



# **SDSH 型贴片功率电感器规格书**

## **THE STANDARD STYLE BOOK OF CHIP POWER INDUCTORS (MODEL SDSH)**

内蒙古鄂尔多斯电子有限责任公司

INNER MONGOLIA ERDOS ELECTRONIC CO., LTD

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■ 特点和用途 FEATURES AND APPLICATIONS

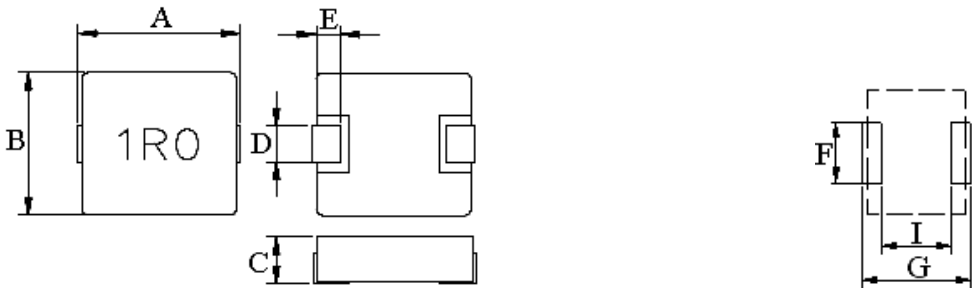
1.特点 FEATURES: 低阻, 大电流。金属磁粉结构, 高饱和电流。宽频域, 符合 RoHS 要求。  
Super low resistance, ultra high current rating. High performance (I sat) realized by metal dust core.  
Frequency Range: up to 1MHz. RoHS compliant.

2.用途 APPLICATIONS: 用于 PDA, 笔记本电脑, 台式机, 服务器, 高电流电源, 电池供电设备, 直流/直流转换器。  
PDA, notebook, desktop, and server applications.Low profile, high current power supplies. Battery powered devices.DC/DC converters in distributed power systems.DC/DC converters for field programmable gate array.

■ 使用温度范围 OPERATING TEMP.

-55℃~+125℃ (包括产品自发热 Including self-generated heat)

■ 外形尺寸 EXTERNAL DIMENSIONS



规格 Part No.	A(Max)	B(Max)	C(Max)	D	E	F	I	G
SDSH 0415	4.9	4.4	1.5	1.5±0.5	1.0±0.3	2.3	2.16	4.95
SDSH 0402	4.9	4.4	2.0	1.5±0.5	1.0±0.3	2.3	2.16	4.95
SDSH 0502	5.9	4.4	2.0	2.0±0.5	1.0±0.3	2.5	3.0	7.0
SDSH 0503	5.9	5.2	3.0	2.0±0.5	1.0±0.3	2.5	3.0	7.0
SDSH 0506	5.9	5.2	6.0	2.0±0.5	1.2±0.5	2.5	3.0	7.0
SDSH 0618	7.8	7.0	1.8	3.0±0.3	1.5±0.5	3.43	3.71	7.37
SDSH 0602	7.8	7.0	2.0	3.0±0.3	1.5±0.5	3.43	3.71	7.37
SDSH 0603	7.8	7.0	3.0	3.0±0.3	1.5±0.5	3.43	3.71	7.37
SDSH 0604	7.8	7.0	4.0	3.0±0.3	1.5±0.5	3.43	3.71	7.37
SDSH 0605	7.8	7.0	5.0	3.0±0.3	1.5±0.5	3.43	3.71	7.37
SDSH 1004	11.8	10.8	4.0	3.0±0.5	2.0±0.5	4.1	5.4	13.6
SDSH 1205	14.5	13.0	5.0	3.5±0.5	2.5±0.5	4.5	8.0	14.5
SDSH 1265	14.5	13.0	6.5	3.5±0.5	2.5±0.5	4.5	8.0	14.5
SDSH 1310	14.5	13.0	6.5	5.0±0.3	2.5±0.5	4.5	8.0	14.5

## ■ 产品的型号 Type Designation

<u>SDSH</u>	<u>0603</u>	<u>T -</u>	<u>2R2</u>	<u>M</u>
(1)	(2)	(3)	(4)	(5)

(1) 产品型号 Type

(2) 产品外形尺寸 External dimensions

(3) 包装类型 Packing style: 卷盘带装 Tape & Reel

(4) 标称电感值 Nominal inductance (  $\mu$  H )

(5) 电感量公差 Inductance tolerance

## ■ 电气特性及参数表 Electrical characteristics

规格 Part No.	标称电感值 Lo( $\mu$ H)	直流电阻值 DCR(m $\Omega$ )		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0415-1R0M	1.0	35	45	3.5	5
SDSH0415-1R5M	1.5	46	63	3	4.5
SDSH0415-2R2M	2.2	76	100	2.75	3

规格 Part No.	标称电感值 Lo( $\mu$ H)	直流电阻值 DCR(m $\Omega$ )		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0402-R22M	0.22	6.2	8	9	12
SDSH0402-R36M	0.36	8.6	15	7	10
SDSH0402-R47M	0.47	10	14	6	9
SDSH0402-R56M	0.56	14	18	5	8
SDSH0402-1R0M	1.0	25	27	4.5	7
SDSH0402-1R5M	1.5	32	45	4	6
SDSH0402-2R2M	2.2	47	58	3	4
SDSH0402-3R3M	3.3	78	87	2	3
SDSH0402-4R7M	4.7	105	150	2	3
SDSH0402-100M	10	170	200	1.5	1.8

规格 Part No.	标称电感值 Lo( $\mu$ H)	直流电阻值 DCR(m $\Omega$ )		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0502-1R0M	1.0	13	17	6	8
SDSH0502-1R5M	1.5	21	25	5	7
SDSH0502-2R2M	2.2	31	45	4	6
SDSH0502-3R3M	3.3	53	80	3.5	5
SDSH0502-4R7M	4.7	66	85	3	3.5
SDSH0502-6R8M	6.8	93	100	2	3
SDSH0502-100M	10	170	190	1.5	2.5

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH0503-1R0M	1.0	14	16	6	8
SDSH0503-1R5M	1.5	17	22	4.5	7
SDSH0503-2R2M	2.2	28	35	4	6.5
SDSH0503-3R3M	3.3	31	38	3.5	6
SDSH0503-4R7M	4.7	71.8	85	3	4.5
SDSH0503-100M	10	92	100	2	2.8

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH0506-220M	22.0	122	140	1.5	2

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH0618-1R0M	1.0	17	22	7	14
SDSH0618-2R2M	2.2	30	35	4	9
SDSH0618-3R3M	3.3	62	68	3.5	8
SDSH0618-4R7M	4.7	67	78	3.5	5
SDSH0618-5R6M	5.6	99	137	2.8	3.8
SDSH0618-6R8M	6.8	99	137	2.8	3.5
SDSH0618-100M	10.0	99	137	2	3

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH0602-1R0M	1.0	17	20	7	14
SDSH0602-2R2M	2.2	25	37	6	10
SDSH0602-3R3M	3.3	50	64	3.3	7
SDSH0602-4R7M	4.7	64	70	3	5
SDSH0602-6R8M	6.8	85	115	3	4
SDSH0602-100M	10.0	92	120	2.8	3.5

规格 Part No.	标称电感值 Lo( $\mu$ H)	直流电阻值 DCR(m $\Omega$ )		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0603-R22M	0.22	2.7	3.5	20	40
SDSH0603-R33M	0.33	3.2	3.9	20	30
SDSH0603-R47M	0.47	3.2	4.5	17.5	25
SDSH0603-R56M	0.56	4.7	5.5	15.5	24
SDSH0603-R68M	0.68	4.6	5.5	15.5	23
SDSH0603-R82M	0.82	6.5	8	13	20
SDSH0603-1R0M	1.0	7.5	9	11	16
SDSH0603-1R5M	1.5	11	16	9	18
SDSH0603-2R2M	2.2	15	20	8	12
SDSH0603-3R3M	3.3	28	30	6	10
SDSH0603-4R7M	4.7	38	40	5.5	9
SDSH0603-5R6M	5.6	50	60	5	7
SDSH0603-6R8M	6.8	51	60	4.5	6
SDSH0603-8R2M	8.2	75	80	4	6
SDSH0603-100M	10.0	99	105	3	5.5
SDSH0603-150M	15.0	110	140	2.8	3.5
SDSH0603-220M	22.0	125	167	2.5	3

规格 Part No.	标称电感值 Lo( $\mu$ H)	直流电阻值 DCR(m $\Omega$ )		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0604-R33M	0.33	2.6	3.8	20	30
SDSH0604-R56M	0.56	4.2	4.5	16	25
SDSH0604-R68M	0.68	4.2	5.5	13	20
SDSH0604-1R0M	1.0	7.4	8.5	12	19
SDSH0604-1R5M	1.5	12	15	10	16
SDSH0604-2R2M	2.2	13	18	8.5	14
SDSH0604-3R3M	3.3	17	20	7	13
SDSH0604-4R7M	4.7	23	28	6	8

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH0605-R22M	0.22	2.3	3.5	20	45
SDSH0605-R47M	0.47	3.5	4.5	18	21
SDSH0605-R68M	0.68	5.5	6.5	14	19
SDSH0605-R82M	0.82	6.5	7.5	14	18
SDSH0605-1R0M	1.0	7.0	8.5	13	18
SDSH0605-1R5M	1.5	7.5	9	10	15
SDSH0605-2R2M	2.2	10	12.5	8	12
SDSH0605-3R3M	3.3	16	20.9	7	9
SDSH0605-4R7M	4.7	13	15	5.5	6.5
SDSH0605-6R8M	6.8	26	38	5.0	6
SDSH0605-100M	10.0	51	60	4.5	5.3
SDSH0605-150M	15.0	65	85	2.5	4
SDSH0605-220M	22.0	77	85	2	3
SDSH0605-330M	33.0	184	237	2	2.5
SDSH0605-470M	47.0	193	280	1.9	2.5

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(I <sub>dc</sub> ) DC AMPS1	饱和电流 Saturation current(I <sub>sat</sub> ) DC AMPS2
		Typ.	Max		
SDSH1004-R33M	0.33	1.1	1.4	30	50
SDSH1004-R36M	0.36	1.1	1.4	30	50
SDSH1004-R47M	0.47	1.2	1.8	26	38
SDSH1004-R56M	0.56	1.4	1.8	23	33
SDSH1004-R68M	0.68	2.0	3.0	23	32
SDSH1004-1R0M	1.0	3.58	4.1	18	28
SDSH1004-1R5M	1.5	4.8	5.8	16	27
SDSH1004-2R2M	2.2	7	9	12	24
SDSH1004-3R3M	3.3	10.8	13.5	10	16
SDSH1004-4R7M	4.7	13.7	16.5	8	13
SDSH1004-5R6M	5.6	18.2	25	8	12
SDSH1004-6R8M	6.8	23.5	28	6.5	9
SDSH1004-8R2M	8.2	25	30	5.5	9
SDSH1004-100M	10.0	31	36.5	5	9
SDSH1004-150M	15.0	39	48	4	7
SDSH1004-220M	22.0	55	60	3.5	5
SDSH1004-330M	33.0	137	155	3	4.5
SDSH1004-470M	47.0	132	155	3	3

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH1205-R47M	0.47	1.1	1.5	25	40
SDSH1205-R56M	0.56	1.4	1.7	22	38
SDSH1205-R68M	0.68	1.5	1.8	20	36
SDSH1205-R82M	0.82	2.0	2.5	19	35
SDSH1205-1R0M	1.0	2.4	3.5	18	34
SDSH1205-1R5M	1.5	2.8	4.1	18	34
SDSH1205-2R2M	2.2	3.3	4.5	16	25
SDSH1205-3R3M	3.3	10.2	13	15	22
SDSH1205-4R7M	4.7	13.5	15	12	20
SDSH1205-5R6M	5.6	14.0	17	12	19
SDSH1205-6R8M	6.8	15.4	19	11	18
SDSH1205-8R2M	8.2	18.9	22.5	10	17
SDSH1205-100M	10.0	21.4	25.5	9	13
SDSH1205-150M	15.0	51	60	6	11
SDSH1205-220M	22.0	63	70	4	8
SDSH1205-330M	33.0	70	80	3	6
SDSH1205-470M	47.0	78	90	2.5	5.5
SDSH1205-560M	56.0	143	180	2	4
SDSH1205-680M	68.0	154	210	1.5	3.5

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH1265-R56M	0.56	1.2	1.7	30	60
SDSH1265-R68M	0.68	1.3	1.8	28	54
SDSH1265-R82M	0.82	1.6	2.0	25	50
SDSH1265-1R0M	1.0	1.7	2.5	25	47
SDSH1265-1R5M	1.5	2.5	3.5	22	42
SDSH1265-2R2M	2.2	3.5	4.5	18	38
SDSH1265-3R3M	3.3	5.5	8.2	13	28
SDSH1265-4R7M	4.7	11	14	14	21
SDSH1265-5R6M	5.6	12	15	11	18
SDSH1265-6R8M	6.8	10	13	10	16.5
SDSH1265-8R2M	8.2	17	25	10	16
SDSH1265-100M	10.0	16	25	10	15.5
SDSH1265-150M	15.0	31	38	6	9
SDSH1265-220M	22.0	42	48	5	7.5
SDSH1265-330M	33.0	61	66	4	5.5
SDSH1265-470M	47.0	80	90	3.5	5
SDSH1265-560M	56.0	90	110	3	4
SDSH1265-680M	68.0	92	123	2.5	3

规格 Part No.	标称电感值 Lo(μH)	直流电阻值 DCR(mΩ)		温升电流 Heat rating current(Idc) DC AMPS1	饱和电流 Saturation current(Isat) DC AMPS2
		Typ.	Max		
SDSH1310-100M	10.0	13	15	7	10

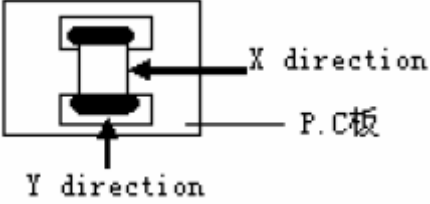
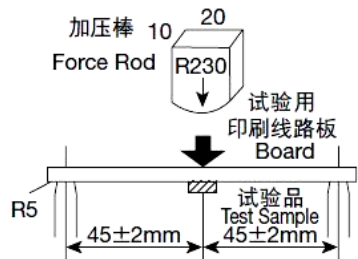
注Notes:

- 1.测试条件 Test Frequency: 100KHz,0.25V。
- 2.温升电流 Idc: 电感器主体温度上升 40℃时施加的直流电流。  
Idc :DC current (A) that will cause an approximate ΔT of 40℃.
- 3.饱和电流 Isat: 电感值自初始值下降 35%时施加的直流电流。  
Isat:DC current (A) that will cause Lo to drop approximately 35%.
- 4.如无特别指定, 测定条件其温度为 25±5℃, 湿度为 65±20%。  
All test data is referenced to 25±5℃ 65±20% ambient.
5. 测试设备 Testing Instrument:  
L :Agilent4284A,WK4235,CH3302/G LCR METER; CH1320,CH1320S BIAS CURRENT SOURCE  
Rdc :CH502BC 电阻值测试仪 MICRO OHMMETER

性能 Performance

项目 Requirements	试验条件 Test method	性能要求 Characteristics																		
高温试验 High TEMP life test	温度: 105±3℃; 放置时间: 500±6Hrs; TEMP. 105±3℃, Load 500±6Hrs.	外观无显著异常; 电感值变化率: ±20%以内; Inductance change : Within ±20%; No significant abnormality in appearance.																		
低温试验 Low TEMP life test	温度: -40±2℃; 放置时间: 500±6Hrs; TEMP. -40±2℃, Load 500±6Hrs	外观无显著异常; 电感值变化率: ±20%以内; Inductance change : Within ±20%; No significant abnormality in appearance.																		
高湿试验 Damp heat	温度: 60±2℃, 相对湿度90~95%RH; 放置时间: 500±6Hrs; TEMP. -40±2℃, Humidity. 90~95%RH, Load 500±6Hrs	外观无显著异常; 电感值变化率: ±20%以内; Inductance change : Within ±20%; No significant abnormality in appearance.																		
热冲击试验 Thermal shock	<p>将试验品焊接到印刷电路板上, 按下表所示 循环步骤, 10个循环</p> <table><tr><th colspan="3">1个循环条件Conditions of 1 cycle</th></tr><tr><th>步骤 Step</th><th>温度 (℃) TEMP</th><th>时间 (min) Duration</th></tr><tr><td>1</td><td>-40±3</td><td>30±3</td></tr><tr><td>2</td><td>常温 Room TEMP</td><td>3以下 Within 3</td></tr><tr><td>3</td><td>+85±2</td><td>30±3</td></tr><tr><td>4</td><td>常温 Room TEMP</td><td>3以下 Within 3</td></tr></table>	1个循环条件Conditions of 1 cycle			步骤 Step	温度 (℃) TEMP	时间 (min) Duration	1	-40±3	30±3	2	常温 Room TEMP	3以下 Within 3	3	+85±2	30±3	4	常温 Room TEMP	3以下 Within 3	外观无显著异常; 电感值变化率: ±20%以内; Inductance change : Within ±20%; No significant abnormality in appearance.
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步骤 Step	温度 (℃) TEMP	时间 (min) Duration																		
1	-40±3	30±3																		
2	常温 Room TEMP	3以下 Within 3																		
3	+85±2	30±3																		
4	常温 Room TEMP	3以下 Within 3																		



<p>端子强度试验 Adhesion of terminal electrode</p>	<p>试验品焊接到试验用印刷电路板上，施加力9.8N(1kg)，施加时间10±2sec，方向：X、Y</p> <p>The test samples shall be soldered to the test board by the reflow.</p> 	<p>外观无显著异常； 电感值变化率：±20%以内； Inductance change : Within ±20%; No significant abnormality in appearance.</p>
<p>耐振性 Resistance to vibration</p>	<p>将产品焊接到印刷电路板上，按下示条件进行测试： 振动频率范围：10~55Hz； 振幅：1.5mm（但加速度不能超过196m/s<sup>2</sup>）； 1个循环：1分钟（10→55→10Hz）； 时间：X、Y、Z方向各2小时</p> <p>The test samples shall be soldered to the test board by the reflow. Then it shall be submitted to below conditions. Frequency Range:10~55Hz; Total Amplitude :1.5mm (May not exceed acceleration 196m/s<sup>2</sup>); Sweeping Method: 10→55→10Hz for 1min Time: For 2 hours on each X, Y, and Z axis.</p>	<p>外观无显著异常； 电感值变化率：±20%以内； Inductance change : Within ±20%; No significant abnormality in appearance.</p>
<p>抗弯强度试验 Resistance to flexure of substrate</p>	<p>将试验品焊接到试验用印刷电路板上，如图所示在印刷电路板上按箭头方向施加荷重，使其弯曲2mm为止。</p> 	<p>外观无显著异常，无破损； 电感值变化率：±20%以内； Inductance change : Within ±20%; No significant abnormality in appearance, No damage.</p>
<p>可焊性试验 Solderability</p>	<p>焊锡温度：250±5℃ 浸渍时间：5±0.5ses 浸渍深度：安装端子面浸入。</p> <p>Solder Temperature:250±5℃ Time: 5±0.5ses All sides of mounting terminal shall be immersed.</p>	<p>端电极新锡覆盖面积达95%以上 At least 95% of surface of terminal electrode is covered by new solder.</p>
<p>耐焊接热试验 Resistance to soldering heat</p>	<p>方法1: 将端子在350±10℃的焊液中浸入4±1秒后常温放置2小时以上 Method 1: Immerse in the solder of 350±10℃ for 4±1sec, load in room Temperature 2 hours.</p> <p>方法 2: 峰值温度 260±5℃保持 20-40 秒回流焊接两遍试验，放置 30 分钟后检测（Per MIL-STD-202F） Method 2: The test sample shall be exposed to reflow with peak temperature at 260±5℃ for 20 to 40 seconds, 2 times. Load in room Temperature 30 min. (Per MIL-STD-202F)</p>	<p>外观无显著异常； 电感值变化率：±20%以内； Inductance change : Within ±20%; No significant abnormality in appearance.</p>

温度特性 Temperature characteristic	<p>在-25℃~+85℃环境温度范围内测试，并以20℃时的值为基准计算得出。</p> <p>步骤1~5中最大电感值偏差变化率：</p> <p>步骤1的温度：20℃</p> <p>步骤2的温度：最低使用温度</p> <p>步骤3的温度：20℃（基准温度）</p> <p>步骤4的温度：最高使用温度</p> <p>步骤5的温度：20℃</p> <p>Measurement of inductance shall be taken at temperature range within -25℃~+85℃.</p> <p>With reference to inductance value at +20℃., change rate shall be calculated.</p> <p>Change of maximum inductance deviation in step 1 to 5:</p> <p>Temperature at step 1: 20℃</p> <p>Temperature at step 2: Minimum operating temperature</p> <p>Temperature at step 3: 20℃ (Standard temperature)</p> <p>Temperature at step 4 :Maximum operating temperature</p> <p>Temperature at step 5 :20℃</p>	<p>外观无显著异常；</p> <p>电感值变化率：±30%以内；</p> <p>Inductance change : Within ±30%;</p> <p>No significant abnormality in appearance.</p>
跌落试验 Dropping	<p>1m 高/木质地板或水泥地板，三次。</p> <p>Dropping 1m over the ground of concrete or cement, 3 times.</p>	<p>外观无显著异常，无破损；</p> <p>电感值变化率：±20%以内；</p> <p>Inductance change : Within ±20%;</p> <p>No significant abnormality in appearance, No damage.</p>