



## SHCI6H SERIES HIGH CURRENT INDUCTOR



ALL PARTS AVAILABLE AS CLASS S OR CLASS B

MIL-STD-981

| Inductance Range | DCR max (Ohms) | Current Rating (A) |
|------------------|----------------|--------------------|
| 216 nH - 10 mH   | 0.010 - 32.3   | 8.7 - 0.15         |

### 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<sub>RMS</sub>
- **Different electrical values available upon request**

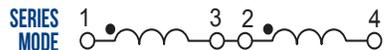
### FEATURES

- **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%, CVCM <0.1%)

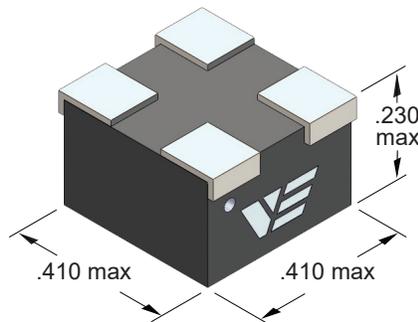
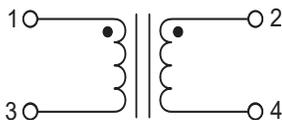
### APPLICATIONS

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

#### TYPICAL USER CONNECTIONS

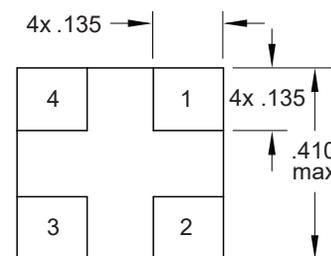
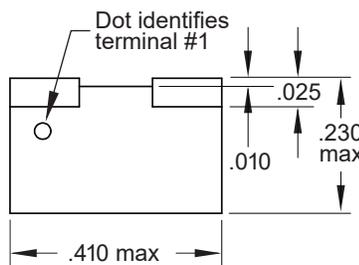


#### SCHEMATIC

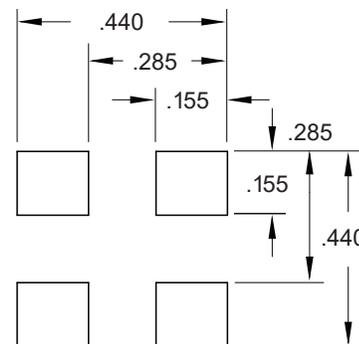


THRU-HOLE & GULL-WING PACKAGES ALSO AVAILABLE

MARKINGS: LASER ETCH OR INK



| IN    | MM    |
|-------|-------|
| 0.440 | 11.18 |
| 0.410 | 10.41 |
| 0.230 | 5.84  |
| 0.285 | 7.24  |
| 0.155 | 3.94  |
| 0.135 | 3.43  |
| 0.025 | 0.64  |
| 0.010 | 0.25  |



#### CUSTOM DESIGNS & MODIFICATIONS:

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





### 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) |
|-----------------|------------------------|-----------------------|----------------------------|----------------------------------|----------------------------------|
| SHCI6H-R86M*-** | 0.86                   | 0.040                 | 4.4                        | 10.3                             | 14.3                             |
| SHCI6H-201M*-** | 1.9                    | 0.060                 | 3.6                        | 6.9                              | 9.6                              |
| SHCI6H-351M*-** | 3.5                    | 0.070                 | 3.2                        | 5.2                              | 7.2                              |
| SHCI6H-501M*-** | 5.4                    | 0.090                 | 2.9                        | 4.1                              | 5.7                              |
| SHCI6H-102M*-** | 10.6                   | 0.120                 | 2.5                        | 3.0                              | 4.1                              |
| SHCI6H-252M*-** | 26.1                   | 0.180                 | 2.0                        | 1.9                              | 2.6                              |
| SHCI6H-502M*-** | 50.0                   | 0.250                 | 1.7                        | 1.4                              | 1.9                              |
| SHCI6H-752M*-** | 75.0                   | 0.320                 | 1.5                        | 1.1                              | 1.5                              |
| SHCI6H-103K*-** | 100.0                  | 0.360                 | 1.5                        | 0.94                             | 1.3                              |
| SHCI6H-253K*-** | 250.0                  | 0.910                 | 0.89                       | 0.61                             | 0.84                             |
| SHCI6H-503K*-** | 500.0                  | 2.50                  | 0.54                       | 0.43                             | 0.60                             |
| SHCI6H-753K*-** | 750.0                  | 2.70                  | 0.52                       | 0.23                             | 0.34                             |
| SHCI6H-104K*-** | 1.0 mH                 | 4.00                  | 0.43                       | 0.20                             | 0.29                             |
| SHCI6H-204K*-** | 2.0 mH                 | 7.40                  | 0.31                       | 0.14                             | 0.21                             |
| SHCI6H-304K*-** | 3.0 mH                 | 9.00                  | 0.28                       | 0.11                             | 0.17                             |
| SHCI6H-504K*-** | 5.0 mH                 | 18.3                  | 0.20                       | 0.09                             | 0.13                             |
| SHCI6H-754K*-** | 7.5 mH                 | 28.0                  | 0.16                       | 0.07                             | 0.11                             |
| SHCI6H-105K*-** | 10.0 mH                | 32.3                  | 0.15                       | 0.06                             | 0.09                             |

| 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) |
|-----------------|--------------------------|-------------------------|------------------------------|------------------------------------|------------------------------------|
| SHCI6H-R86M*-** | 0.216                    | 0.010                   | 8.7                          | 20.7                               | 28.7                               |
| SHCI6H-201M*-** | 0.486                    | 0.015                   | 7.2                          | 13.8                               | 19.1                               |
| SHCI6H-351M*-** | 0.864                    | 0.018                   | 6.3                          | 10.3                               | 14.3                               |
| SHCI6H-501M*-** | 1.35                     | 0.023                   | 5.8                          | 8.3                                | 11.5                               |
| SHCI6H-102M*-** | 2.65                     | 0.030                   | 4.9                          | 5.9                                | 8.2                                |
| SHCI6H-252M*-** | 6.50                     | 0.045                   | 4.0                          | 3.8                                | 5.2                                |
| SHCI6H-502M*-** | 12.50                    | 0.063                   | 3.4                          | 2.8                                | 3.8                                |
| SHCI6H-752M*-** | 18.75                    | 0.080                   | 3.0                          | 2.2                                | 3.0                                |
| SHCI6H-103K*-** | 25.00                    | 0.090                   | 3.1                          | 1.9                                | 2.6                                |
| SHCI6H-253K*-** | 62.50                    | 0.228                   | 1.8                          | 1.2                                | 1.7                                |
| SHCI6H-503K*-** | 125.0                    | 0.625                   | 1.1                          | 0.86                               | 1.2                                |
| SHCI6H-753K*-** | 187.5                    | 0.675                   | 1.0                          | 0.46                               | 0.68                               |
| SHCI6H-104K*-** | 250.0                    | 1.00                    | 0.85                         | 0.40                               | 0.59                               |
| SHCI6H-204K*-** | 500.0                    | 1.85                    | 0.63                         | 0.28                               | 0.41                               |
| SHCI6H-304K*-** | 750.0                    | 2.25                    | 0.57                         | 0.23                               | 0.34                               |
| SHCI6H-504K*-** | 1.250 mH                 | 4.58                    | 0.40                         | 0.18                               | 0.26                               |
| SHCI6H-754K*-** | 1.875 mH                 | 7.00                    | 0.32                         | 0.14                               | 0.21                               |
| SHCI6H-105K*-** | 2.500 mH                 | 8.08                    | 0.30                         | 0.13                               | 0.19                               |

1/ Inductance measured at 10 kHz, 0.1 V<sub>RMS</sub>

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)

R86 = 0.86 uH  
103 = 100 uH  
504 = 5 mH

EXAMPLE: SHCI6H-R86MS-3-T

#### TOLERANCE (%)

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

#### TERMINATION

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

#### RELIABILITY

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

#### PACKAGING (Default Bulk)

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

Tape and reel specs  
Pcs. / reel maximum: (13") 530  
Pitch between parts: 16 mm  
Tape width: 24 mm

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

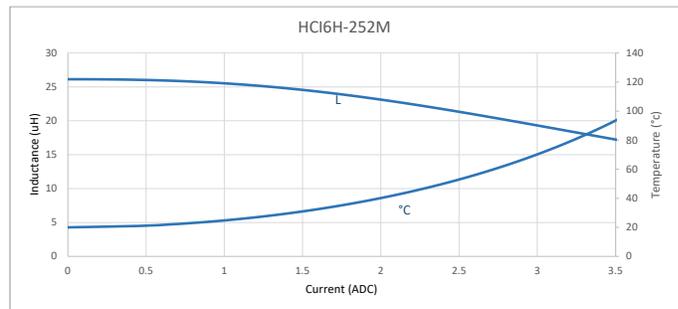
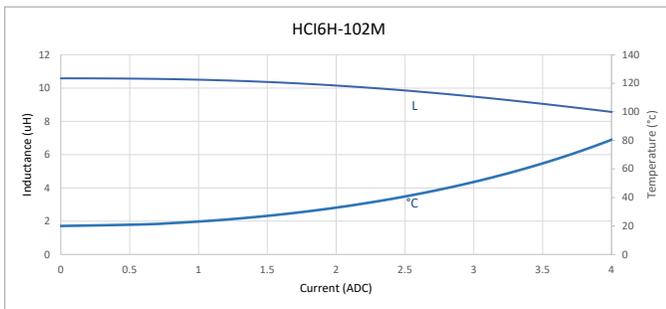
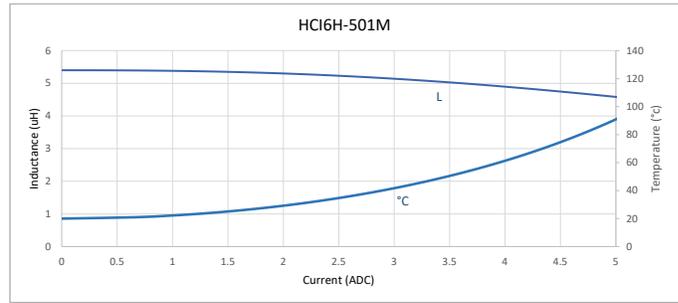
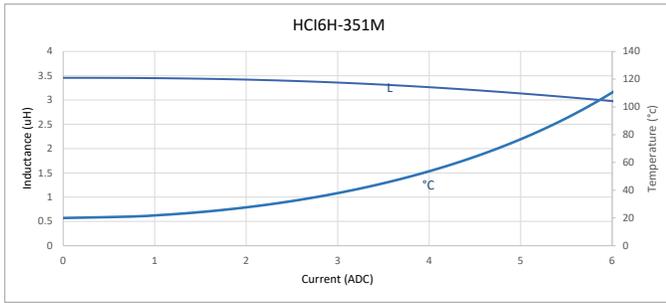
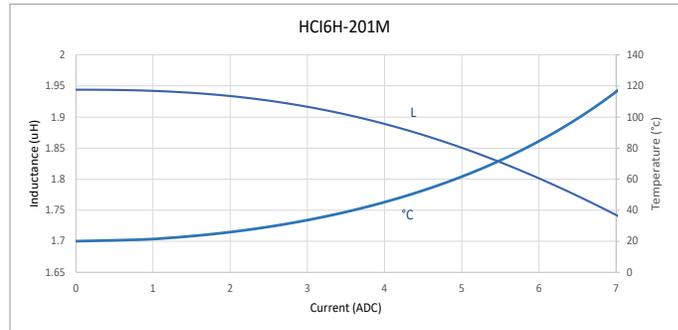
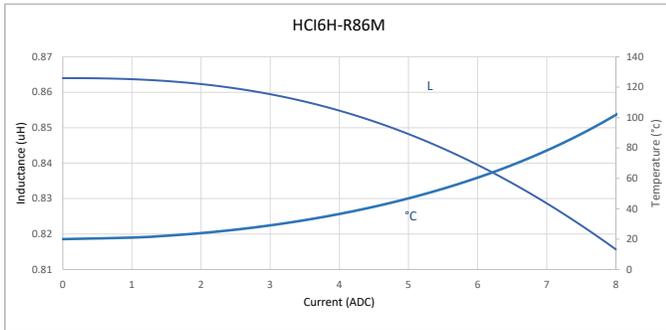
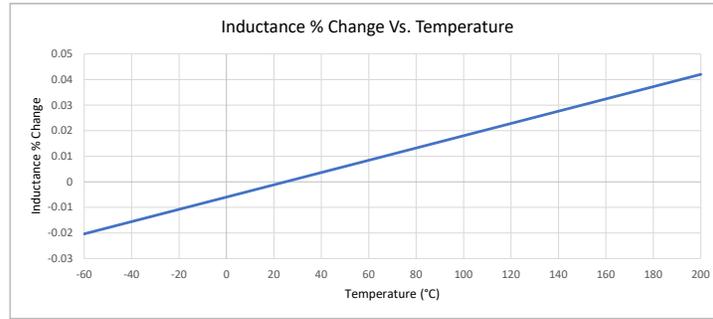
*Tape and Reel not available for Thru-Hole or Gull-Wing Packages*

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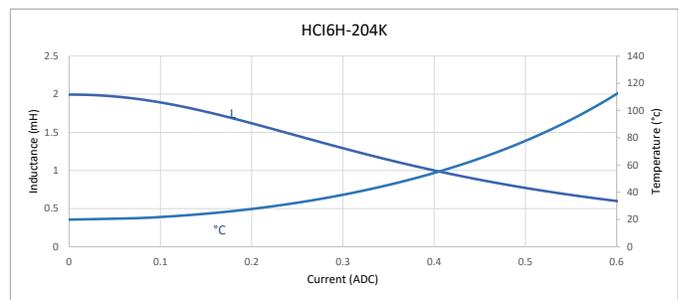
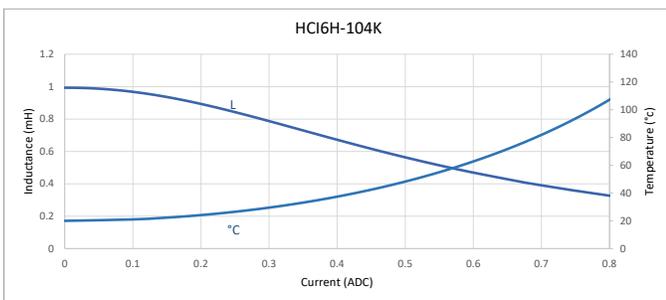
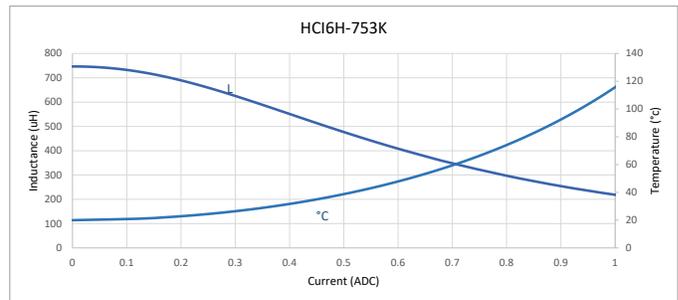
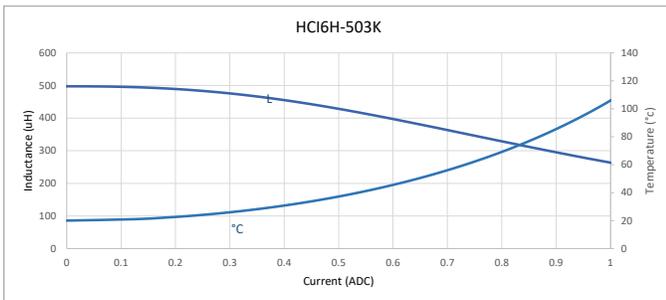
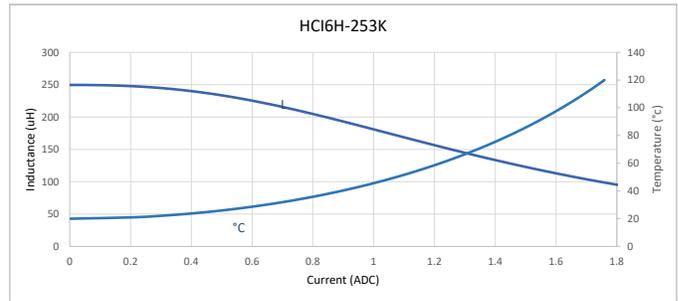
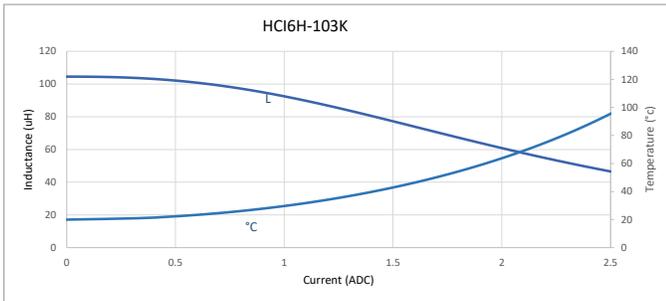
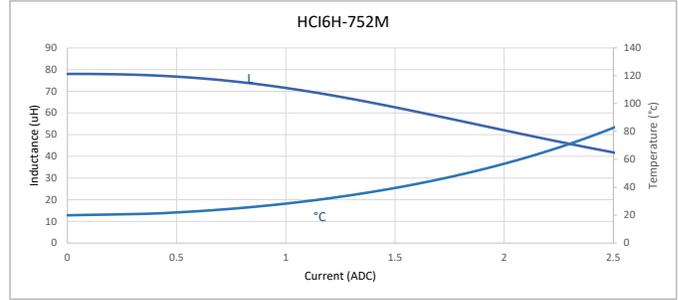
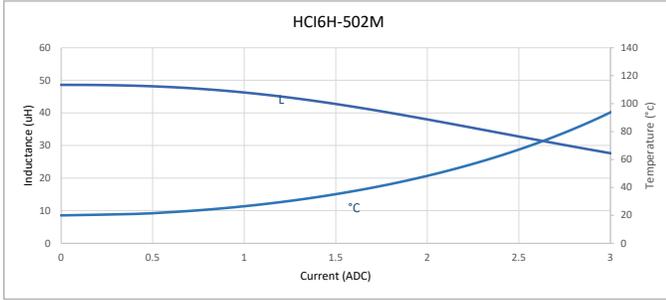




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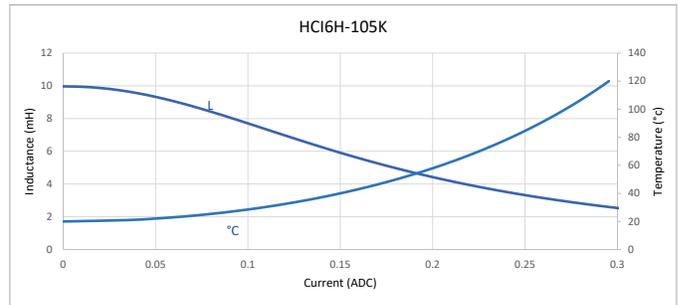
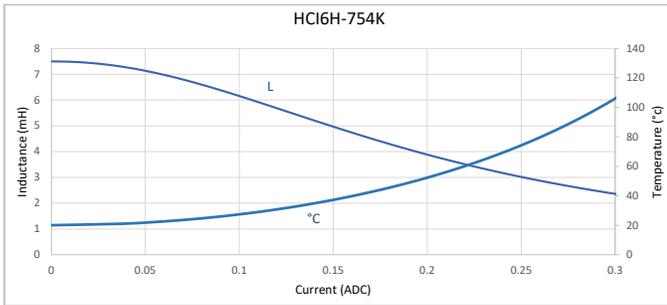
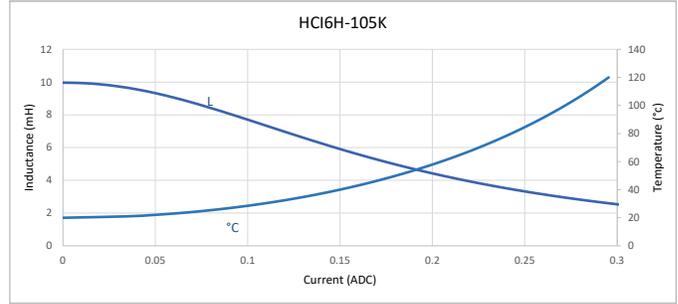
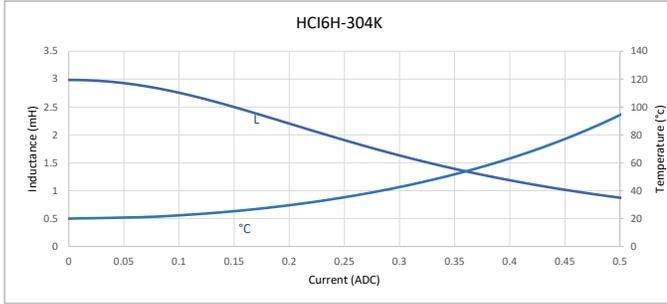


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