High Surge type multilayer Chip Varistor for Surge Current Suppression-SDVL-HS Series

Operating Temp. : -55℃~+125℃

FEATURES

- SMD type, small size suitable for high density mounting
- High surge 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, base station.
- Industrial instrument, smart meters, etc.

PRODUCT IDENTIFICATION

SDVL	5650	S	D	480	P	T	HS	901
①	②	③	④	⑤	⑥	⑦	⑧	⑨

①

Type	
SDVL	Chip Varistor for Voltage Surge Suppression

②

External Dimensions (L×W) (mm)	
1608 [0603]	1.6×0.8
2016 [0806]	2.2×1.6
3216 [1206]	3.2×1.6
3225 [1210]	3.2×2.5
4532 [1812]	4.5×3.2
5650 [2220]	5.9×5.1

③

Tolerance of Varistor Voltage	
S	Special

④

Type of Working Voltage	
D	DC Working Voltage

⑤

Max. Continuous Working Voltage	
Example	Nominal value
090	9V
140	14V
480	48V

⑥

Terminal Code	
P	Ni, Sn Plating

⑦

Packing	
T	Tape & Reel

⑧

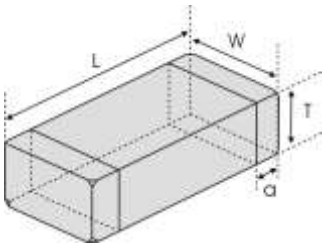
Series Code	
HS	High-surge type

⑨

Peak Surge Current	
Example	Nominal value
300	30A
801	800A
502	5000A

SHAPE AND DIMENSIONS

Unit: mm [inch]



Type	L	W	T	a
SDVL3216 [1206]	3.2±0.2 [.126±.008]	1.6±0.2 [.063±.008]	1.60 Max. [.063]	0.2~0.8 [.008~.031]
SDVL3225 [1210]	3.2+0.6/-0.2 [.126+0.024/-.008]	2.5+0.4/-0.2 [.098+.016/-0.08]	2.6 Max. [.102]	0.25~0.75 [.010~.029]
SDVL4532 [1812]	4.5±0.4 [.177±.016]	3.2±0.3 [.126±.012]	2.5 Max. [.098]	0.25~1.0 [.010~.039]
SDVL5650 [2220]	5.9±0.2 [.232±.008]	5.1±0.2 [.201±.008]	2.6 ±0.2 [.102±.008]	0.40~0.90 [.016~.034]

SPECIFICATIONS

SDVL1608-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<40μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL1608SD090PTHS101	9	6.4	14.0 [11.0-16.0]	30	1.0	0.10	100	60
SDVL1608SD180PTHS101	18	12.7	25.0 [22.0-28.0]	45	1.0	0.10	100	60
SDVL1608SD300PTHS101	30	21.3	42.0 [37.0-46.0]	70	1.0	0.10	100	60
SDVL1608SD380PTHS800	38	30.0	50.0 [46.0-54.0]	80	1.0	0.08	80	50
SDVL1608SD480PTHS600	48	34.1	60.0 [54.0-67.0]	110	1.0	0.08	60	40
SDVL1608SD560PTHS300	56	40.0	68.0 [61.0-75.0]	125	1.0	0.05	30	20
SDVL1608SD600PTHS300	60	46.0	76.0 [69.0-83.0]	130	1.0	0.05	30	20
SDVL1608SD650PTHS300	65	50.0	82.0 [73.0-91.0]	135	1.0	0.05	30	20
SDVL1608SD850PTHS200	85	60.0	100.0 [90.0-110.0]	165	1.0	0.03	20	12
SDVL1608SD101PTHS200	100	75.0	120.0 [108.0-132.0]	200	1.0	0.03	20	12

SDVL2016-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<40μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL2016SD090PTHS401	9	6.4	14.0 [11.0-16.0]	30	5.0	0.5	400	250
SDVL2016SD180PTHS401	18	12.7	25.0 [22.0-28.0]	45	5.0	0.5	400	250
SDVL2016SD300PTHS401	30	21.3	42.0 [37.0-46.0]	70	5.0	0.5	400	250
SDVL2016SD380PTHS401	38	30.0	50.0 [46.0-54.0]	80	5.0	0.7	400	250
SDVL2016SD480PTHS301	48	34.1	60.0 [54.0-67.0]	110	5.0	0.7	300	200
SDVL2016SD560PTHS301	56	40.0	68.0 [61.0-75.0]	125	5.0	0.7	300	200
SDVL2016SD600PTHS301	60	46.0	76.0 [69.0-83.0]	130	5.0	0.7	300	200
SDVL2016SD650PTHS301	65	50.0	82.0 [73.0-91.0]	135	5.0	0.7	300	200
SDVL2016SD850PTHS201	85	60.0	100.0 [90.0-110.0]	165	5.0	0.7	200	120
SDVL2016SD101PTHS201	100	75.0	120.0 [108.0-132.0]	200	5.0	0.7	200	120
SDVL2016SD121PTHS151	125	95.0	150.0 [135.0-165.0]	260	5.0	0.5	150	100
SDVL2016SD151PTHS101	150	115	180.0 [162.0-198.0]	325	5.0	0.5	100	70

SDVL3216-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<40μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL3216SD090PTHS501	9	6.4	14.0 [12.0-16.0]	30	5.0	0.5	500	300
SDVL3216SD180PTHS251	18	12.7	25.0 [22.0-28.0]	45	5.0	0.3	250	150
SDVL3216SD180PTHS501	18	12.7	25.0 [22.0-28.0]	45	5.0	0.5	500	300

SPECIFICATIONS

SDVL3216-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<40μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL3216SD300PTHS201	30	21.3	42.0 [37.0-46.0]	70	5.0	0.4	200	120
SDVL3216SD300PTHS501	30	21.3	42.0 [37.0-46.0]	70	5.0	0.8	500	300
SDVL3216SD380PTHS201	38	30.0	50.0 [46.0-54.0]	80	5.0	0.4	200	120
SDVL3216SD380PTHS501	38	30.0	50.0 [46.0-54.0]	80	5.0	1.0	500	300
SDVL3216SD480PTHS151	48	34.1	60.0 [54.0-67.0]	110	5.0	0.4	150	100
SDVL3216SD480PTHS501	48	34.1	60.0 [54.0-67.0]	110	5.0	1.2	500	300
SDVL3216SD560PTHS151	56	40.0	68.0 [61.0-75.0]	125	5.0	0.4	150	100
SDVL3216SD560PTHS501	56	40.0	68.0 [61.0-75.0]	125	5.0	1.2	500	300
SDVL3216SD600PTHS151	60	46.0	76.0 [69.0-83.0]	130	5.0	0.4	150	100
SDVL3216SD600PTHS501	60	46.0	76.0 [69.0-83.0]	130	5.0	1.2	500	300
SDVL3216SD650PTHS151	65	50.0	82.0 [73.0-91.0]	135	5.0	0.6	150	100
SDVL3216SD650PTHS501	65	50.0	82.0 [73.0-91.0]	135	5.0	1.2	500	300
SDVL3216SD850PTHS151	85	60.0	100.0 [90.0-110.0]	165	5.0	0.6	150	100
SDVL3216SD850PTHS401	85	60.0	100.0 [90.0-110.0]	165	5.0	1.2	400	250
SDVL3216SD101PTHS151	100	75.0	120.0 [108.0-132.0]	200	5.0	0.6	150	100
SDVL3216SD101PTHS401	100	75.0	120.0 [108.0-132.0]	200	5.0	1.2	400	250

SDVL3225-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL3225SD090PTHS401	9	6.4	14.0 [12.0-16.0]	30	5.0	0.5	400	250
SDVL3225SD180PTHS401	18	12.7	25.0 [22.0-28.0]	45	5.0	0.5	400	250
SDVL3225SD180PTHS102	18	12.7	25.0 [22.0-28.0]	45	5.0	1.5	1000	700
SDVL3225SD300PTHS401	30	21.3	42.0 [37.0-46.0]	70	5.0	0.5	400	250
SDVL3225SD300PTHS102	30	21.3	42.0 [37.0-46.0]	70	5.0	2.0	1000	700
SDVL3225SD380PTHS301	38	30.0	50.0 [46.0-54.0]	80	5.0	0.8	300	200
SDVL3225SD380PTHS102	38	30.0	50.0 [46.0-54.0]	80	5.0	2.5	1000	700
SDVL3225SD480PTHS301	48	34.1	60.0 [54.0-67.0]	110	5.0	0.8	300	200
SDVL3225SD480PTHS102	48	34.1	60.0 [54.0-67.0]	110	5.0	3.0	1000	700
SDVL3225SD560PTHS301	56	40.0	68.0 [61.0-75.0]	125	5.0	1.0	300	200
SDVL3225SD560PTHS122	56	40.0	68.0 [61.0-75.0]	125	5.0	4.0	1200	800
SDVL3225SD600PTHS301	60	46.0	76.0 [69.0-83.0]	130	5.0	1.0	300	200
SDVL3225SD600PTHS801	60	46.0	76.0 [69.0-83.0]	130	5.0	4.0	800	500
SDVL3225SD600PTHS122	60	46.0	76.0 [69.0-83.0]	130	5.0	4.0	1200	800
SDVL3225SD650PTHS301	65	50.0	82.0 [73.0-91.0]	135	5.0	1.6	300	200
SDVL3225SD650PTHS122	65	50.0	82.0 [73.0-91.0]	135	5.0	4.0	1200	800
SDVL3225SD850PTHS201	85	60.0	100.0 [90.0-110.0]	165	5.0	0.7	200	140
SDVL3225SD850PTHS401	85	60.0	100.0 [90.0-110.0]	165	5.0	1.6	400	250

SPECIFICATIONS

SDVL3225-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL3225SD850PTHS152	85	60.0	100.0 [90.0-110.0]	165	5.0	5.0	1500	1000
SDVL3225SD101PTHS201	100	75.0	120.0 [108.0-132.0]	200	5.0	1.0	200	140
SDVL3225SD101PTHS102	100	75.0	120.0 [108.0-132.0]	200	5.0	5.0	1000	700

SDVL4532-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL4532SD090PTHS801	9	6.4	14.0 [12.0-16.0]	30	5.0	0.5	800	500
SDVL4532SD180PTHS801	18	12.7	25.0 [22.0-28.0]	45	5.0	0.5	800	500
SDVL4532SD180PTHS202	18	12.7	25.0 [22.0-28.0]	45	5.0	1.3	2000	1200
SDVL4532SD300PTHS801	30	21.3	42.0 [37.0-46.0]	70	5.0	0.7	800	500
SDVL4532SD300PTHS202	30	21.3	42.0 [37.0-46.0]	70	5.0	2.0	2000	1200
SDVL4532SD380PTHS801	38	30.0	50.0 [46.0-54.0]	80	5.0	1.0	800	500
SDVL4532SD380PTHS202	38	30.0	50.0 [46.0-54.0]	80	5.0	2.5	2000	1200
SDVL4532SD480PTHS601	48	34.1	60.0 [54.0-67.0]	110	5.0	1.1	600	400
SDVL4532SD480PTHS202	48	34.1	60.0 [54.0-67.0]	110	5.0	3.0	2000	1200
SDVL4532SD560PTHS601	56	40.0	68.0 [61.0-75.0]	125	5.0	1.1	600	400
SDVL4532SD560PTHS202	56	40.0	68.0 [61.0-75.0]	125	5.0	3.5	2000	1200
SDVL4532SD600PTHS601	60	46.0	76.0 [69.0-83.0]	130	5.0	1.1	600	400
SDVL4532SD600PTHS202	60	46.0	76.0 [69.0-83.0]	130	5.0	3.0	2000	1200
SDVL4532SD650PTHS601	65	50.0	82.0 [73.0-91.0]	135	5.0	1.5	600	400
SDVL4532SD650PTHS302	65	50.0	82.0 [73.0-91.0]	135	5.0	7.5	3000	1800
SDVL4532SD850PTHS501	85	60.0	100.0 [90.0-110.0]	165	5.0	2.0	500	300
SDVL4532SD850PTHS152	85	60.0	100.0 [90.0-110.0]	165	5.0	7.0	1500	1000
SDVL4532SD101PTHS501	100	75.0	120.0 [108.0-132.0]	200	5.0	2.0	500	300
SDVL4532SD090PTHS801	9	6.4	14.0 [12.0-16.0]	30	5.0	0.5	800	500
SDVL4532SD180PTHS801	18	12.7	25.0 [22.0-28.0]	45	5.0	0.5	800	500
SDVL4532SD180PTHS202	18	12.7	25.0 [22.0-28.0]	45	5.0	1.3	2000	1200

SPECIFICATIONS

SDVL5650-HS TYPE

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		
Test Condition	<30μA		@1mA DC	8/20μs		Energy 10/1000μs	Peak Current 8/20μs	Nominal Current 8/20μs
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Amps	Joules	Amps	Amps
Symbol	V_{WDC}	V_{WAC}	V_B	V_C	I_C	E_T	I_P	In
SDVL5650SD090PTHS122	9	6.4	14.0 [12.0-16.0]	30	10.0	1.5	1200	800
SDVL5650SD180PTHS122	18	12.7	25.0 [22.0-28.0]	45	10.0	1.5	1200	800
SDVL5650SD180PTHS302	18	12.7	25.0 [22.0-28.0]	45	10.0	4.0	3000	2000
SDVL5650SD300PTHS122	30	21.3	42.0 [37.0-46.0]	70	10.0	2.6	1200	800
SDVL5650SD300PTHS302	30	21.3	42.0 [37.0-46.0]	70	10.0	7.0	3000	2000
SDVL5650SD380PTHS122	38	30.0	50.0 [46.0-54.0]	80	10.0	2.6	1200	800
SDVL5650SD380PTHS302	38	30.0	50.0 [46.0-54.0]	80	10.0	8.0	3000	2000
SDVL5650SD380PTHS502	38	30.0	50.0 [46.0-54.0]	80	10.0	10.0	5000	3000
SDVL5650SD380PTHS802	38	30.0	50.0 [46.0-54.0]	80	10.0	16.0	8000	5000
SDVL5650SD480PTHS901	48	34.1	60.0 [54.0-67.0]	110	10.0	3.0	900	600
SDVL5650SD480PTHS302	48	34.1	60.0 [54.0-67.0]	110	10.0	10.0	3000	2000
SDVL5650SD560PTHS901	56	40.0	68.0 [61.0-75.0]	125	10.0	3.0	900	600
SDVL5650SD560PTHS502	56	40.0	68.0 [61.0-75.0]	125	10.0	17.0	5000	3000
SDVL5650SD600PTHS901	60	46.0	76.0 [69.0-83.0]	130	10.0	2.7	900	600
SDVL5650SD600PTHS502	60	46.0	76.0 [69.0-83.0]	130	10.0	15.0	5000	3000
SDVL5650SD650PTHS901	65	50.0	82.0 [73.0-91.0]	135	10.0	3.0	900	600
SDVL5650SD650PTHS302	65	50.0	82.0 [73.0-91.0]	135	10.0	10.0	3000	2000
SDVL5650SD650PTHS502	65	50.0	82.0 [73.0-91.0]	135	10.0	18.0	5000	3000
SDVL5650SD850PTHS801	85	60.0	100.0 [90.0-110.0]	165	10.0	4.0	800	500
SDVL5650SD850PTHS452	85	60.0	100.0 [90.0-110.0]	165	10.0	21.0	4500	3000
SDVL5650SD101PTHS801	100	75.0	120.0 [108.0-132.0]	200	10.0	4.0	800	500
SDVL5650SD101PTHS402	100	75.0	120.0 [108.0-132.0]	200	10.0	21.0	4000	2500
SDVL5650SD121PTHS202	125	95.0	150.0 [135.0-165.0]	260	5.0	12.0	2000	1200
SDVL5650SD151PTHS152	150	115	180.0 [162.0-198.0]	325	5.0	12.0	1500	1000

Lightning protection and voltage surge suppression for Power supply, Network Interface, LED lighting.

- Lightning protection and voltage surge suppression for security system, base station.
- Industrial instrument, smart meters, etc.