

Data Sheet

Customer:

Product: Shielded SMD Power Inductor – SDRH Series

Sizes.: 0830/0840/0845

Issued Date: 03-Jul-20

Edition: REV.B1



VIKING TECH CORPORATION
光韻科技股份有限公司
No.70, Guangfu N. Rd., Hukou
Township, Hsinchu County
303, Taiwan (R.O.C)

TEL:886-3-5972931
FAX:886-3-5972935•886-3-5973494
E-mail:sales@viking.com.tw

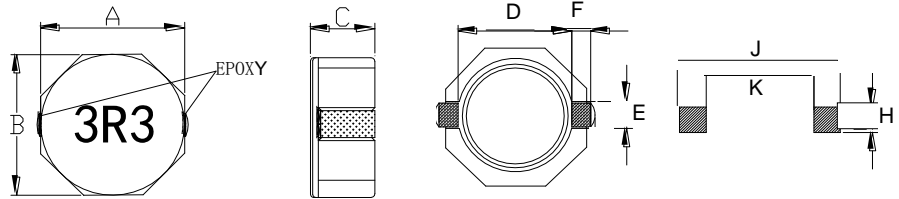
VIKING TECH CORPORATION KAOHSIUNG BRANCH
光韻科技股份有限公司高雄分公司
No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,
806, Taiwan

TEL:886-7-8217999
FAX:886-7-8228229
E-mail:sales@viking.com.tw

VIKING ELECTRONICS (WUXI) CO., LTD.
光韻電子(無錫)有限公司
No.22 Xixia Road, Machinery & Industry Park,
National Hi-Tech Industrial Development Zone
of Wuxi, Wuxi, Jiangsu Province, China
Zip Code:214028
TEL:86-510-85203339
FAX:86-510-85203667•86-510-85203977
E-mail:china@viking.com.tw

| Produced by (QC) | Checked (QC) | Approved by (QC) | Prepared by (Sales) | Accepted by (Customer) |
|---------------------|------------------|---------------------|------------------------|---------------------------|
| 03-Jul-20 | 03-Jul-20 | 03-Jul-20 | 03-Jul-20 | |
| <i>Kris Chen</i> | <i>Ben Chang</i> | <i>Ben Chang</i> | | |

Shielded SMD Power Inductor



Dimensions

Unit: mm

| Codes | A | B | C max. | D ref | E ref | F ref | H | J | K |
|----------|---------|---------|--------|-------|-------|-------|-----|------|-----|
| SDRH0830 | 8.0±0.3 | 8.0±0.3 | 3.0 | 6.3 | 2.5 | 1.2 | 2.8 | 10.1 | 6.1 |
| SDRH0840 | 8.0±0.3 | 8.0±0.3 | 4.0 | 6.3 | 2.5 | 1.2 | 2.8 | 10.1 | 6.1 |
| SDRH0845 | 8.0±0.3 | 8.0±0.3 | 4.5 | 6.3 | 2.5 | 1.2 | 2.8 | 10.1 | 6.1 |

Features

- Magnetically shielded construction
- ROHS compliance

Inductance and rated current ranges

- SDRH0830 1.0~100μH 6.5~0.75A
- SDRH0840 1.8~100μH 7.0~1.05A
- SDRH0845 1.0~330μH 9.0~0.65A

Applications

- LCD TV
- DC to DC Converters
- Notebook PC

- Test equipment:
L: HP4284A LCR meter
DCR: Milli-ohm meter
- Electrical specifications at 25°C

Characteristics

- Rated DC Current : The current when the inductance becomes 35% lower than its initial value.
- Operating temperature: -40~125°C

Product Identification

| | | | | |
|--------------|---|--------------------|------------------|---------------------------------------|
| SDRH | 0830 | N | T | 101 |
| Product Type | Dimensions (AxBxC) | Inductor Tolerance | Packaging Style | Inductance |
| | 0830: 8.0x8.0x3.0 0840: 8.0x8.0x4.0 0845: 8.0x8.0x4.5 | N: ±30% | T: Tape and Reel | 1R0: 1.0μH 470: 47μH 101: 100μH |

Electrical Characteristics

SDRH0830 Type(□:Tolerance):

| Part No | L (μH) | Tolerance | Test Condition | DCR (mΩ) max. | IDC (A) max. |
|---------------|--------|-----------|----------------|---------------|--------------|
| SDRH0830□T1R0 | 1.0 | N | 100KHz, 0.25V | 11.0 | 6.50 |
| SDRH0830□T2R5 | 2.5 | N | 100KHz, 0.25V | 15.6 | 4.50 |
| SDRH0830□T3R3 | 3.3 | N | 100KHz, 0.25V | 18.2 | 4.00 |
| SDRH0830□T4R7 | 4.7 | N | 100KHz, 0.25V | 24.7 | 3.40 |
| SDRH0830□T7R3 | 7.3 | N | 100KHz, 0.25V | 39.0 | 2.80 |
| SDRH0830□T100 | 10 | N | 100KHz, 0.25V | 47.0 | 2.50 |
| SDRH0830□T150 | 15 | N | 100KHz, 0.25V | 69.0 | 1.90 |
| SDRH0830□T220 | 22 | N | 100KHz, 0.25V | 99.0 | 1.60 |
| SDRH0830□T330 | 33 | N | 100KHz, 0.25V | 156 | 1.30 |
| SDRH0830□T470 | 47 | N | 100KHz, 0.25V | 195 | 1.15 |
| SDRH0830□T680 | 68 | N | 100KHz, 0.25V | 286 | 0.92 |
| SDRH0830□T101 | 100 | N | 100KHz, 0.25V | 430 | 0.75 |

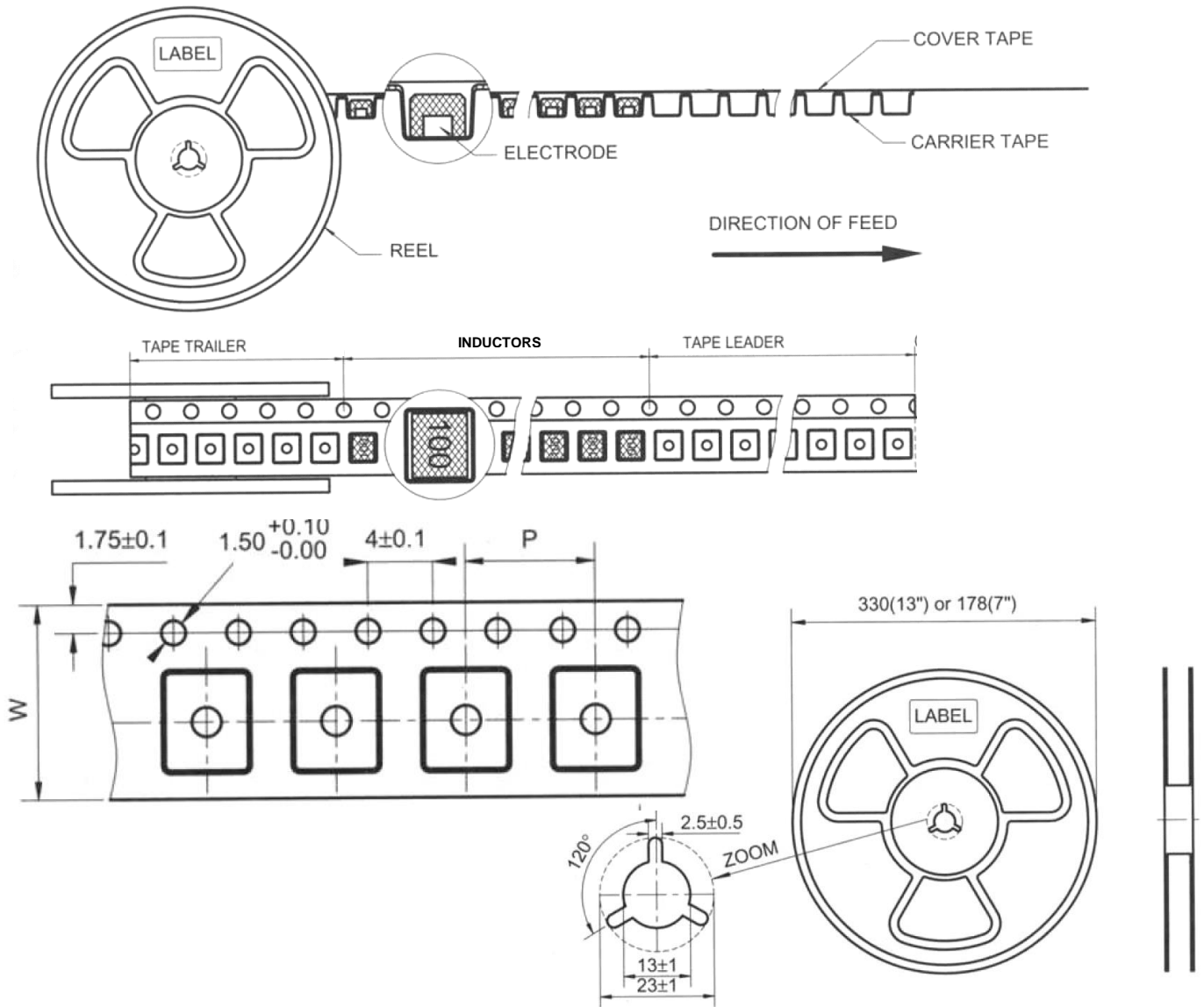
SDRH0840 Type(□:Tolerance):

| Part No | L (μH) | Tolerance | Test Condition | DCR (mΩ) max. | IDC (A) max. |
|---------------|--------|-----------|----------------|---------------|--------------|
| SDRH0840□T1R8 | 1.8 | N | 100KHz, 0.1V | 15.6 | 7.00 |
| SDRH0840□T2R5 | 2.5 | N | 100KHz, 0.1V | 17.5 | 6.50 |
| SDRH0840□T3R5 | 3.5 | N | 100KHz, 0.1V | 24.0 | 5.00 |
| SDRH0840□T4R7 | 4.7 | N | 100KHz, 0.1V | 29.0 | 4.60 |
| SDRH0840□T6R0 | 6.0 | N | 100KHz, 0.1V | 32.0 | 4.20 |
| SDRH0840□T100 | 10 | N | 100KHz, 0.1V | 48.0 | 3.00 |
| SDRH0840□T150 | 15 | N | 100KHz, 0.1V | 67.0 | 2.75 |
| SDRH0840□T220 | 22 | N | 100KHz, 0.1V | 105 | 2.30 |
| SDRH0840□T330 | 33 | N | 100KHz, 0.1V | 157 | 1.75 |
| SDRH0840□T470 | 47 | N | 100KHz, 0.1V | 189 | 1.52 |
| SDRH0840□T680 | 68 | N | 100KHz, 0.1V | 290 | 1.30 |
| SDRH0840□T101 | 100 | N | 100KHz, 0.1V | 410 | 1.05 |

SDRH0845 Type(□:Tolerance):

| Part No | L (μH) | Tolerance | Test Condition | DCR (mΩ) max. | IDC (A) max. |
|-----------------|--------|-----------|----------------|---------------|--------------|
| SDRH0845□T1R0 | 1.0 | N | 100KHz, 0.1V | 9.50 | 9.00 |
| SDRH0845□T1R2 | 1.2 | N | 100KHz, 0.1V | 12.2 | 8.00 |
| SDRH0845□T1R5 | 1.5 | N | 100KHz, 0.1V | 13.0 | 7.80 |
| SDRH0845□T2R0 | 2.0 | N | 100KHz, 0.1V | 14.0 | 7.00 |
| SDRH0845□T2R2 | 2.2 | N | 100KHz, 0.1V | 15.0 | 6.80 |
| SDRH0845□T2R5 | 2.5 | N | 100KHz, 0.1V | 16.0 | 6.60 |
| SDRH0845□T3R3 | 3.3 | N | 100KHz, 0.1V | 17.0 | 6.20 |
| SDRH0845□T3R9 | 3.9 | N | 100KHz, 0.1V | 19.0 | 5.90 |
| SDRH0845□T4R7 | 4.7 | N | 100KHz, 0.1V | 22.0 | 5.60 |
| SDRH0845□T6R8 | 6.8 | N | 100KHz, 0.1V | 32.0 | 4.40 |
| SDRH0845□T100 | 10 | N | 100KHz, 0.1V | 36.0 | 4.00 |
| SDRH0845□T150 | 15 | N | 100KHz, 0.1V | 53.0 | 2.90 |
| SDRH0845□T180 | 18 | N | 100KHz, 0.1V | 72.0 | 2.70 |
| SDRH0845□T220 | 22 | N | 100KHz, 0.1V | 75.0 | 2.60 |
| SDRH0845□T270 | 27 | N | 100KHz, 0.1V | 100 | 2.25 |
| SDRH0845□T330 | 33 | N | 100KHz, 0.1V | 125 | 2.20 |
| SDRH0845□T470 | 47 | N | 100KHz, 0.1V | 150 | 1.80 |
| SDRH0845□T680 | 68 | N | 100KHz, 0.1V | 240 | 1.50 |
| SDRH0845□T101 | 100 | N | 100KHz, 0.1V | 360 | 1.30 |
| SDRH0845□T121 | 120 | N | 100KHz, 0.1V | 500 | 1.00 |
| SDRH0845□T331-1 | 330 | M | 100KHz, 0.25V | 1700 | 0.65 |

■Tape and Reel specifications



Unit: mm

| Type | Tape size | | Parts Per Reel |
|----------|-----------|----|----------------|
| | W | P | 13" |
| SDRH0830 | 24 | 12 | 1000 |
| SDRH0840 | 24 | 12 | 1000 |
| SDRH0845 | 24 | 12 | 1000 |

■ SMT Power Inductor Environmental Specifications

General

| Items | Specifications |
|--------------------------|--|
| Shelf Storage conditions | Temperature range: 15~28°C; Humidity: <80% relative humidity. Recommended product should be used within one year from the time of delivery. |

Environmental test

| Test Items | Specifications | Test Conditions / Test Methods |
|-------------------------------|--|---|
| High temperature Storage test | No case deformation or change in appearance. $\Delta L/L \leq 10\%$ | Temperature 85±2°C, Time: 48±2 hours, Tested after 1hour at room temperature. |
| Low temperature Storage test | | Temperature -25±2°C, Time: 48±2 hours, Tested after 1hour at room temperature. |
| Humidity test | | Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours, apply rated current, Tested after 1hour at room temperature. |
| Thermal shock test | | First -25°C 30minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature. |

Mechanical test

| Test Items | Specifications | Test Conditions / Test Methods |
|------------------------------|--|---|
| Solderability test | Terminal area must have 90% minimum solder coverage. | Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds. |
| Resistance to Soldering Heat | No case deformation or change in appearance. | Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150°C. Immersing to 260±5°C for 10 seconds. |
| Vibration test | No case deformation or change in appearance. | Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours. |
| Shock resistance | $\Delta L/L \leq 10\%$ | Drop down with 981m/s ² (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations. |

The condition of reflow (recommendation):

