

# Wire Wound SMD Power Inductors – SWRH – DS Series



Operating temperature:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (Including self-heating)

## FEATURES

- ◆ High saturation current, low DCR
- ◆ Suitable for surface mounting equipment
- ◆ Close magnetic circuit design reduce leakage

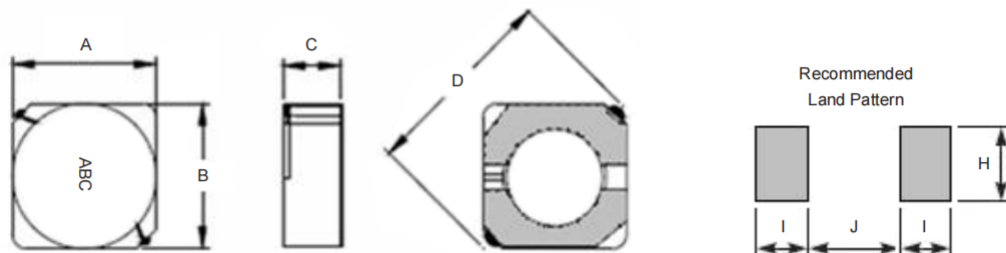
## APPLICATIONS

- ◆ Power supply choke for small electrical equipments such as DVC, LCD display, notebook, communication equipment, OA equipment and so on.

## PRODUCT IDENTIFICATION

1	2	3	4	5	6												
<b>SWRH</b>	<b>3D16</b>	<b>S</b>	<b>-1R5</b>	<b>N</b>	<b>T</b>												
<b>1</b> Type SWRH Wire Wound SMD Type Power Inductors (With Metallic Base)		<b>2</b> External Dimensions 3D16~6D38		<b>3</b> Configuration S S Type Base													
<b>4</b> Nominal Inductance <table border="1"> <thead> <tr> <th>Example</th> <th>Nominal Value</th> </tr> </thead> <tbody> <tr> <td>1R5</td> <td>1.5<math>\mu\text{H}</math></td> </tr> <tr> <td>100</td> <td>10<math>\mu\text{H}</math></td> </tr> <tr> <td>101</td> <td>100<math>\mu\text{H}</math></td> </tr> </tbody> </table>		Example	Nominal Value	1R5	1.5 $\mu\text{H}$	100	10 $\mu\text{H}$	101	100 $\mu\text{H}$	<b>5</b> Inductance Tolerance <table border="1"> <tbody> <tr> <td>M</td> <td><math>\pm 20\%</math></td> </tr> <tr> <td>N</td> <td><math>\pm 30\%</math></td> </tr> </tbody> </table>		M	$\pm 20\%$	N	$\pm 30\%$	<b>6</b> Packing T Tape Carrier Package	
Example	Nominal Value																
1R5	1.5 $\mu\text{H}$																
100	10 $\mu\text{H}$																
101	100 $\mu\text{H}$																
M	$\pm 20\%$																
N	$\pm 30\%$																

## SHAPE AND DIMENSIONS



Series	A max.	B max.	C max.	D typ.	I typ.	J typ.	H typ.
SWRH3D16S	4.2	4.2	1.8	5.5	1.7	1.1	4.5
SWRH3D18S	4.2	4.2	2.1	5.5	1.7	1.1	4.5
SWRH3D28S	4.2	4.2	3.2	5.5	1.7	1.1	4.5
SWRH4D18S	5.0	5.0	2.0	6.9	1.9	1.5	5.3
SWRH4D28S	5.0	5.0	3.0	6.9	1.9	1.5	5.3
SWRH5D18S	6.0	6.0	2.0	8.2	2.1	2.0	6.3
SWRH5D28S	6.0	6.0	3.0	8.2	2.1	2.0	6.3
SWRH6D28S	7.0	7.0	3.0	9.5	2.6	2.0	7.3
SWRH6D38S	7.0	7.0	4.0	9.5	2.6	2.0	7.3

Unit: mm

**SPECIFICATIONS** SWRH3D16S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH3D16S-1R0NT	1.0 $\pm$ 30%	100k, 0.3V	0.049	2.70
SWRH3D16S-1R5NT	1.5 $\pm$ 30%	100k, 0.3V	0.052	1.35
SWRH3D16S-2R2NT	2.2 $\pm$ 30%	100k, 0.3V	0.072	1.20
SWRH3D16S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.085	1.10
SWRH3D16S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.105	0.90
SWRH3D16S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.170	0.73
SWRH3D16S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.190	0.66
SWRH3D16S-100MT	10 $\pm$ 20%	1k, 0.3V	0.210	0.55
SWRH3D16S-150MT	15 $\pm$ 20%	1k, 0.3V	0.295	0.45
SWRH3D16S-220MT	22 $\pm$ 20%	1k, 0.3V	0.430	0.40
SWRH3D16S-330MT	33 $\pm$ 20%	1k, 0.3V	0.660	0.32

## SWRH3D18S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH3D18S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.088	1.45
SWRH3D18S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.107	1.35
SWRH3D18S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.150	1.10
SWRH3D18S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.185	1.00
SWRH3D18S-100MT	10 $\pm$ 20%	1k, 0.3V	0.205	0.90
SWRH3D18S-150MT	15 $\pm$ 20%	1k, 0.3V	0.301	0.75
SWRH3D18S-220MT	22 $\pm$ 20%	1k, 0.3V	0.424	0.60
SWRH3D18S-330MT	33 $\pm$ 20%	1k, 0.3V	0.640	0.45
SWRH3D18S-470MT	47 $\pm$ 20%	1k, 0.3V	0.964	0.35

## SWRH3D28S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH3D28S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.072	2.00
SWRH3D28S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.088	1.65
SWRH3D28S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.119	1.24
SWRH3D28S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.132	1.15
SWRH3D28S-100MT	10 $\pm$ 20%	1k, 0.3V	0.145	1.05
SWRH3D28S-150MT	15 $\pm$ 20%	1k, 0.3V	0.213	0.90
SWRH3D28S-220MT	22 $\pm$ 20%	1k, 0.3V	0.335	0.76
SWRH3D28S-330MT	33 $\pm$ 20%	1k, 0.3V	0.481	0.58
SWRH3D28S-470MT	47 $\pm$ 20%	1k, 0.3V	0.599	0.48

## SWRH4D18S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH4D18S-1R0NT	1.0 $\pm$ 30%	100k, 0.3V	0.045	1.72
SWRH4D18S-2R2NT	2.2 $\pm$ 30%	100k, 0.3V	0.075	1.32
SWRH4D18S-2R7NT	2.7 $\pm$ 30%	100k, 0.3V	0.105	1.28
SWRH4D18S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.110	1.04
SWRH4D18S-3R9NT	3.9 $\pm$ 30%	100k, 0.3V	0.155	0.88
SWRH4D18S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.162	0.84
SWRH4D18S-5R6NT	5.6 $\pm$ 30%	100k, 0.3V	0.170	0.80
SWRH4D18S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.190	0.76
SWRH4D18S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.195	0.68
SWRH4D18S-100MT	10 $\pm$ 20%	1k, 0.3V	0.200	0.61

## SPECIFICATIONS SWRH4D18S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH4D18S-120MT	12 $\pm$ 20%	1k, 0.3V	0.210	0.56
SWRH4D18S-150MT	15 $\pm$ 20%	1k, 0.3V	0.240	0.50
SWRH4D18S-180MT	18 $\pm$ 20%	1k, 0.3V	0.338	0.48
SWRH4D18S-220MT	22 $\pm$ 20%	1k, 0.3V	0.397	0.41
SWRH4D18S-270MT	27 $\pm$ 20%	1k, 0.3V	0.441	0.35
SWRH4D18S-330MT	33 $\pm$ 20%	1k, 0.3V	0.694	0.32
SWRH4D18S-390MT	39 $\pm$ 20%	1k, 0.3V	0.709	0.30
SWRH4D18S-470MT	47 $\pm$ 20%	1k, 0.3V	0.922	0.28
SWRH4D18S-560MT	56 $\pm$ 20%	1k, 0.3V	1.080	0.26
SWRH4D18S-680MT	68 $\pm$ 20%	1k, 0.3V	1.300	0.24
SWRH4D18S-820MT	82 $\pm$ 20%	1k, 0.3V	1.560	0.22
SWRH4D18S-101MT	100 $\pm$ 20%	1k, 0.3V	1.730	0.20
SWRH4D18S-121MT	120 $\pm$ 20%	1k, 0.3V	2.390	0.18
SWRH4D18S-151MT	150 $\pm$ 20%	1k, 0.3V	2.670	0.15

## SWRH4D28S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH4D28S-1R0NT	1.0 $\pm$ 30%	100k, 0.3V	0.022	2.60
SWRH4D28S-1R2NT	1.2 $\pm$ 30%	100k, 0.3V	0.024	2.56
SWRH4D28S-2R2NT	2.2 $\pm$ 30%	100k, 0.3V	0.031	2.04
SWRH4D28S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.049	1.57
SWRH4D28S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.072	1.32
SWRH4D28S-5R6NT	5.6 $\pm$ 30%	100k, 0.3V	0.101	1.17
SWRH4D28S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.108	1.12
SWRH4D28S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.118	1.04
SWRH4D28S-100MT	10 $\pm$ 20%	1k, 0.3V	0.128	1.00
SWRH4D28S-120MT	12 $\pm$ 20%	1k, 0.3V	0.132	0.84
SWRH4D28S-150MT	15 $\pm$ 20%	1k, 0.3V	0.149	0.76
SWRH4D28S-180MT	18 $\pm$ 20%	1k, 0.3V	0.165	0.72
SWRH4D28S-220MT	22 $\pm$ 20%	1k, 0.3V	0.235	0.70
SWRH4D28S-330MT	33 $\pm$ 20%	1k, 0.3V	0.331	0.56
SWRH4D28S-390MT	39 $\pm$ 20%	1k, 0.3V	0.384	0.50
SWRH4D28S-470MT	47 $\pm$ 20%	1k, 0.3V	0.587	0.48
SWRH4D28S-560MT	56 $\pm$ 20%	1k, 0.3V	0.624	0.41
SWRH4D28S-680MT	68 $\pm$ 20%	1k, 0.3V	0.699	0.35
SWRH4D28S-820MT	82 $\pm$ 20%	1k, 0.3V	0.915	0.32
SWRH4D28S-101MT	100 $\pm$ 20%	1k, 0.3V	1.020	0.29
SWRH4D28S-121MT	120 $\pm$ 20%	1k, 0.3V	1.270	0.27
SWRH4D28S-151MT	150 $\pm$ 20%	1k, 0.3V	1.350	0.24

## SWRH5D18S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH5D18S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.053	2.00
SWRH5D18S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.060	1.90
SWRH5D18S-5R6NT	5.6 $\pm$ 30%	100k, 0.3V	0.076	1.60
SWRH5D18S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.105	1.40
SWRH5D18S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.117	1.30
SWRH5D18S-100MT	10 $\pm$ 20%	1k, 0.3V	0.124	1.20

**SPECIFICATIONS** SWRH5D18S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH5D18S-120MT	12 $\pm$ 20%	1k, 0.3V	0.153	1.10
SWRH5D18S-180MT	18 $\pm$ 20%	1k, 0.3V	0.210	0.85
SWRH5D18S-220MT	22 $\pm$ 20%	1k, 0.3V	0.290	0.80
SWRH5D18S-270MT	27 $\pm$ 20%	1k, 0.3V	0.330	0.75
SWRH5D18S-330MT	33 $\pm$ 20%	1k, 0.3V	0.386	0.65
SWRH5D18S-390MT	39 $\pm$ 20%	1k, 0.3V	0.520	0.57
SWRH5D18S-470MT	47 $\pm$ 20%	1k, 0.3V	0.595	0.54
SWRH5D18S-560MT	56 $\pm$ 20%	1k, 0.3V	0.665	0.50
SWRH5D18S-680MT	68 $\pm$ 20%	1k, 0.3V	0.840	0.43
SWRH5D18S-820MT	82 $\pm$ 20%	1k, 0.3V	0.978	0.41
SWRH5D18S-101MT	100 $\pm$ 20%	1k, 0.3V	1.200	0.36
SWRH5D18S-121MT	120 $\pm$ 20%	1k, 0.3V	1.500	0.33
SWRH5D18S-151MT	150 $\pm$ 20%	1k, 0.3V	1.710	0.31

## SWRH5D28S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH5D28S-2R2NT	2.2 $\pm$ 30%	100k, 0.3V	0.017	2.60
SWRH5D28S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.029	2.40
SWRH5D28S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.039	2.10
SWRH5D28S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.048	1.85
SWRH5D28S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.057	1.58
SWRH5D28S-100MT	10 $\pm$ 20%	1k, 0.3V	0.065	1.30
SWRH5D28S-120MT	12 $\pm$ 20%	1k, 0.3V	0.076	1.20
SWRH5D28S-180MT	18 $\pm$ 20%	1k, 0.3V	0.110	1.00
SWRH5D28S-220MT	22 $\pm$ 20%	1k, 0.3V	0.122	0.90
SWRH5D28S-330MT	33 $\pm$ 20%	1k, 0.3V	0.189	0.75
SWRH5D28S-470MT	47 $\pm$ 20%	1k, 0.3V	0.250	0.62
SWRH5D28S-560MT	56 $\pm$ 20%	1k, 0.3V	0.305	0.58
SWRH5D28S-680MT	68 $\pm$ 20%	1k, 0.3V	0.355	0.52
SWRH5D28S-820MT	82 $\pm$ 20%	1k, 0.3V	0.463	0.46
SWRH5D28S-101MT	100 $\pm$ 20%	1k, 0.3V	0.520	0.42
SWRH5D28S-121MT	120 $\pm$ 20%	1k, 0.3V	0.560	0.40
SWRH5D28S-151MT	150 $\pm$ 20%	1k, 0.3V	0.680	0.35
SWRH5D28S-181MT	180 $\pm$ 20%	1k, 0.3V	0.930	0.32
SWRH5D28S-221MT	220 $\pm$ 20%	1k, 0.3V	1.150	0.30
SWRH5D28S-271MT	270 $\pm$ 20%	1k, 0.3V	1.560	0.27
SWRH5D28S-331MT	330 $\pm$ 20%	1k, 0.3V	1.980	0.25

## SWRH6D28S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH6D28S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.026	2.80
SWRH6D28S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.031	2.40
SWRH6D28S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.042	2.20
SWRH6D28S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.055	1.95
SWRH6D28S-100MT	10 $\pm$ 20%	1k, 0.3V	0.065	1.70
SWRH6D28S-150MT	15 $\pm$ 20%	1k, 0.3V	0.084	1.40
SWRH6D28S-180MT	18 $\pm$ 20%	1k, 0.3V	0.095	1.32
SWRH6D28S-220MT	22 $\pm$ 20%	1k, 0.3V	0.128	1.20
SWRH6D28S-330MT	33 $\pm$ 20%	1k, 0.3V	0.165	0.97
SWRH6D28S-470MT	47 $\pm$ 20%	1k, 0.3V	0.238	0.80

## SPECIFICATIONS SWRH6D28S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH6D28S-560MT	56 $\pm$ 20%	1k, 0.3V	0.277	0.73
SWRH6D28S-680MT	68 $\pm$ 20%	1k, 0.3V	0.304	0.65
SWRH6D28S-820MT	82 $\pm$ 20%	1k, 0.3V	0.390	0.60
SWRH6D28S-101MT	100 $\pm$ 20%	1k, 0.3V	0.535	0.54
SWRH6D28S-121MT	120 $\pm$ 20%	1k, 0.3V	0.750	0.51
SWRH6D28S-151MT	150 $\pm$ 20%	1k, 0.3V	0.950	0.47
SWRH6D28S-181MT	180 $\pm$ 20%	1k, 0.3V	1.200	0.41
SWRH6D28S-221MT	220 $\pm$ 20%	1k, 0.3V	1.500	0.37
SWRH6D28S-271MT	270 $\pm$ 20%	1k, 0.3V	1.700	0.33
SWRH6D28S-331MT	330 $\pm$ 20%	1k, 0.3V	2.150	0.28
SWRH6D28S-391MT	390 $\pm$ 20%	1k, 0.3V	2.750	0.23
SWRH6D28S-471MT	470 $\pm$ 20%	1k, 0.3V	3.000	0.21
SWRH6D28S-681MT	680 $\pm$ 20%	1k, 0.3V	5.150	0.20
SWRH6D28S-102MT	1000 $\pm$ 20%	1k, 0.3V	8.970	0.14

## SWRH6D38S TYPE

Part Number	Inductance	L Test Condition	Max. DC Resistance	Max. Rated Current
Units	$\mu\text{H}$	Hz, V	$\Omega$	A
Symbol	L	-	DCR	$I_r$
SWRH6D38S-1R5NT	1.5 $\pm$ 30%	100k, 0.3V	0.015	5.20
SWRH6D38S-2R2NT	2.2 $\pm$ 30%	100k, 0.3V	0.018	4.50
SWRH6D38S-3R3NT	3.3 $\pm$ 30%	100k, 0.3V	0.020	3.50
SWRH6D38S-4R7NT	4.7 $\pm$ 30%	100k, 0.3V	0.025	2.80
SWRH6D38S-6R8NT	6.8 $\pm$ 30%	100k, 0.3V	0.029	2.40
SWRH6D38S-8R2NT	8.2 $\pm$ 30%	100k, 0.3V	0.034	2.20
SWRH6D38S-100MT	10 $\pm$ 20%	1k, 0.3V	0.038	2.00
SWRH6D38S-120MT	12 $\pm$ 20%	1k, 0.3V	0.053	1.70
SWRH6D38S-150MT	15 $\pm$ 20%	1k, 0.3V	0.057	1.60
SWRH6D38S-180MT	18 $\pm$ 20%	1k, 0.3V	0.092	1.50
SWRH6D38S-220MT	22 $\pm$ 20%	1k, 0.3V	0.096	1.30
SWRH6D38S-270MT	27 $\pm$ 20%	1k, 0.3V	0.109	1.20
SWRH6D38S-330MT	33 $\pm$ 20%	1k, 0.3V	0.124	1.10
SWRH6D38S-390MT	39 $\pm$ 20%	1k, 0.3V	0.138	1.00
SWRH6D38S-470MT	47 $\pm$ 20%	1k, 0.3V	0.155	0.95
SWRH6D38S-560MT	56 $\pm$ 20%	1k, 0.3V	0.202	0.85
SWRH6D38S-680MT	68 $\pm$ 20%	1k, 0.3V	0.234	0.75
SWRH6D38S-820MT	82 $\pm$ 20%	1k, 0.3V	0.324	0.70
SWRH6D38S-101MT	100 $\pm$ 20%	1k, 0.3V	0.358	0.65
SWRH6D38S-121MT	120 $\pm$ 20%	1k, 0.3V	0.470	0.59
SWRH6D38S-151MT	150 $\pm$ 20%	1k, 0.3V	0.580	0.54
SWRH6D38S-181MT	180 $\pm$ 20%	1k, 0.3V	0.690	0.49
SWRH6D38S-221MT	220 $\pm$ 20%	1k, 0.3V	0.890	0.43
SWRH6D38S-271MT	270 $\pm$ 20%	1k, 0.3V	1.290	0.40
SWRH6D38S-331MT	330 $\pm$ 20%	1k, 0.3V	1.700	0.37
SWRH6D38S-391MT	390 $\pm$ 20%	1k, 0.3V	1.750	0.34
SWRH6D38S-471MT	470 $\pm$ 20%	1k, 0.3V	2.200	0.32
SWRH6D38S-561MT	560 $\pm$ 20%	1k, 0.3V	2.850	0.29
SWRH6D38S-821MT	820 $\pm$ 20%	1k, 0.3V	4.050	0.22
SWRH6D38S-102MT	1000 $\pm$ 20%	1k, 0.3V	5.700	0.20