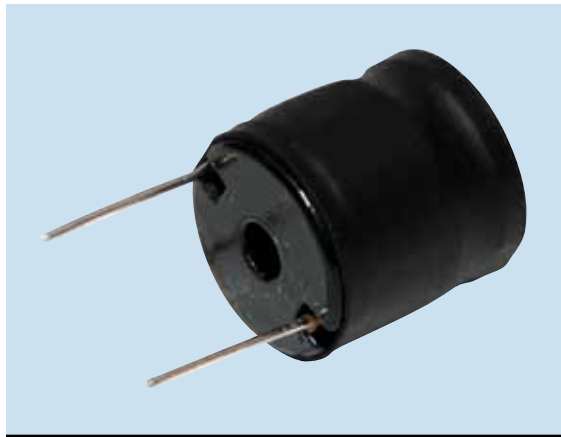




## NATIONAL SEMICONDUCTOR SIMPLE SWITCHER APPLICATIONS

### DESCRIPTION

- High Current Chokes

### ENVIRONMENTAL DATA

- Storage temperature range: -55°C to +130°C
- Operating temperature range: -40°C to +130°C

### PACKAGING INFORMATION

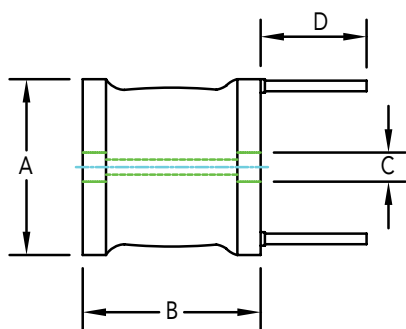
- Contact Customer Support 800.645.5828

### FEATURES & APPLICATIONS

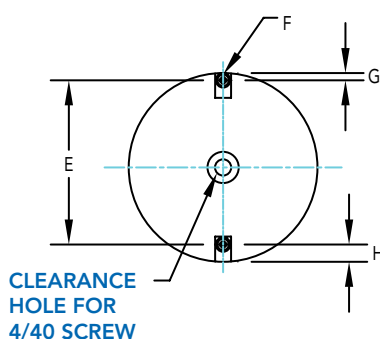
- Uses high saturation flux density material ideal for use in switching regulated power supplies and small-sized current chokes
- Inductance ranges from 47 $\mu$ H to 2200  $\mu$ H with DC saturation currents up to 20 A

Verify operation with sample in actual circuit. Order samples at [www.rencousa.com](http://www.rencousa.com).

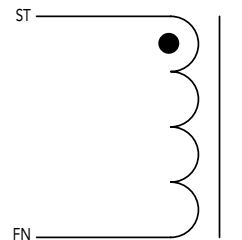
FRONT VIEW



SIDE VIEW



SCHEMATIC



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# NATIONAL SEMICONDUCTOR SIMPLE SWITCHER APPLICATIONS

## MECHANICAL DIMENSIONS

U.S. Standard (mm)

| PART NUMBER | A (MAX.)      | B (MAX.)      | C (REF.)     | D (MIN.)   | PART WEIGHT      |
|-------------|---------------|---------------|--------------|------------|------------------|
| RL-1954     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 27.0g (0.95oz)   |
| RL-1956     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 23.9g (0.84oz)   |
| RL-1957     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 43.8g (1.54oz)   |
| RL-1958     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 21.2g (0.74oz)   |
| RL-1959     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 24.6g (0.87oz)   |
| RL-1960     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 28.6g (1.00oz)   |
| RL-1961     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 46.8g (1.65oz)   |
| RL-1962     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 44.1g (1.56oz)   |
| RL-1963     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 42.5g (1.50oz)   |
| RL-1964     | 1.600 (40.64) | 1.100 (27.94) | 0.290 (7.37) | 0.5 (12.7) | 110.1g (3.90oz)  |
| RL-1965     | 1.600 (40.64) | 1.100 (27.94) | 0.290 (7.37) | 0.5 (12.7) | 111.2g (3.92oz)  |
| RL-2442     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 22.1.0g (0.78oz) |
| RL-2443     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 25.4g (0.90oz)   |
| RL-2444     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 24.4g (0.86oz)   |
| RL-2445     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 26.5g (0.93oz)   |
| RL-2446     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 43.4g (1.53oz)   |
| RL-2447     | 1.100 (27.94) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | 47.5g (1.65oz)   |
| RL-2448     | 0.825 (20.96) | 0.850 (21.59) | 0.195 (4.95) | 0.5 (12.7) | contact factory  |

U.S. Standard (mm)

| PART NUMBER | E             | F             | G            | H           |
|-------------|---------------|---------------|--------------|-------------|
| RL-1954     | 0.593 (15.06) | 0.032 (0.813) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1956     | 0.656 (16.66) | 0.036 (0.914) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1957     | 0.750 (19.05) | 0.052 (1.320) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1958     | 0.590 (14.97) | 0.016 (0.406) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1959     | 0.590 (14.97) | 0.018 (0.457) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1960     | 0.590 (14.97) | 0.023 (0.584) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1961     | 0.750 (19.05) | 0.032 (0.813) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1962     | 0.812 (20.62) | 0.036 (0.914) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1963     | 0.781 (19.84) | 0.042 (1.830) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1964     | 1.125 (28.59) | 0.058 (1.470) | 0.015 (0.38) | 0.05 (1.27) |
| RL-1965     | 1.140 (28.97) | 0.065 (1.650) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2442     | 0.625 (15.88) | 0.042 (1.830) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2443     | 0.656 (16.66) | 0.036 (0.914) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2444     | 0.593 (15.06) | 0.032 (0.813) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2445     | 0.593 (15.06) | 0.032 (0.813) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2446     | 0.781 (19.84) | 0.042 (1.830) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2447     | 0.812 (20.62) | 0.036 (0.914) | 0.015 (0.38) | 0.05 (1.27) |
| RL-2448     | 0.590 (14.97) | 0.016 (0.406) | 0.015 (0.38) | 0.05 (1.27) |



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# NATIONAL SEMICONDUCTOR SIMPLE SWITCHER APPLICATIONS

| PART NUMBER | Inductance<br>( $\mu$ H) $\pm$ 10% | DCR Max.<br>(Ohms) | Isat<br>(A) | Irms<br>(A) |
|-------------|------------------------------------|--------------------|-------------|-------------|
| RL-1954     | 150.0                              | 0.098              | 8.6         | 4.0         |
| RL-1956     | 68.0                               | 0.053              | 12.7        | 4.8         |
| RL-1957     | 47.0                               | 0.024              | 18.1        | 9.0         |
| RL-1958     | 1500.0                             | 1.260              | 2.4         | 0.8         |
| RL-1959     | 1000.0                             | 0.818              | 3.1         | 1.0         |
| RL-1960     | 680.0                              | 0.430              | 3.7         | 1.6         |
| RL-1961     | 470.0                              | 0.187              | 6.0         | 4.0         |
| RL-1962     | 330.0                              | 0.122              | 7.1         | 4.5         |
| RL-1963     | 220.0                              | 0.080              | 8.7         | 5.5         |
| RL-1964     | 150.0                              | 0.040              | 16.4        | 11.4        |
| RL-1965     | 100.0                              | 0.025              | 20.0        | 14.4        |
| RL-2442     | 47.0                               | 0.035              | 15.0        | 5.5         |
| RL-2443     | 68.0                               | 0.053              | 12.7        | 4.8         |
| RL-2444     | 100.0                              | 0.080              | 10.4        | 4.0         |
| RL-2445     | 150.0                              | 0.098              | 8.6         | 4.0         |
| RL-2446     | 220.0                              | 0.080              | 8.7         | 5.5         |
| RL-2447     | 330.0                              | 0.122              | 7.1         | 4.5         |
| RL-2448     | 2200.0                             | 1.540              | 2.0         | 0.8         |

## NOTES:

1. ELECTRICAL SPECIFICATIONS  
MEASURED AT 25°C
2. Isat - DC CURRENT THAT WILL CAUSE INDUCTANCE TO DROP BY 5%
3. Irms - CURRENT THAT CAUSES THE TEMPERATURE TO RISE APPROX. 40°C  
ABOVE AMBIENT OF 25°C
4. INDUCTANCE TESTED AT 10 kHz, 0.1 Vrms



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