

## Data Sheet

Customer:

Product: Shielded SMD Power Inductor – SDRH Series

Sizes.: 0830/0840/0845

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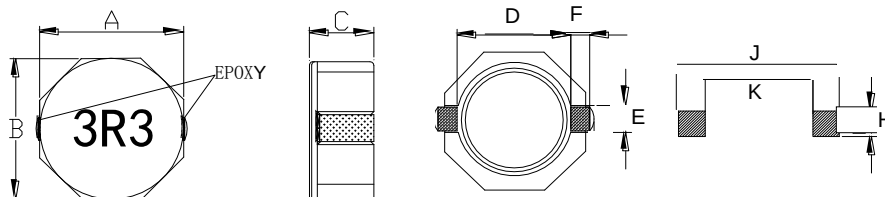
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## Shielded SMD Power Inductor



### ■ 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

### ■ Applications

- LCD TV
- DC to DC Converters
- Notebook PC

### ■ 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
- 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<br>0840: 8.0x8.0x4.0<br>0845: 8.0x8.0x4.5 | N: ±30%            | T: Tape and Reel | 1R0: 1.0μH<br>470: 47μH<br>101: 100μH |

## ■Electrical Characteristics

SDRH0830 Type(□:Tolerance):

| Part No       | L<br>(μH) | Tolerance | Test<br>Condition | DCR<br>(mΩ) max. | IDC<br>(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            |

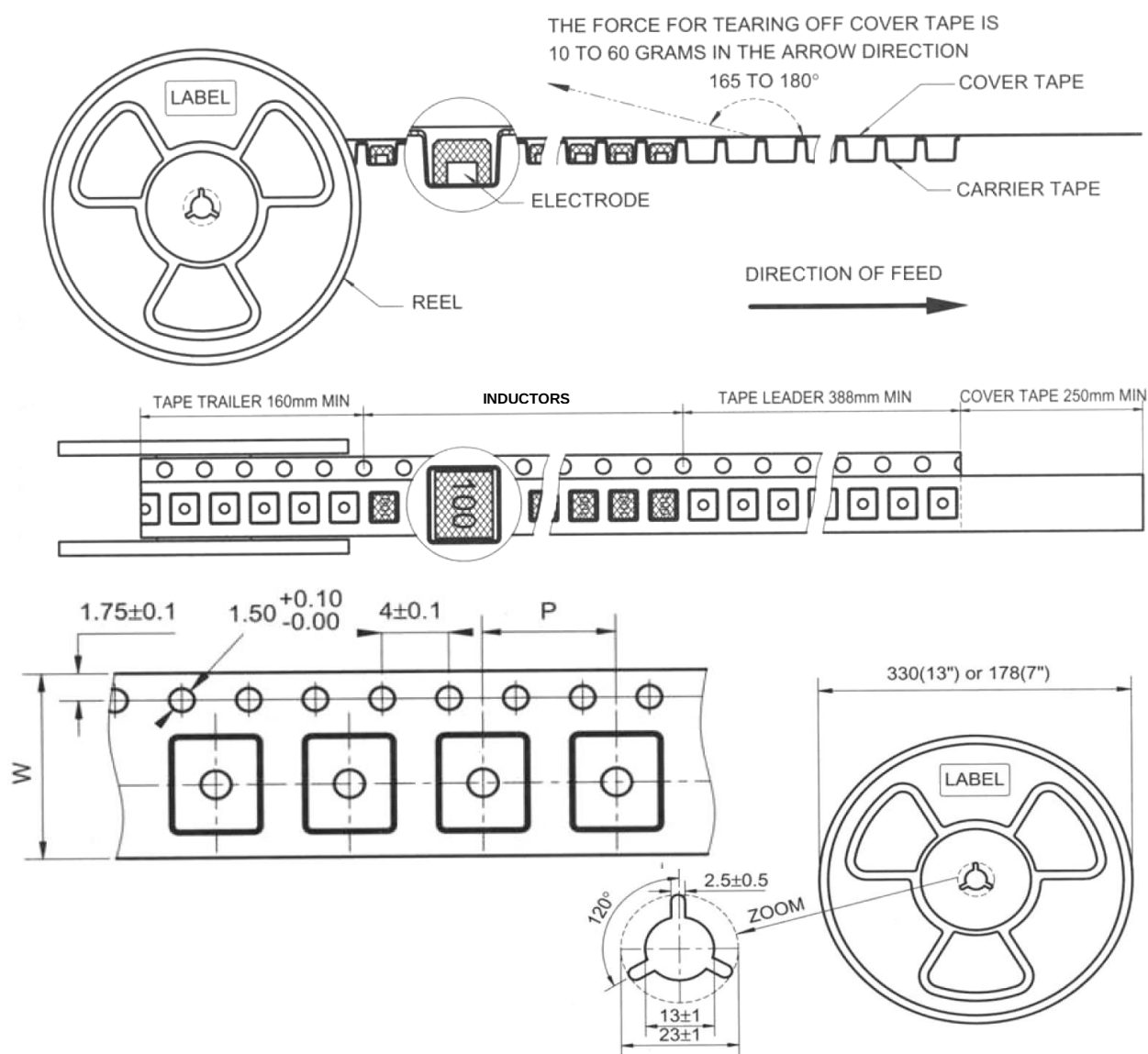
SDRH0840 Type(□:Tolerance):

| Part No       | L<br>(μH) | Tolerance | Test<br>Condition | DCR<br>(mΩ) max. | IDC<br>(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<br>(μH) | Tolerance | Test<br>Condition | DCR<br>(mΩ) max. | IDC<br>(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℃; Humidity: <80% relative humidity.<br>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.<br>$\Delta L/L \leq 10\%$ | Temperature 85±2℃,<br>Time: 48±2 hours,<br>Tested after 1hour at room temperature.                                                         |
| Low temperature Storage test  |                                                                        | Temperature -25±2℃,<br>Time: 48±2 hours,<br>Tested after 1hour at room temperature.                                                        |
| Humidity test                 |                                                                        | Temperature 40±2℃, 90~95% relative humidity<br>Time: 96±2 hours, apply rated current,<br>Tested after 1hour at room temperature.           |
| Thermal shock test            |                                                                        | First -25℃ 30minutes then 25℃ 10 minutes last 85℃ 30 minutes, as 1 cycle. Go through 5 cycles.<br>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:<br>Dip pads in flux then dip in solder pot at 245±5℃ 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℃. Immersing to 260±5℃ for 10 seconds. |
| Vibration test               | No case deformation or change in appearance.<br>$\Delta L/L \leq 10\%$ | Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.                                                                          |
| Shock resistance             |                                                                        | Drop down with 981m/s <sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.             |

### The condition of reflow (recommendation):

