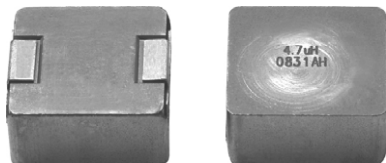


# IHLP® Automotive Inductors, High Saturation Series



## LINKS TO ADDITIONAL RESOURCES



| STANDARD ELECTRICAL SPECIFICATIONS  |                              |                              |  |  |
|---|------------------------------|------------------------------|--|--|
| L <sub>0</sub><br>INDUCTANCE<br>± 20 % AT 100 kHz,<br>0.25 V, 0 A<br>(µH) | DCR<br>TYP.<br>25 °C<br>(mΩ) | DCR<br>MAX.<br>25 °C<br>(mΩ) | HEAT<br>RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> |
| 0.10  | 0.47                         | 0.50                         | 60.0   | 120.0  |
| 0.15  | 0.53                         | 0.60                         | 55.0   | 118.0  |
| 0.22  | 0.63                         | 0.70                         | 53.0   | 112.0  |
| 0.30  | 0.70                         | 0.80                         | 48.0   | 72.0   |
| 0.33  | 0.83                         | 0.90                         | 46.0   | 65.0   |
| 0.40  | 0.90                         | 1.0                          | 44.0   | 64.0   |
| 0.47  | 1.0                          | 1.2                          | 41.0   | 63.0   |
| 0.56  | 1.2                          | 1.4                          | 37.0   | 62.0   |
| 0.68  | 1.4                          | 1.6                          | 35.0   | 60.0   |
| 0.82  | 1.6                          | 1.9                          | 33.0   | 50.0   |
| 1.0   | 1.7                          | 2.0                          | 32.0   | 49.0   |
| 1.2   | 2.1                          | 2.5                          | 30.0   | 48.0   |
| 1.5   | 2.5                          | 3.0                          | 27.0   | 45.0   |
| 1.8   | 2.8                          | 3.2                          | 24.0   | 41.0   |
| 2.2   | 3.5                          | 4.2                          | 22.0   | 40.0   |
| 3.3   | 5.7                          | 6.8                          | 18.0   | 35.0   |
| 4.7   | 9.3                          | 11.2                         | 13.5   | 30.0   |
| 5.6   | 9.3                          | 10                           | 13.5   | 26.5   |
| 6.8   | 13.1                         | 14                           | 11.5   | 16.5   |
| 8.2   | 14.5                         | 15.5                         | 10.5   | 16.0   |
| 10  | 16.4                         | 17.2                         | 10.0   | 15.5   |
| 15  | 27.6                         | 29.7                         | 7.7  | 15.0   |

### Notes

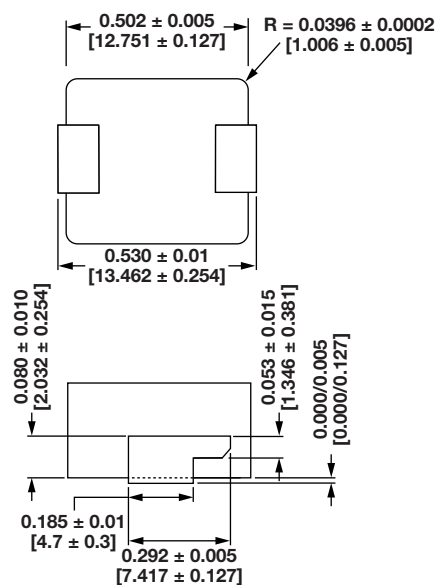
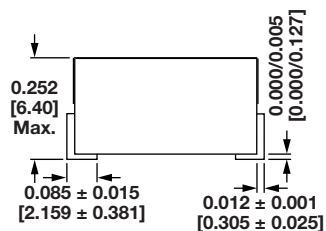
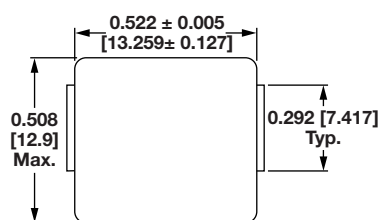
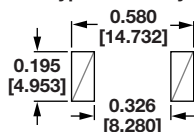
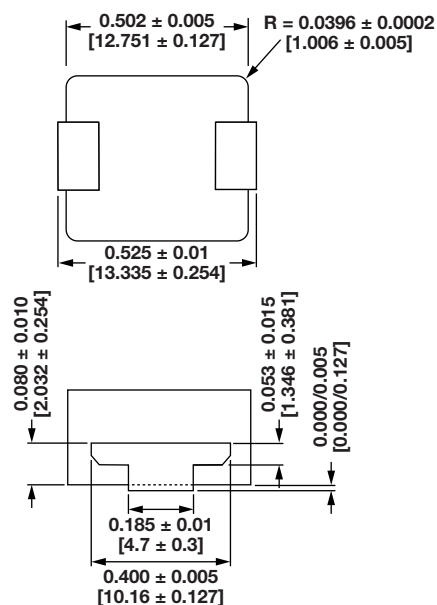
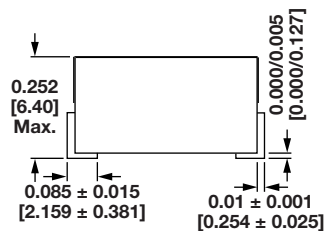
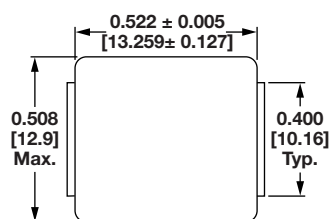
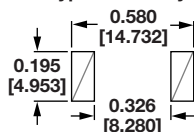
- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +125 °C
- The part temperature (ambient + temp. rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
- Rated operating voltage (across inductor) = 75 V
- <sup>(1)</sup> DC current (A) that will cause an approximate ΔT of 40 °C
- <sup>(2)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 20 %

| DESCRIPTION        |   |                  |   |                      |   |              |   |                                |   |              |   |                  |   |   |      |        |   |
|--------------------|---|------------------|---|----------------------|---|--------------|---|--------------------------------|---|--------------|---|------------------|---|---|------|--------|---|
| IHLP-5050FD-A1     |   | 1.0 µH           |   | ± 20 %               |   | ER           |   | e3                             |   |              |   |                  |   |   |      |        |   |
| MODEL              |   | INDUCTANCE VALUE |   | INDUCTANCE TOLERANCE |   | PACKAGE CODE |   | JEDEC® LEAD (Pb)-FREE STANDARD |   |              |   |                  |   |   |      |        |   |
| GLOBAL PART NUMBER |   |                  |   |                      |   |              |   |                                |   |              |   |                  |   |   |      |        |   |
| I                  | H | L                | P | 5                    | 0 | 5            | 0 | F                              | D | E            | R | 1                | R | 0 | M    | A      | 1 |
| PRODUCT FAMILY     |   |                  |   | SIZE                 |   |              |   |                                |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | TOL. | SERIES |   |

PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)

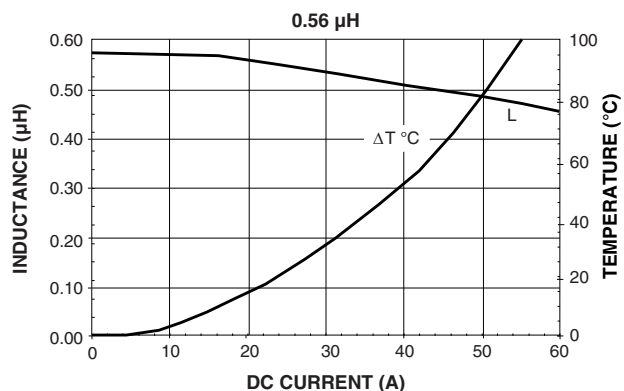
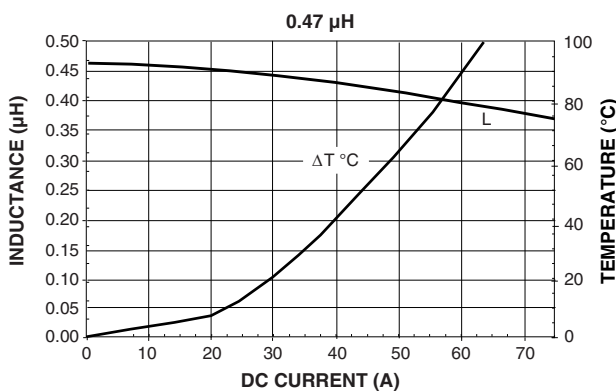
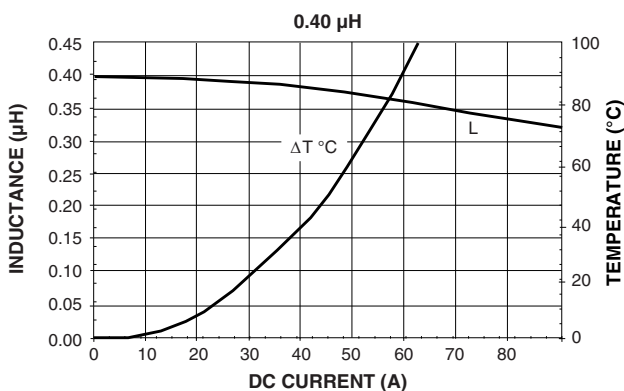
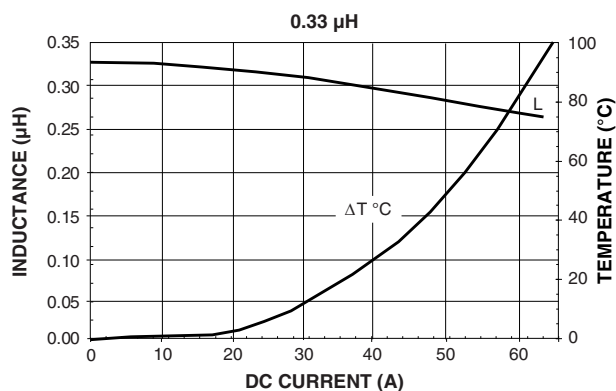
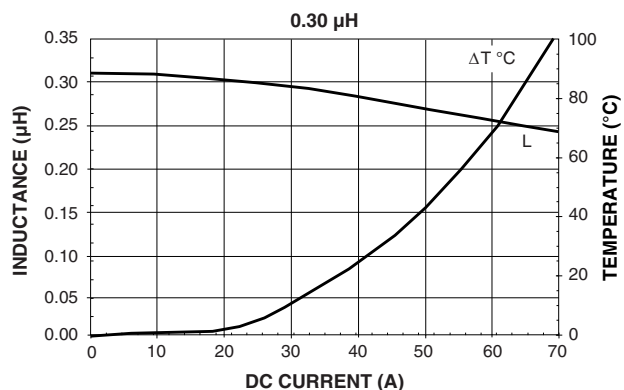
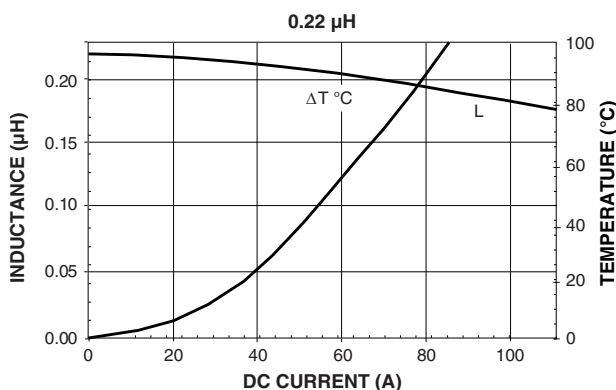
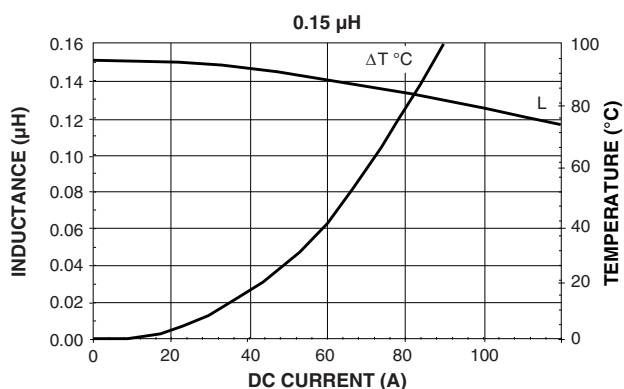
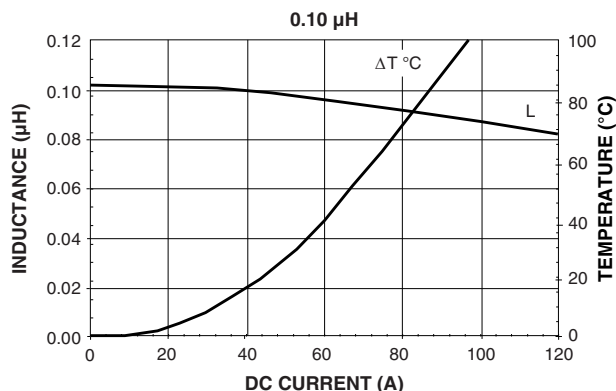
This Vishay product is protected by one or more United States and international patents.

**DIMENSIONS** in inches [millimeters]

**Values 0.82  $\mu$ H and lower**
**Typical Pad Layout**

**Values 1.0  $\mu$ H and higher**
**Typical Pad Layout**


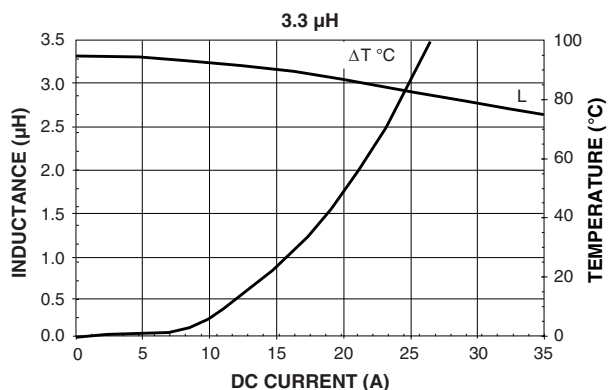
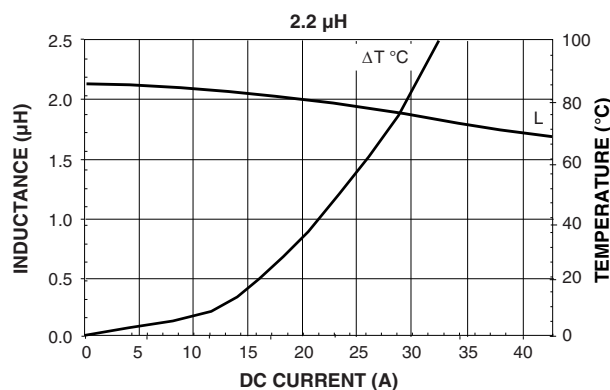
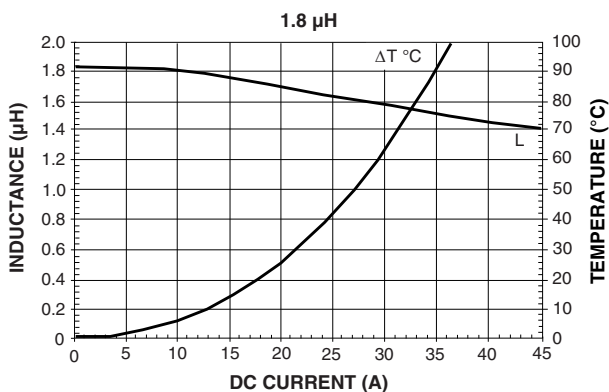
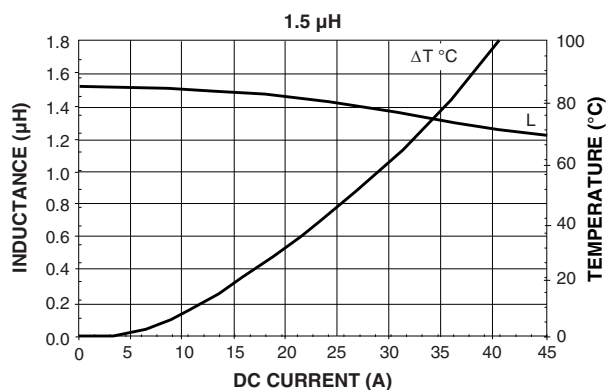
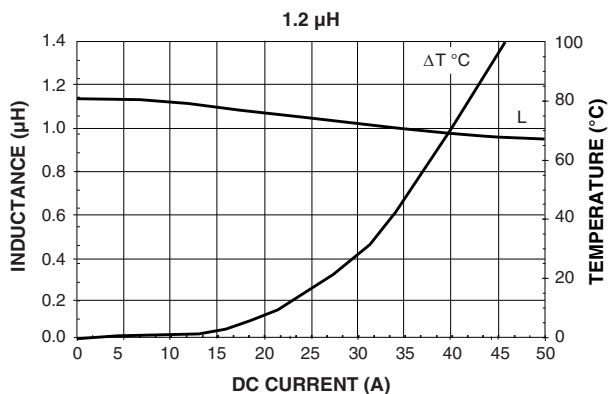
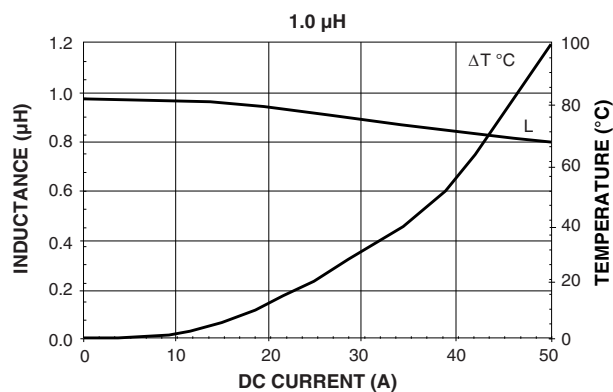
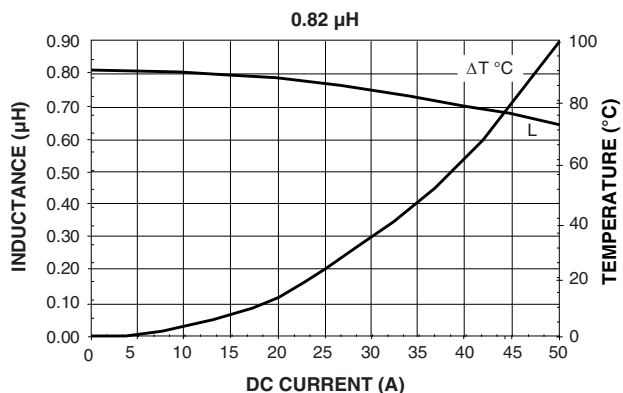
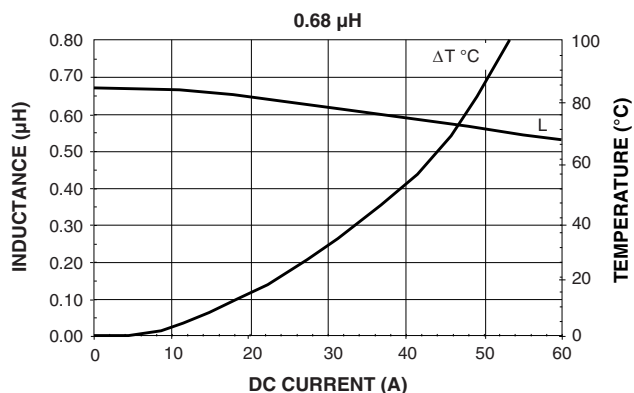


PERFORMANCE GRAPHS



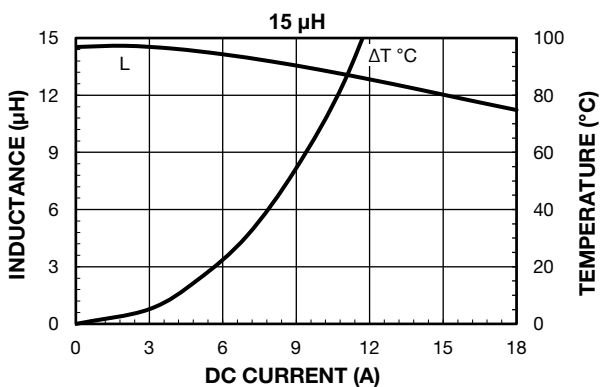
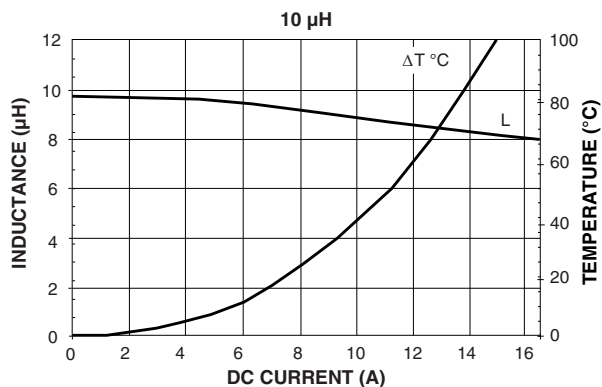
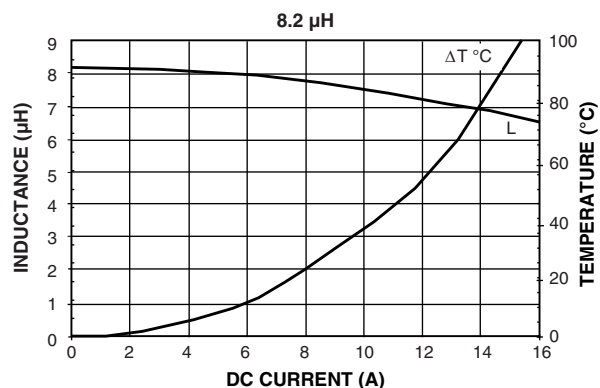
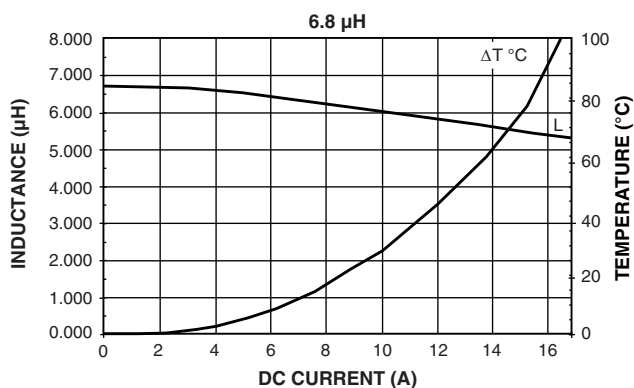
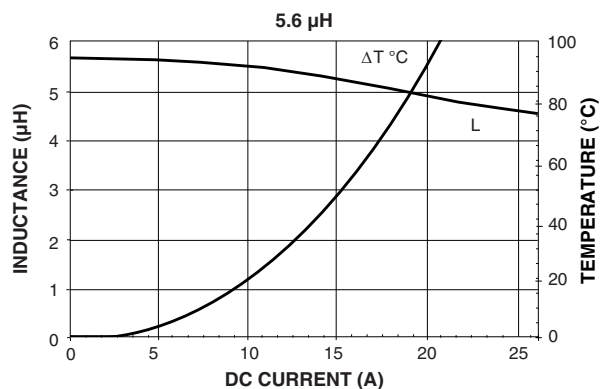
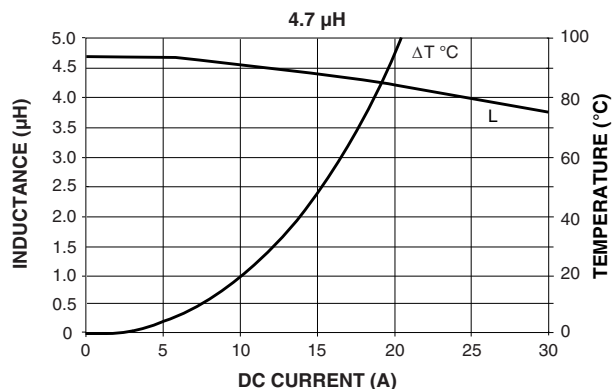


PERFORMANCE GRAPHS





PERFORMANCE GRAPHS





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