D	650	P	T
①	②	③	④	⑤	⑥	⑦

①

Type	
SDVL	Chip Varistor for Voltage Surge Suppression

②

External Dimensions (L×W) (mm)	
3216 [1206]	3.2×1.6
3225 [1210]	3.2×2.5
4532 [1812]	4.5×3.2
5650 [2220]	5.7×5.0

③

Tolerance of Varistor Voltage	
S	Special
K	±10%

④

Type of Working Voltage	
D	DC Working Voltage

⑤

Max. Continuous Working Voltage	
Example	Nominal value
650	65V

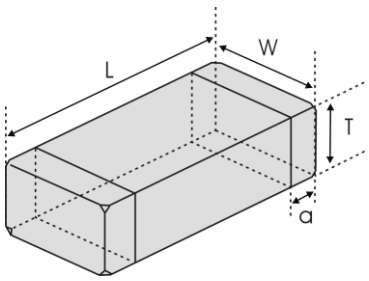
⑥

Terminal Code	
P	Ni, Sn Plating

⑦

Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
SDVL3216SD [1206]	3.2±0.2 [.126±.008]	1.6±0.2 [.063±.008]	1.60 Max. [.063]	0.2~0.8 [.008~.031]
SDVL3225SD [1210]	3.2±0.3 [.126±.012]	2.5±0.25 [.098±.010]	1.7 Max. [.067]	0.25~0.75 [.010~.029]
SDVL4532SD [1812]	4.5±0.4 [.177±.016]	3.2±0.3 [.126±.012]	2.5 Max. [.098]	0.25~1.0 [.010~.039]
SDVL5650SD [2220]	5.7±0.4 [.224±.016]	5.0±0.4 [.197±.016]	2.5 Max. [.098]	0.25~1.0 [.010~.039]

Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 **Tel**: 0086-755-29832660 **Fax**: 0086-755-82269029 **E-Mail**: sunlord@sunlordinc.com

SPECIFICATIONS

SDVL3216SD TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		Typical Capacitance
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	@1V_{rms}, 1kHz
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	pF
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	C
SDVL3216SD5R5PT	5.5	4.0	12.0 [10.0-14.0]	18	5.0	0.5	250	2400
SDVL3216SD090PT	9	6.4	14.0 [12.0-16.0]	20	5.0	0.5	250	2000
SDVL3216SD120PT	12	8.5	16.0 [13.0-19.0]	25	5.0	0.5	250	1600
SDVL3216SD140PT	14	10.0	19.0 [16.0-22.0]	30	5.0	0.5	250	1100
SDVL3216SD180PT	18	12.7	25.0 [22.0-28.0]	40	5.0	0.5	250	800
SDVL3216SD220PT	22	15.6	30.0 [26.0-34.0]	45	5.0	0.6	250	750
SDVL3216SD260PT	26	18.4	35.0 [31.0-38.0]	58	5.0	0.7	200	680
SDVL3216SD300PT	30	21.3	42.0 [37.0-46.0]	65	5.0	0.7	200	550
SDVL3216SD330PT	33	23.4	44.0 [39.0-49.0]	72	5.0	0.7	200	500
SDVL3216SD380PT	38	30.0	50.0 [46.0-54.0]	75	5.0	0.7	200	400
SDVL3216SD420PT	42	32.0	53.0 [48.0-58.0]	86	5.0	0.5	150	350
SDVL3216SD480PT	48	34.1	60.0 [54.0-67.0]	100	5.0	0.5	150	280
SDVL3216SD560PT	56	40.0	68.0 [61.0-75.0]	120	5.0	0.5	150	200
SDVL3216SD600PT	60	46.0	76.0 [69.0-83.0]	130	5.0	0.5	150	160
SDVL3216SD650PT	65	50.0	82.0 [73.0-91.0]	140	5.0	0.6	150	140
SDVL3216SD750PT	75	55.0	94.0 [85.0-103.0]	160	5.0	0.6	150	130
SDVL3216SD850PT	85	60.0	100.0 [90.0-110.0]	170	5.0	0.7	150	120
SDVL3216SD101PT	100	75.0	120.0 [108.0-132.0]	200	5.0	0.7	150	100

SDVL3225SD TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		Typical Capacitance
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	@1V_{rms}, 1kHz
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	pF
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	C
SDVL3225SD5R5PT	5.5	4.0	12.0 [10.0-14.0]	18	5.0	0.7	400	4000
SDVL3225SD090PT	9	6.4	14.0 [12.0-16.0]	20	5.0	0.9	400	3800
SDVL3225SD120PT	12	8.5	16.0 [13.0-19.0]	25	5.0	1.0	400	3200
SDVL3225SD140PT	14	10.0	19.0 [16.0-22.0]	30	5.0	1.2	400	2700
SDVL3225SD180PT	18	12.7	25.0 [22.0-28.0]	40	5.0	1.5	400	2000
SDVL3225SD220PT	22	15.6	30.0 [26.0-34.0]	45	5.0	1.7	400	1600
SDVL3225SD260PT	26	18.4	35.0 [31.0-38.0]	58	5.0	1.9	400	1400
SDVL3225SD300PT	30	21.3	42.0 [37.0-46.0]	65	5.0	1.7	300	1200
SDVL3225SD330PT	33	23.4	44.0 [39.0-49.0]	72	5.0	1.7	300	1100
SDVL3225SD380PT	38	30.0	50.0 [46.0-54.0]	75	5.0	2.0	300	1000
SDVL3225SD420PT	42	32.0	53.0 [48.0-58.0]	86	5.0	2.0	300	800
SDVL3225SD480PT	48	34.1	60.0 [54.0-67.0]	100	5.0	2.0	300	700
SDVL3225SD560PT	56	40.0	68.0 [61.0-75.0]	120	5.0	2.3	300	600
SDVL3225SD600PT	60	46.0	76.0 [69.0-83.0]	130	5.0	2.0	300	450
SDVL3225SD650PT	65	50.0	82.0 [73.0-91.0]	140	5.0	1.6	300	320
SDVL3225SD750PT	75	55.0	94.0 [85.0-103.0]	160	5.0	1.6	200	300
SDVL3225SD850PT	85	60.0	100.0 [90.0-110.0]	170	5.0	2.0	200	250
SDVL3225SD101PT	100	75.0	120.0 [108.0-132.0]	200	5.0	1.6	200	180

Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 **Tel**: 0086-755-29832660 **Fax**: 0086-755-82269029 **E-Mail**: sunlord@sunlordinc.com

SPECIFICATIONS

SDVL4532SD TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		Typical Capacitance
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	@1V_{rms}, 1kHz
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	pF
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	C
SDVL4532SD5R5PT	5.5	4.0	12.0 [10.0-14.0]	18	5.0	1.0	800	7100
SDVL4532SD090PT	9	6.4	14.0 [12.0-16.0]	20	5.0	1.2	800	6000
SDVL4532SD120PT	12	8.5	16.0 [13.0-19.0]	25	5.0	1.5	800	5100
SDVL4532SD140PT	14	10.0	19.0 [16.0-22.0]	30	5.0	1.9	800	4300
SDVL4532SD180PT	18	12.7	25.0 [22.0-28.0]	40	5.0	2.3	800	3600
SDVL4532SD220PT	22	15.6	30.0 [26.0-34.0]	45	5.0	2.5	800	2600
SDVL4532SD260PT	26	18.4	35.0 [31.0-38.0]	58	5.0	3.0	800	2400
SDVL4532SD300PT	30	21.3	42.0 [37.0-46.0]	65	5.0	3.7	800	2000
SDVL4532SD330PT	33	23.4	44.0 [39.0-49.0]	72	5.0	3.7	800	1800
SDVL4532SD380PT	38	30.0	50.0 [46.0-54.0]	75	5.0	4.2	800	1600
SDVL4532SD420PT	42	32.0	53.0 [48.0-58.0]	86	5.0	4.0	600	1400
SDVL4532SD480PT	48	34.1	60.0 [54.0-67.0]	100	5.0	4.0	600	1200
SDVL4532SD560PT	56	40.0	68.0 [61.0-75.0]	120	5.0	4.3	600	1000
SDVL4532SD600PT	60	46.0	76.0 [69.0-83.0]	130	5.0	4.3	600	900
SDVL4532SD650PT	65	50.0	82.0 [73.0-91.0]	140	5.0	4.0	600	780
SDVL4532SD750PT	75	55.0	94.0 [85.0-103.0]	160	5.0	4.0	500	600
SDVL4532SD850PT	85	60.0	100.0 [90.0-110.0]	170	5.0	4.0	500	450
SDVL4532SD101PT	100	75.0	120.0 [108.0-132.0]	200	5.0	4.0	500	400

SDVL5650SD TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		Typical Capacitance
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	@1V_{rms}, 1kHz
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	pF
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	C
SDVL5650SD5R5PT	5.5	4	12.0 [10.0-14.0]	18	10.0	1.4	1200	15000
SDVL5650SD090PT	9	6.4	14.0 [12.0-16.0]	20	10.0	2.7	1200	12000
SDVL5650SD120PT	12	8.5	16.0 [13.0-19.0]	25	10.0	3.2	1200	10000
SDVL5650SD140PT	14	10.0	19.0 [16.0-22.0]	30	10.0	5.4	1200	8000
SDVL5650SD180PT	18	12.7	25.0 [22.0-28.0]	40	10.0	5.8	1200	7200
SDVL5650SD220PT	22	15.6	30.0 [26.0-34.0]	45	10.0	6.5	1200	5300
SDVL5650SD260PT	26	18.4	35.0 [31.0-38.0]	58	10.0	7.8	1200	4000
SDVL5650SD300PT	30	21.3	42.0 [37.0-46.0]	65	10.0	9.6	1200	3600
SDVL5650SD330PT	33	23.4	44.0 [39.0-49.0]	72	10.0	9.6	1200	3400
SDVL5650SD380PT	38	30.0	50.0 [46.0-54.0]	75	10.0	12.0	1200	3200
SDVL5650SD420PT	42	32.0	53.0 [48.0-58.0]	86	10.0	9.0	900	3100
SDVL5650SD480PT	48	34.1	60.0 [54.0-67.0]	100	10.0	7.7	900	3000
SDVL5650SD560PT	56	40.0	68.0 [61.0-75.0]	120	10.0	9.0	900	1800
SDVL5650SD600PT	60	46.0	76.0 [69.0-83.0]	130	10.0	6.5	900	1500
SDVL5650SD650PT	65	50.0	82.0 [73.0-91.0]	140	10.0	5.6	900	1400
SDVL5650SD750PT	75	55.0	94.0 [85.0-103.0]	160	10.0	6.0	800	1000
SDVL5650SD850PT	85	60.0	100.0 [90.0-110.0]	170	10.0	6.8	800	800
SDVL5650SD101PT	100	75.0	120.0 [108.0-132.0]	200	10.0	6.0	800	650

※: V_{WDC} : Max DC working voltage of varistor must exceed or equal to 1.2 times that of the application circuit voltage, $V_{WDC} \geqslant 1.2\ Vn$.

※: I_P : Rated single pulse current at 8/20us of Varistor must exceed or equal to 1.2 times that of the application circuit pulse current, $I_P \geqslant 1.2\ I_{Pn}$.

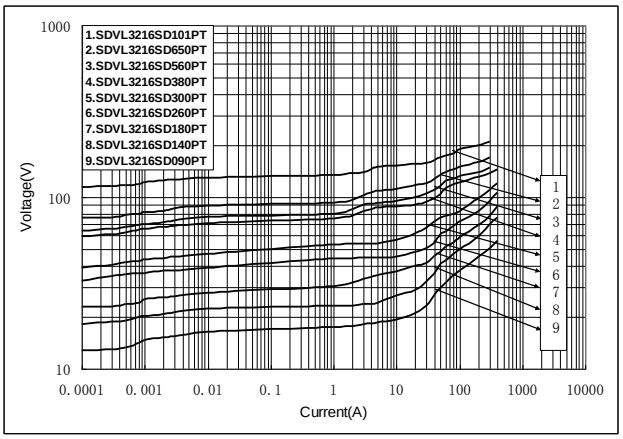
※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 **Tel**: 0086-755-29832660 **Fax**: 0086-755-82269029 **E-Mail**: sunlord@sunlordinc.com

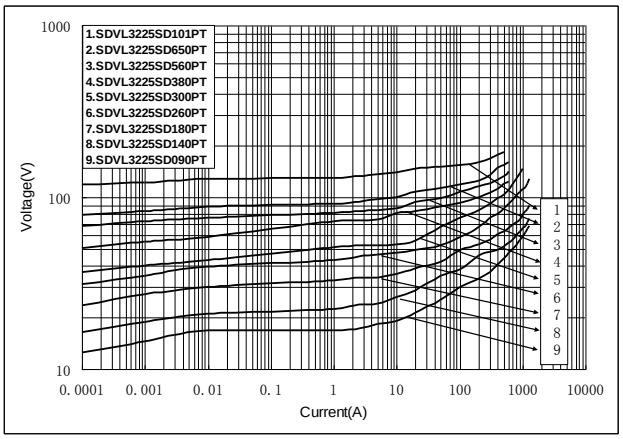
TYPICAL ELECTRICAL CHARACTERISTICS

V/I characteristic curves of chip varistor for voltage surge

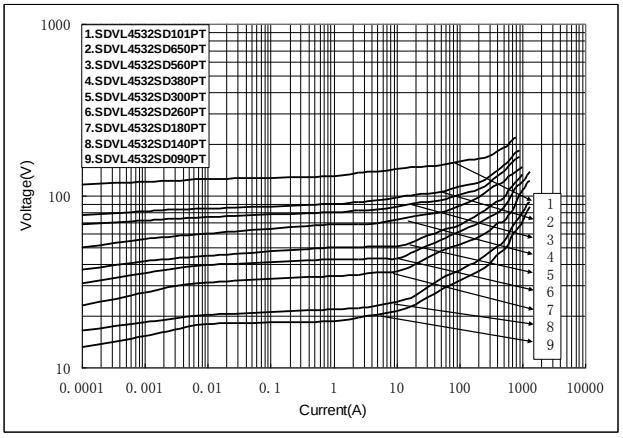
SDVL3216SD series



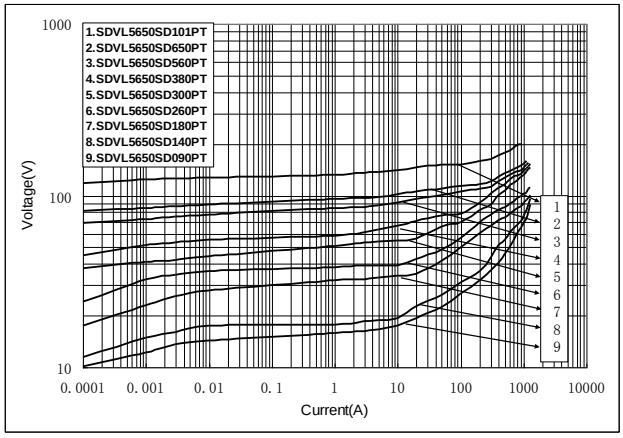
SDVL3225SD series



SDVL4532SD series



SDVL5650SD series



Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 **Tel**: 0086-755-29832660 **Fax**: 0086-755-82269029 **E-Mail**: sunlord@sunlordinc.com