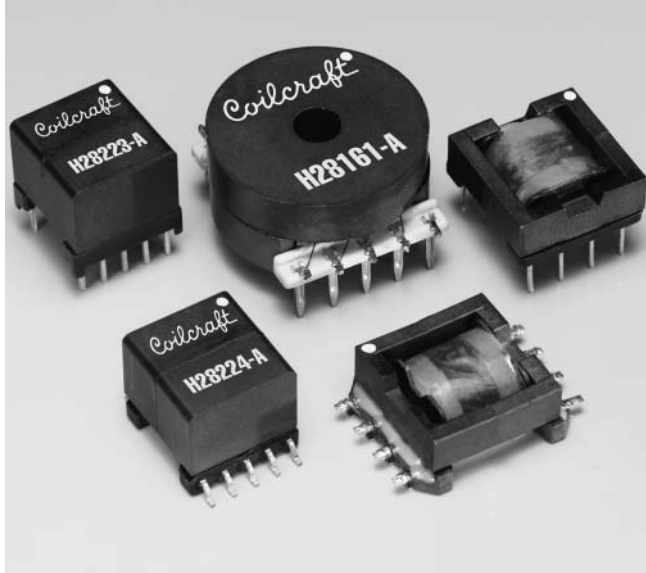


# HDSL2 Transformers



This product is not RoHS-compliant. Contact Coilcraft for current status or possible alternatives.

This family of transformers provides optimum performance with the Level One SK70740/-41/-42 and other HDSL2 transceiver chip sets. The series now includes parts with a 1 CT to 2.3 CTS turns ratio, allowing them to work with line drivers for lower power supply voltages.

They're engineered for minimum DC resistance and very low leakage inductance. Primary inductance with and without DC bias is stable from -40°C to +85°C. The return loss, longitudinal balance and THD are optimized for the best overall performance at the HDSL2 transmission speed.

For free evaluation samples or to discuss custom designs, please contact Coilcraft.

| Part number | Style  | Data rate (kb/s) | Turns ratio chip:line | Primary inductance $\pm 15\%$ (mH) | Leakage inductance max ( $\mu$ H) | Capacitance max (pF) | DCR max (Ohms) |                      |
|-------------|--------|------------------|-----------------------|------------------------------------|-----------------------------------|----------------------|----------------|----------------------|
|             |        |                  |                       |                                    |                                   |                      | Chip side      | Line side            |
| H28161-A    | Leaded | 1500             | 1 CT:2.3 CTS          | 2.0                                | 25                                | 90                   | 1.5 (9-7)      | 1.5 (1-4), 1.5 (2-5) |
| H28159-A    | Leaded | 1500             | 1 CT:2.3 CTS          | 2.0                                | 30                                | 55                   | 2.0 (8-6)      | 2.0 (1-2), 2.0 (3-4) |
| H28160-A    | SMT    | 1500             | 1 CT:2.3 CTS          | 2.0                                | 30                                | 55                   | 2.0 (8-6)      | 2.0 (1-2), 2.0 (3-4) |
| H27649-B    | Leaded | 1500             | 1 CT:2 CTS            | 2.0                                | 25                                | 90                   | 1.5 (9-7)      | 1.5 (1-4), 1.5 (2-5) |
| H27650-A    | Leaded | 1500             | 1 CT:2 CTS            | 2.0                                | 25                                | 55                   | 2.0 (8-6)      | 2.0 (1-2), 2.0 (3-4) |
| H27695-A    | SMT    | 1500             | 1 CT:2 CTS            | 2.0                                | 25                                | 55                   | 2.0 (8-6)      | 2.0 (1-2), 2.0 (3-4) |
| H28223-B    | Leaded | 1500             | 1 CT:2.3 CTS          | 2.0                                | 30                                | 65                   | 1.85 (10-7)    | 2.1 (1-4), 2.1 (2-5) |
| H28224-B    | SMT    | 1500             | 1 CT:2.3 CTS          | 2.0                                | 30                                | 65                   | 1.85 (10-7)    | 2.1 (1-4), 2.1 (2-5) |

| Part number | DC bias capacity (mA) | Dielectric strength (V) | Return loss |              | Longitudinal balance typ (dB) | THD typ (dB) |
|-------------|-----------------------|-------------------------|-------------|--------------|-------------------------------|--------------|
|             |                       |                         | min (dB)    | min (dB)     |                               |              |
| H28161-A    | 100                   | 2300                    | 13 @ 40 kHz | 13 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H28159-A    | 100                   | 3000                    | 13 @ 40 kHz | 12 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H28160-A    | 100                   | 3000                    | 13 @ 40 kHz | 12 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H27649-B    | 100                   | 2300                    | 14 @ 40 kHz | 15 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H27650-A    | 100                   | 3000                    | 14 @ 40 kHz | 13 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H27695-A    | 100                   | 3000                    | 14 @ 40 kHz | 13 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H28223-B    | 100                   | 3000                    | 13 @ 40 kHz | 13 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |
| H28224-B    | 100                   | 2300                    | 13 @ 40 kHz | 13 @ 320 kHz | 65 @ 40 kHz                   | -85 @ 20 kHz |

1. All electrical specifications referenced to line side.
2. Operating temperature range -40°C to +85°C.
3. Electrical specifications at 25°C.

**Coilcraft**<sup>®</sup>

Specifications subject to change without notice.

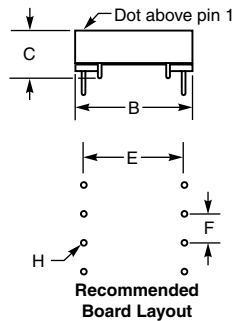
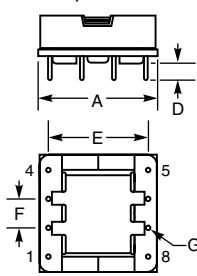
Please check our website for latest information. Document 202-1 Revised 02/11/08

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail [info@coilcraft.com](mailto:info@coilcraft.com) Web <http://www.coilcraft.com>

# HDSL2 Transformers

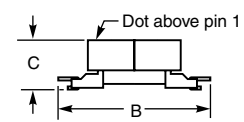
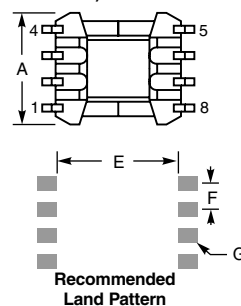
## H27650-A, H28159-A



Packaged 100 per tray

| A max  | B max | C max | D min | E     | F typ | G dia | H dia |
|--------|-------|-------|-------|-------|-------|-------|-------|
| 0.650  | 0.675 | 0.35  | 0.125 | 0.541 | 0.148 | 0.020 | 0.030 |
| 16,51  | 17,15 | 8,9   | 3,19  | 13,74 | 3,76  | 0,51  | 0,76  |
| inches |       |       |       |       |       |       |       |
| mm     |       |       |       |       |       |       |       |

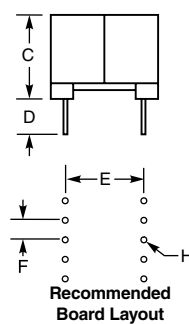
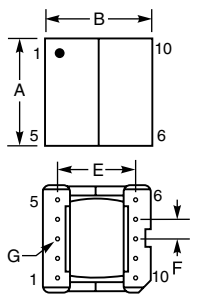
## H27695-A, H28160-A



Packaged 60 per tray

| A max  | B max | C max | E     | F typ | G typ         |
|--------|-------|-------|-------|-------|---------------|
| 0.675  | 0.925 | 0.35  | 0.591 | 0.148 | 0.079 × 0.110 |
| 17,14  | 23,50 | 8,9   | 15,01 | 3,76  | 2,01 × 2,79   |
| inches |       |       |       |       |               |
| mm     |       |       |       |       |               |

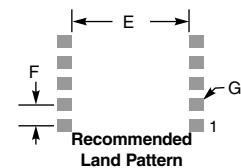
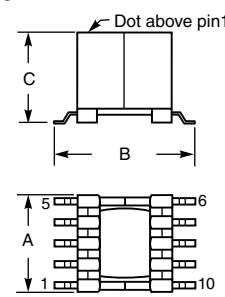
## H28223-B



Packaged 50 per tray

| A max  | B max | C max | D min | E     | F typ | G dia | H dia |
|--------|-------|-------|-------|-------|-------|-------|-------|
| 0.550  | 0.550 | 0.500 | 0.100 | 0.400 | 0.100 | 0.013 | 0.032 |
| 13,97  | 13,97 | 12,70 | 2,54  | 10,16 | 2,54  | 0,33  | 0,82  |
| inches |       |       |       |       |       |       |       |
| mm     |       |       |       |       |       |       |       |

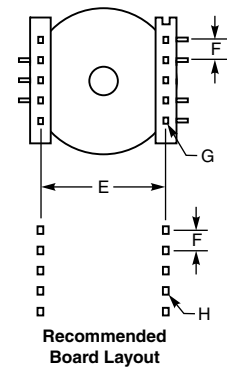
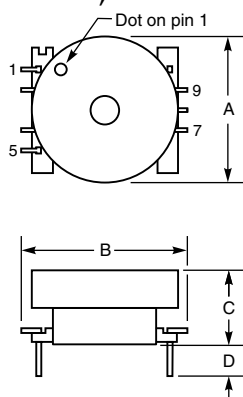
## H28224-B



Packaged 100 per tray

| A max  | B max | C max | E     | F typ | G typ         |
|--------|-------|-------|-------|-------|---------------|
| 0.530  | 0.699 | 0.500 | 0.590 | 0.098 | 0.050 × 0.061 |
| 13,46  | 17,75 | 12,70 | 14,99 | 2,50  | 1,27 × 1,55   |
| inches |       |       |       |       |               |
| mm     |       |       |       |       |               |

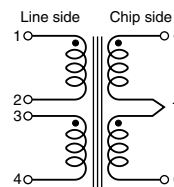
## H27649-B, H28161-A



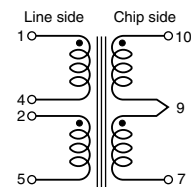
Packaged 49 per tray

| A max  | B max | C max | D min | E     | F typ | G typ         | H typ         |
|--------|-------|-------|-------|-------|-------|---------------|---------------|
| 0.930  | 1.05  | 0.46  | 0.12  | 0.800 | 0.150 | 0.017 × 0.038 | 0.045 × 0.025 |
| 23,62  | 26,7  | 11,7  | 3,0   | 20,32 | 3,81  | 0,43 × 0,97   | 1,14 × 0,64   |
| inches |       |       |       |       |       |               |               |
| mm     |       |       |       |       |       |               |               |

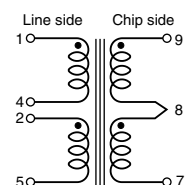
## H27650-A, H28159-A, H27695-A, H28160-A



## H28223-B, H28224-B



## H27649-B, H28161-A



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Document 202-2 Revised 02/11/08

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web http://www.coilcraft.com