



SHCI13H SERIES HIGH CURRENT INDUCTOR



ALL PARTS AVAILABLE AS CLASS S OR CLASS B

MIL-STD-981

| Inductance Range | DCR max (Ohms) | Current Rating (A) |
|------------------|----------------|--------------------|
| 1.25 uH - 10 mH | 0.005 - 15.00 | 26.3 - 0.24 |

ALL DIMENSIONS: INCHES

THRU-HOLE & GULL-WING PACKAGES ALSO AVAILABLE

ELECTRICAL SPECIFICATIONS

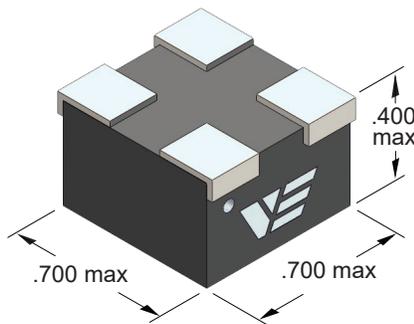
- **Operating Temperature:** -55°C to +130°C
- **Storage Temperature:** -60°C to +135°C
- **Temperature Rise:** < 30°C
- **Dielectric Withstanding Voltage:** 100 V_{RMS}
- **Different electrical values available upon request**

FEATURES

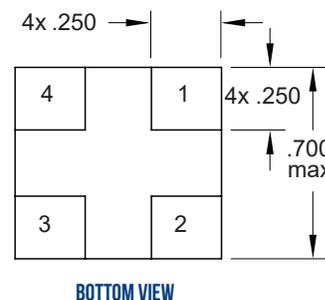
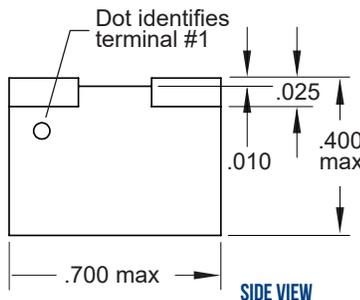
- **Compact**, low profile, ideal for automatic placement
- **Terminations:** Tin-lead
- **Welded Internal Connections**
- **Moisture, Shock and Immersion Resistant**
- **Magnetically Shielded**
- **Other termination finishes available upon request**
- **Multiple Configurations:** Series, parallel, transformer, dual inductor
- Built to meet **MIL-STD-981** specifications
- **NASA outgassing compliant per ASTM E595** (TML <1%, CVCVM <0.1%)

APPLICATIONS

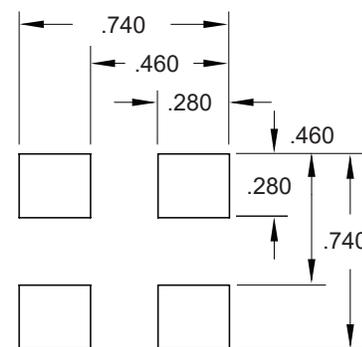
- Filter inductors
- Power supplies
- Ripple suppressors
- DC/DC converters
- Common mode chokes
- SEPIC converters
- Isolation transformers



MARKINGS: LASER ETCH OR INK



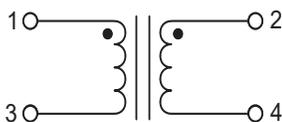
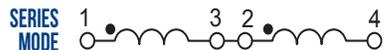
| IN | MM |
|-------|-------|
| 0.740 | 18.80 |
| 0.700 | 17.78 |
| 0.460 | 11.68 |
| 0.400 | 10.16 |
| 0.280 | 7.11 |
| 0.250 | 6.35 |
| 0.040 | 1.01 |
| 0.010 | 0.25 |



RECOMMENDED MOUNTING PAD CIRCUIT SIDE

TYPICAL USER CONNECTIONS

SCHEMATIC



CUSTOM DESIGNS & MODIFICATIONS:

Other electrical configurations and performance characteristics are available in various sizes and package types

SHCI13H SERIES





DATA TABLE

| Vanguard P/N | Series Inductance (uH) | Series DCR max (Ohms) | Series Rated Current (Adc) | Series Inc. Current ΔL 10% (Adc) | Series Inc. Current ΔL 20% (Adc) |
|--------------|------------------------|-----------------------|----------------------------|----------------------------------|----------------------------------|
| SHCI13H-501K | 5.0 | 0.017 | 7.1 | 9.5 | 13.2 |
| SHCI13H-102K | 10.0 | 0.025 | 6.0 | 6.8 | 9.4 |
| SHCI13H-182K | 18.0 | 0.040 | 4.8 | 5.3 | 7.3 |
| SHCI13H-252K | 25.0 | 0.050 | 4.1 | 4.3 | 6.0 |
| SHCI13H-502K | 50.0 | 0.075 | 3.3 | 3.6 | 5.1 |
| SHCI13H-752K | 75.0 | 0.090 | 3.1 | 3.4 | 4.7 |
| SHCI13H-103K | 100.0 | 0.170 | 2.2 | 2.3 | 3.1 |
| SHCI13H-203K | 200.0 | 0.330 | 1.6 | 1.1 | 1.6 |
| SHCI13H-253K | 250.0 | 0.500 | 1.3 | 0.95 | 1.4 |
| SHCI13H-503K | 500.0 | 0.860 | 1.0 | 0.65 | 0.96 |
| SHCI13H-753K | 750.0 | 1.30 | 0.81 | 0.54 | 0.79 |
| SHCI13H-104K | 1.0 mH | 1.40 | 0.80 | 0.53 | 0.78 |
| SHCI13H-204K | 2.0 mH | 3.40 | 0.50 | 0.33 | 0.49 |
| SHCI13H-304K | 3.0 mH | 5.30 | 0.40 | 0.27 | 0.40 |
| SHCI13H-504K | 5.0 mH | 6.80 | 0.35 | 0.21 | 0.31 |
| SHCI13H-754K | 7.5 mH | 13.00 | 0.26 | 0.17 | 0.25 |
| SHCI13H-105K | 10.0 mH | 15.00 | 0.24 | 0.15 | 0.22 |

| Vanguard P/N | Parallel Inductance (uH) | Parallel DCR max (Ohms) | Parallel Rated Current (Adc) | Parallel Inc. Current ΔL 10% (Adc) | Parallel Inc. Current ΔL 20% (Adc) |
|--------------|--------------------------|-------------------------|------------------------------|------------------------------------|------------------------------------|
| SHCI13H-501K | 1.25 | 0.005 | 26.3 | 14.1 | 18.9 |
| SHCI13H-102K | 2.50 | 0.006 | 18.8 | 11.9 | 13.5 |
| SHCI13H-182K | 4.50 | 0.009 | 14.6 | 9.7 | 10.5 |
| SHCI13H-252K | 6.25 | 0.013 | 12.0 | 8.2 | 8.6 |
| SHCI13H-502K | 12.50 | 0.019 | 10.1 | 6.7 | 7.3 |
| SHCI13H-752K | 18.75 | 0.023 | 9.4 | 6.1 | 6.8 |
| SHCI13H-103K | 25.0 | 0.042 | 6.3 | 4.5 | 4.5 |
| SHCI13H-203K | 50.0 | 0.083 | 3.1 | 3.2 | 2.1 |
| SHCI13H-253K | 62.5 | 0.118 | 2.8 | 2.7 | 1.9 |
| SHCI13H-503K | 125.0 | 0.215 | 1.9 | 2.0 | 1.3 |
| SHCI13H-753K | 187.5 | 0.325 | 1.6 | 1.6 | 1.1 |
| SHCI13H-104K | 250.0 | 0.330 | 1.6 | 1.6 | 1.1 |
| SHCI13H-204K | 500.0 | 0.850 | 0.97 | 1.0 | 0.66 |
| SHCI13H-304K | 750.0 | 1.32 | 0.79 | 0.80 | 0.54 |
| SHCI13H-504K | 1.250 mH | 1.71 | 0.61 | 0.70 | 0.42 |
| SHCI13H-754K | 1.875 mH | 3.23 | 0.50 | 0.51 | 0.34 |
| SHCI13H-105K | 2.500 mH | 3.73 | 0.43 | 0.48 | 0.29 |

1/ Inductance measured at 10 kHz, 0.1 V_{RMS}

2/ DCR measured at room temperature

3/ Current Rating is based on a 30°C maximum temperature rise at an ambient temperature of 100°C

4/ Incremental current is the approximate value that will result in a percentage drop of inductance as indicated in the table

5/ Maximum Weight: TBD

6/ Units are series mode tested only, parallel mode values are reference only

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VE PART NUMBER STRUCTURE KEY

INDUCTANCE (uH) (mH)

501 = 5.0 uH
103 = 100 uH
105 = 10 mH

EXAMPLE: SHCI13H-501KS-3-T

TOLERANCE (%)

| | |
|---|------|
| K | ± 10 |
| M | ± 20 |

TERMINATION

| | |
|---|------|
| S | SnPb |
|---|------|

RELIABILITY

| | |
|---|----------------------------|
| 2 | Group A MIL-STD-981 |
| 3 | Group A+B MIL-STD-981 |
| 4 | Group A+B+C MIL-STD-981 |
| 7 | Other |

PACKAGING (Default Bulk)

| | |
|---|---------------|
| B | Bulk |
| T | Tape and Reel |

Tape and reel specs
Pcs. / reel maximum: (13") 250
Pitch between parts: 24 mm
Tape width: 32 mm

Parts that don't meet minimum reel requirements will be supplied on cut tape

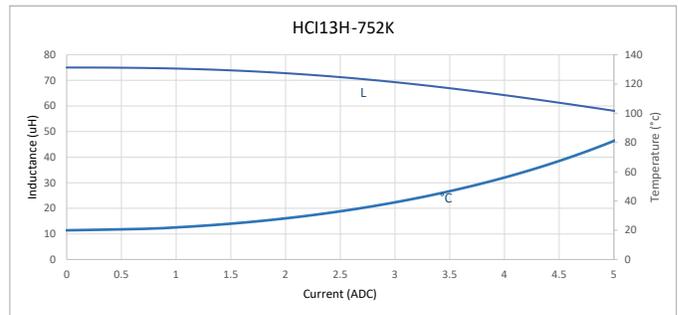
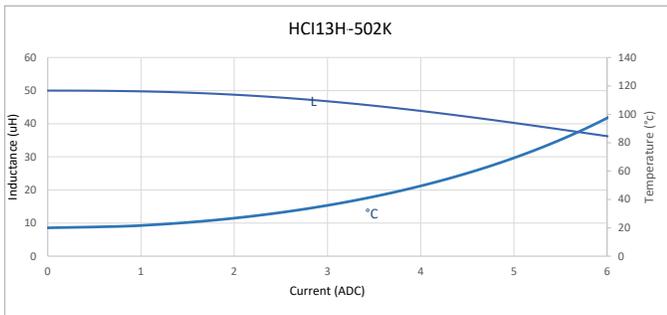
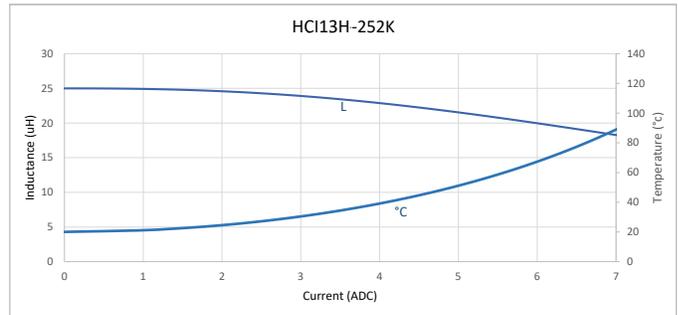
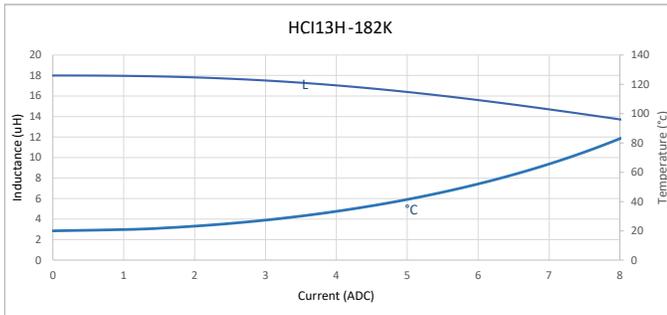
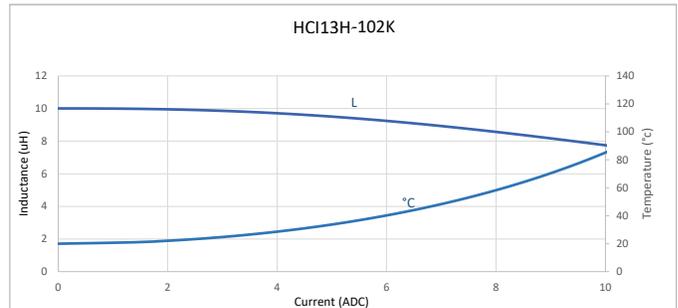
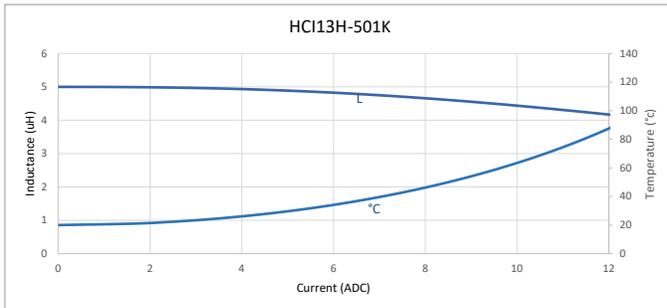
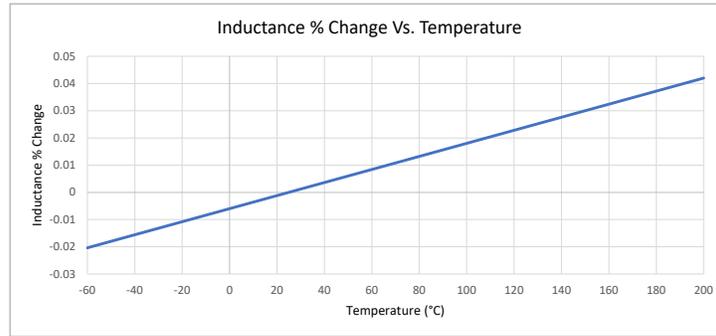
Tape and Reel not available for Thru-Hole or Gull-Wing Packages

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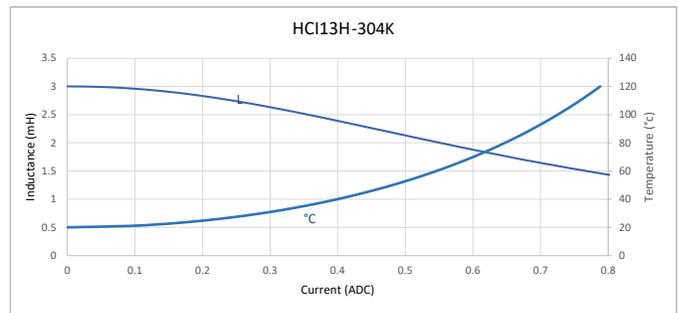
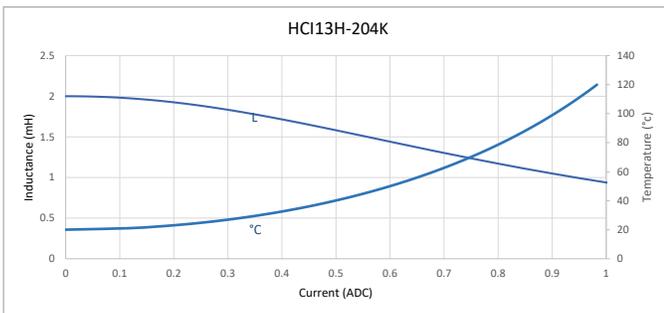
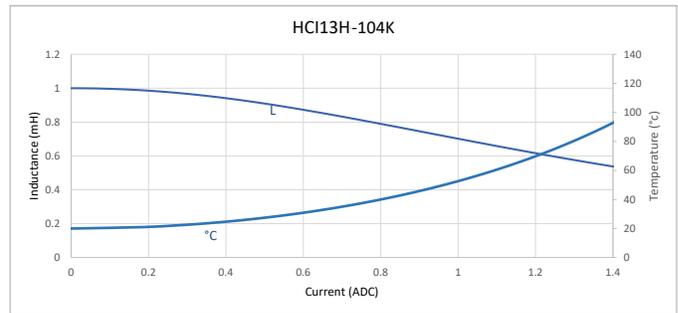
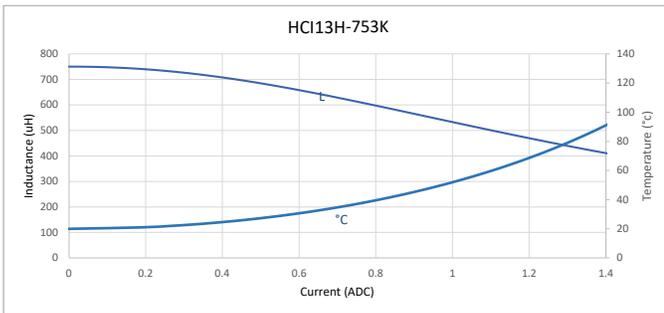
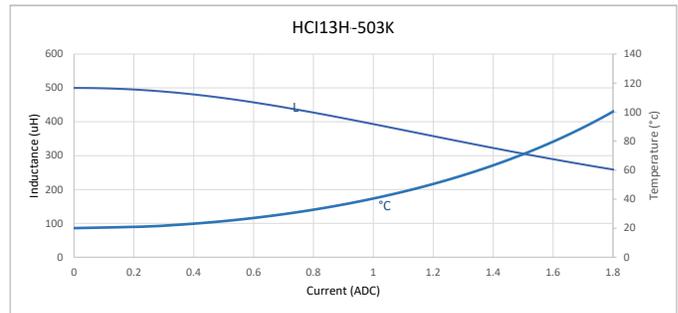
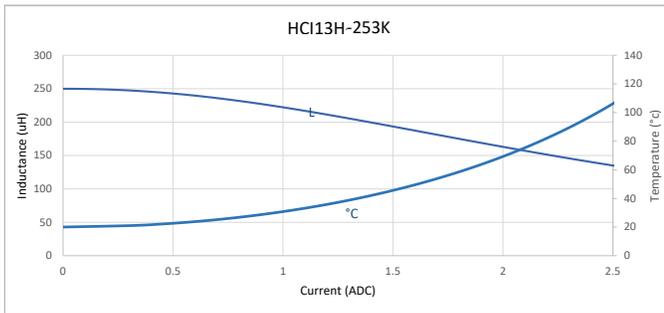
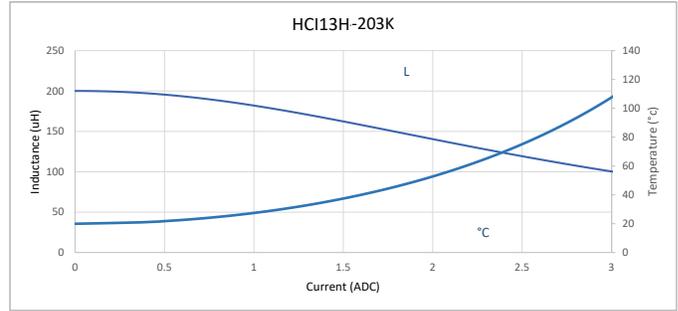
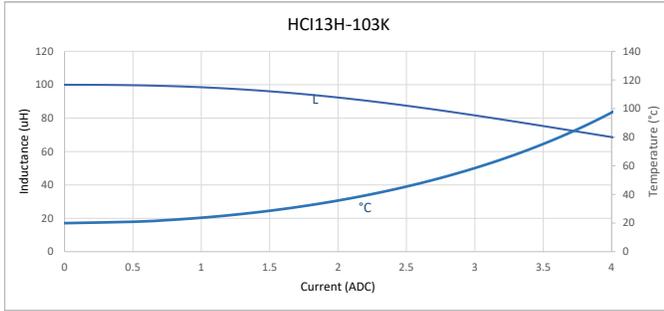


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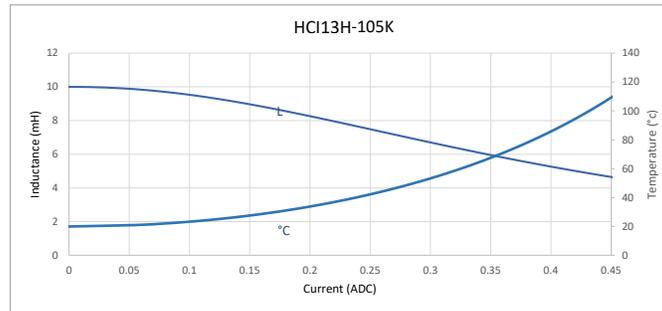
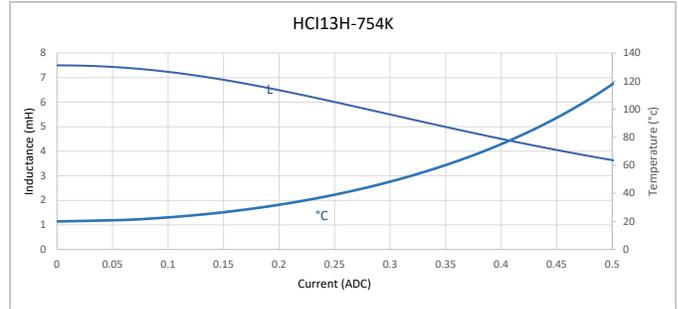
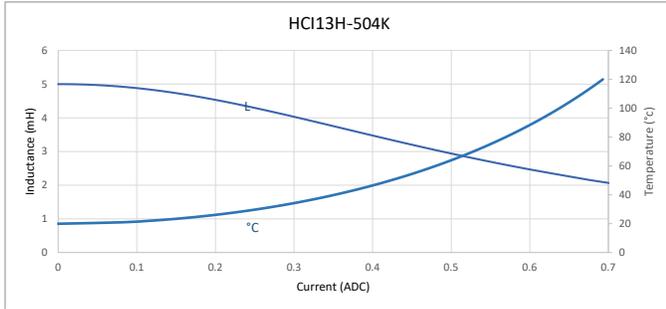


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