



德砚电子

DE YAN DIAN ZI

# 磁屏蔽功率电感

## *Data Sheet*

**RoHS**



**ISO 9001**  
质量管理体系认证



**ISO 14001**  
环境管理体系认证

Shenzhen Deyan Electronics Co., Ltd

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

1：型号规格表示办法 How To Order

- DRH

104R

-

ABC

NT
- ①

②

③

④
- ① 产品代号，Product symbol

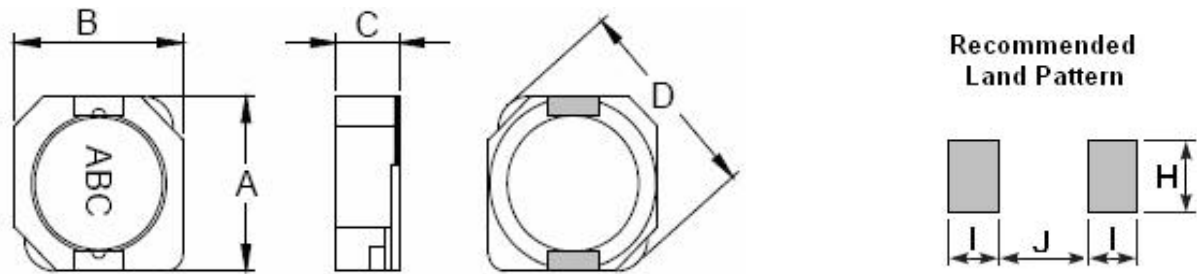
② 尺寸规格，Dimension

③ 电感量标称值，Inductance

④ 电感量公差，Tolerance 注：N:±30%； M:±20%； K:±10 %； J:±5 %

2：结构及尺寸 Structure And Dimensions

单位 Unit: mm



| Series  | A max. | B max. | C max. | I typ. | J typ. | H typ. |
|---------|--------|--------|--------|--------|--------|--------|
| DRH104R | 10.6   | 10.5   | 4.0    | 1.25   | 7.6    | 3.0    |

3：电气特性 Electrical Chapacteristics

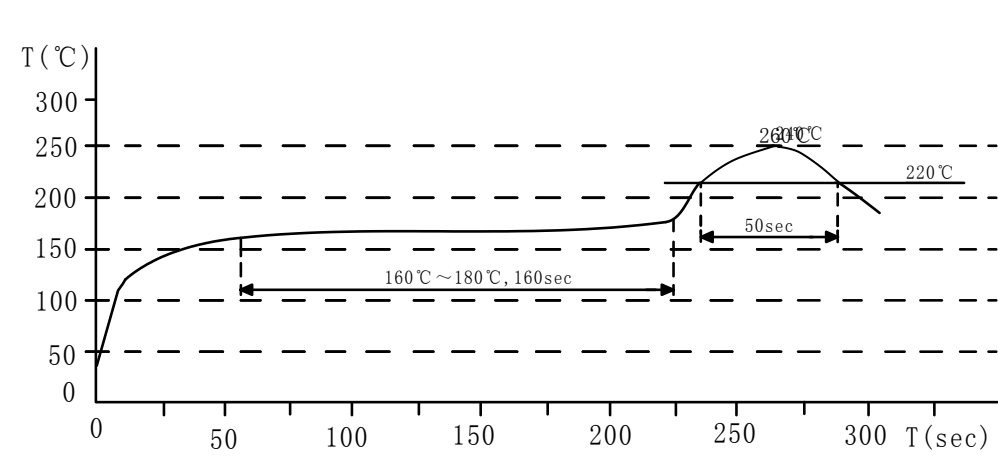
| 项目<br>Item     | 规格<br>Spec  | 测试频率<br>Test Conditio | 测试仪器<br>Test Eouipment | 电性图<br>Electrical Diagram |
|----------------|-------------|-----------------------|------------------------|---------------------------|
| 电感量 L (UH)     | 6.8uH ±30%  | 100kHz/0.3V           | TH2830                 |                           |
| 直流电阻 DCR (mΩ)  | 45mΩ MaX    | 100kHz/0.3V           | TH2830                 |                           |
| 饱和电流 I sat (A) | 5A MaX      | 100kHz/0.3V           | CD1608/1320            |                           |
| 额定电流 I rms (A) | 4A MaX      | 100kHz/0.3V           | TH1775                 |                           |
| 线径圈数 (mm)      | 0.27*2P*9TS |                       |                        |                           |

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

4：产品组成 Bom

| 序号 | 物料名称    | 供应商   | 物料规格                                       | 备注 |
|----|---------|-------|--------------------------------------------|----|
| 1  | 镍芯      | YN/JF | DR 9.7*7.45*3.65 B: 5.0<br>RI 9.9*3.15*8.2 |    |
| 2  | 铜线      | TPY   | 2UEWH P180                                 |    |
| 3  | 锡       | QD    | QD107H                                     |    |
| 4  | 上盖带     | JC    | 自粘宽度 21.3mm                                |    |
| 5  | 卷盘      | HW    | 13 寸盘                                      |    |
| 6  | 载带      | BL    | 104RPS、104RPET、1000PCS/盘                   |    |
| 7  | BASE/贝斯 | QR    | FLXHT104                                   |    |
| 8  | BASE 胶水 | PLM   | EP2221                                     |    |
| 9  |         |       |                                            |    |
| 10 |         |       |                                            |    |

5：回流曲线图 Recommended reflow condition



回流焊条件 Reflow soldering condition

回流时间：6 分钟左右

建议采用红外线作为回流焊的热源，但是必须使用卤素灯，侧热会超出电阻热的范围，所以我们不推荐使用。

We recommend infrared ray as heat source of reflow bath.

However halogen lamp shall be used, side heat will be beyond range of resistance heat, so we can't recommend it.

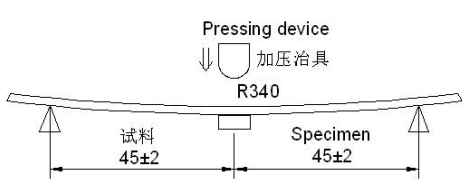
|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

6：测试报告 Test Report

| 测试项目<br>Test project         |           |             |                |                      |       |      |
|------------------------------|-----------|-------------|----------------|----------------------|-------|------|
| 电气特性<br>Electrical character |           |             |                | 尺寸<br>Dimension (mm) |       |      |
| 项目<br>Item                   | L<br>(UH) | DCR<br>(mΩ) | I sat<br>(A)   | A                    | B     | C    |
| 额定值<br>Nominal               | 6.8       | 45          | 5              | 10.6                 | 10.5  | 4.0  |
| 公差<br>Tolerance              | ±30%      | Max         | Max            | Max                  | Max   | Max  |
| 1                            | 6.85      | 28.58       | OK<br>Drop 30% | 10.27                | 10.08 | 3.82 |
| 2                            | 6.60      | 28.65       |                | 10.26                | 10.10 | 3.87 |
| 3                            | 6.56      | 29.45       |                | 10.23                | 10.09 | 3.84 |
| 4                            | 6.49      | 30.49       |                | 10.24                | 10.08 | 3.86 |
| 5                            | 6.13      | 30.58       |                | 10.26                | 10.08 | 3.86 |
| 6                            | 6.14      | 29.58       |                | 10.24                | 10.11 | 3.88 |
| 7                            | 6.72      | 28.68       |                | 10.24                | 10.12 | 3.87 |
| 8                            | 6.27      | 30.25       |                | 10.25                | 10.12 | 3.87 |
| 9                            | 6.20      | 28.74       |                | 10.24                | 10.13 | 3.88 |
| 10                           | 6.58      | 28.56       |                | 10.27                | 10.12 | 3.87 |

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

## 7: 可靠性试验项目 Reliability Testing Items

| 序号 | 项目 Item                   | 规格 Specification                                                               | 条件 Condition                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|---------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 弯曲测试<br>Bending test      | Change from an initial value<br>L : within $\pm 10\%$                          | <p>试件焊接在基板上，按箭头方向以大约 0.5mm/秒的速度加压，直到基板变形幅度到 3mm 保持 30 秒。<br/>Apply pressure gradually in the direction of the arrow at a rate of about 0.5mm/s until bent depth reaches 3mm and hold for <math>30 \pm 5s</math>.</p>  <p>Pressing device<br/>↓ 加压治具<br/>R340</p> <p>基板 Board: 40X100mm<br/>厚 Thickness: 1.0mm</p> <p>试料 45±2 Specimen 45±2</p> |
| 2  | 固着强度<br>Adhesion strength | Change from an initial value<br>L : within $\pm 10\%$                          | <p>按箭头方向用 R0.5 的加压棒在试件中施加一定的静力并保持 <math>60 \pm 5</math> 秒。<br/>A static load using a R0.5 pressing tool shall be applied the arrow and to the body of the specimen in the direction of the arrow and shall be hold for <math>60 \pm 5s</math>. Measure after removing pressure.</p>  <p>Specimen</p> <p>试料 1st 5N<br/>2nd 5N</p>             |
| 3  | 耐振性<br>Vibration          | Change from an initial value<br>L : within $\pm 10\%$                          | <p>振动频率 10~55~10Hz，振幅 1.5mm，分 X,Y,Z 方向各振动 1 小时（共 3 小时）。<br/>The specimen shall be subjected to a vibration of 1.5mm amplitude, sweep frequency 10~55Hz (10Hz to 55Hz to 10Hz in a period of one minute) for 1 h in each of 3(X,Y,Z) axes.</p>                                                                                                                                                                                    |
| 4  | 耐冲击性<br>Mechanical shock  | Change from an initial value<br>L : within $\pm 10\%$                          | <p>利用橡胶块式落下冲击试验机，分别在 3 个互相垂直的方向以 <math>981 m/S^2</math> 的冲击加速度落下。<br/>Peak acceleration: <math>981 m/S^2</math> Duration of pulse: 6ms<br/>3 times in each of 3(X,Y,Z)axes.<br/>The specimen must be fixed on test board. Three successive shock shall be applied in the perpendicular direction of each surface of the specimen.</p>                                                                                            |
| 5  | 自然落下试验<br>Free fall test  | Change from an initial value<br>L : within $\pm 10\%$                          | <p>试件安装在基板上，并固定在重 500 克的盒中，由 1 米高自由落体，3 个互相垂直的方向各 3 次。<br/>The specimen must be fixed on test board. It must be equipped with instruments of which weight is 500g. Then it shall be fallen freely from 1m height to rigid wood 3 times in each of three axes.</p>                                                                                                                                                                |
| 6  | 焊锡附着性<br>Solder ability   | 90 % 以上的面积要被覆盖。<br>New solder shall cover 90% minimum of the surface immersed. | <p>试验品的电极深布松香后，在 5~10 秒内焊锡，焊锡槽温度 <math>245 \pm 5^\circ C</math>，时间： <math>3 \pm 0.5</math> 秒。<br/>Terminals shall be immersed for 5 to 10 seconds in flux at room temperature. Dip sample into solder bath containing molten solder at <math>245 \pm 5^\circ C</math> for <math>3 \pm 0.5</math> seconds.</p>                                                                                                                    |

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

| 序号 | 项目 Item                               | 规格 Specification                                      | 条件 Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|---------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7  | 焊锡耐热性<br>Resistance to soldering heat | Change from an initial value<br>L : within $\pm 10\%$ | <p>试验方法 Test method</p> <p>热风炉焊接 Reflow soldering method</p> <p>预热 Preheat 150~180℃ 90<math>\pm</math>30s</p> <p>峰值温度 Peak temp 250(+ 5,-0)℃ (230℃min , 30<math>\pm</math>10s)</p> <p>试验板的厚度 0.8mm 上按上面条件通过两次热风炉。</p> <p>The specimen shall be subjected to the reflow process under the above condition 2 times. Test board shall be 0.8mm thick. Base material shall be glass epoxy resin.</p> <p>测定 Measurement</p> <p>常温常湿中放置于 1 小时以上测试。</p> <p>The specimen shall be stored at standard atmospheric conditions for 1 h in prior to the measurement.</p> |
| 8  | 耐电压<br>Dielectric strength            | 没有损害。<br>Without damage.                              | 在电极与磁材之间加入直流电压 100V 通电时间 1 分钟。<br>100V DC shall be applied for 60s between the terminal and the core.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9  | 绝缘抵抗<br>Insulation resistance         | 100m $\Omega$ 以上<br>100m $\Omega$ or more.            | 在电极与磁材之间加入直流电压 100V。<br>100V DC shall be applied between the terminal and the core.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 10 | 耐寒性<br>Low temperature                | Change from an initial value<br>L : within $\pm 10\%$ | <p>在温度 -40<math>\pm</math>3℃ 中放置 500<math>\pm</math>12 小时后，常温常湿中放置 1 小时以上 2 小时以内测试。</p> <p>The specimen shall be stored at a temperature of -40<math>\pm</math>3℃ for 500<math>\pm</math>12h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement</p> <p>Measurement shall be made within 1h.</p>                                                                                                                                                                                                                   |
| 11 | 耐热性<br>Dry heat                       | Change from an initial value<br>L : within $\pm 10\%$ | <p>在温度 125<math>\pm</math>2℃ 中放置 500<math>\pm</math>12 小时后，常温常湿中放置 1 小时以上 2 小时以内测试。</p> <p>The specimen shall be stored at a temperature of 125<math>\pm</math>2℃ for 500<math>\pm</math>12h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h.</p>                                                                                                                                                                                                                         |
| 12 | 耐湿性<br>Dump heat                      | Change from an initial value<br>L : within $\pm 10\%$ | <p>在温度 125<math>\pm</math>2℃，湿度 90~95% 中放置 500<math>\pm</math>12 小时后，常温常湿中放置 1 小时以上 2 小时以内测试。</p> <p>The specimen shall be stored at a temperature of 125<math>\pm</math>2℃ with relative humidity of 90 ~ 95% for 500<math>\pm</math>2h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h.</p>                                                                                                                                                                             |

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

| 序号 | 项目 Item                               | 规格 Specification                                         | 条件 Condition                                                                                                                                                                                                                                                                                                                                                                                |
|----|---------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | 温度循环<br>Temperature cycle             | Change from an initial value<br>L : within $\pm 10\%$    | 以温度-40℃中放置 30 分钟，在 85℃放置 30 分钟，中间转换时间不超过 2 分钟为一个循环。完成 500 个循环后，常温常湿中放置 1 小时以上 2 小时以内测试。<br>The specimen shall be subjected to 500 continuous cycles of temperature change of -40℃ for 30 min and 85℃ for 30 min with the transit period of 2min or less. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h. |
| 14 | 温度特性<br>Temperature drift             | Inductance temperature coefficient<br>2000 ppm/℃ or less | 在温度-40~+ 125℃之间测试。<br>To be measured in the range of -40℃ to 125℃.                                                                                                                                                                                                                                                                                                                          |
| 15 | 使用温度范围<br>Operating temperature range | -40 ~ + 125℃                                             | 包括制品的发热温度。<br>Including self temperature rise.                                                                                                                                                                                                                                                                                                                                              |
| 16 | 保存温度范围<br>Storage temperature range   | -40 ~ + 125℃                                             | 在包装的状态下。<br>With taping.                                                                                                                                                                                                                                                                                                                                                                    |

## 8: 标准气温状态 Standard atmospheric conditions

除非另有规定，在进行测量和试验时的标准大气条件范围如下：

环境温度:5℃至 35℃，相对湿度:45%至 85%，气压:86kPa 至 106kPa

如需更严格的计量，应在下列范围内计量：

环境温度：20 $\pm$ 2℃，相对湿度 65 $\pm$ 5%，气压 86kPa 至 106kPa

Unless otherwise specified, the standard range of atmospheric conditions in making measurements and test as follows;

Ambient temperature : 5℃ to 35℃, Relative humidity: 45% to 85%, Air pressure: 86kPa to 106kPa

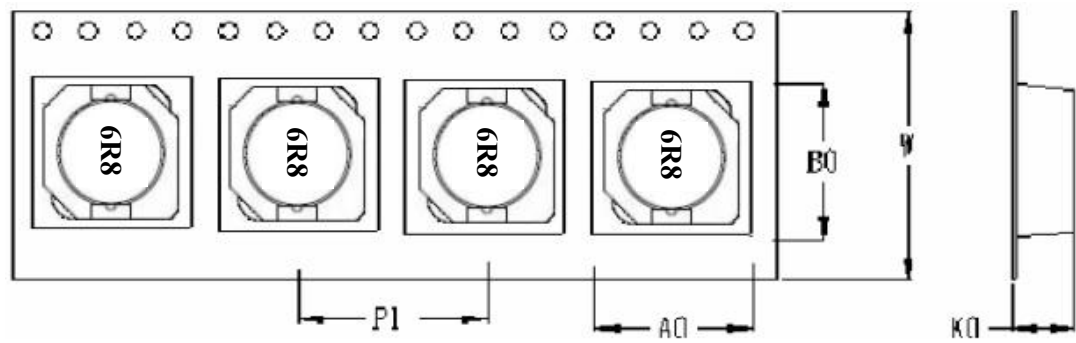
If more strict measurement is required, measurement shall be made within following limits;

Ambient temperature : 20 $\pm$ 2℃, Relative humidity: 65 $\pm$ 5%, Air pressure: 86kPa to 106kPa

|                 |              |  |
|-----------------|--------------|--|
| 料号 PART NO      | 页数 PAGE      |  |
|                 | 数量 Q'TY      |  |
| DRH104R-6R8NT-S | 客户料号 PART NO |  |

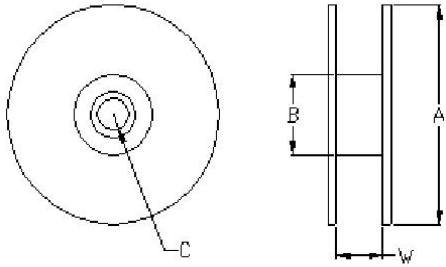
9：包装 Package

9.1:载带尺寸 Tape Dimension(单位：毫米 Unit:mm)



|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| P1       | W        | A0       | B0       | K0       |
| 16.0±0.1 | 24.0±0.3 | 11.6±0.2 | 11.6±0.2 | 4.2±0.15 |

9.2：盘子尺寸 Dimension(单位：毫米 Unit:mm)



|     |     |    |    |
|-----|-----|----|----|
| A   | B   | C  | W  |
| 330 | 100 | 13 | 24 |

9.3：包装数量 Packing quantity

|           |               |              |                 |
|-----------|---------------|--------------|-----------------|
| 系列 Series | 卷盘 REEL (PCS) | 内盒 BOX (PCS) | 外箱 Carton (PCS) |
| 104R      | 1000          | 2000         | 6000            |

9.4：包装标准

每个卷轴包装前空出 20 个空单元，产品包装后空出 20 个空单元