



## SH260 Series • Inductors for National's 260kHz Simple Switcher™

AlfaMag Electronics

Compatible with National Semiconductor's Simple Switcher™  
Part Numbers LM267X-L41 and LM267X-L45 through  
LM267X-L50

### Features

- High energy storage with minimum saturation
- High stability from no load to full load
- Available in both SMD and THT versions
- Manufactured in ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified facility
- Meets lead free reflow level J-STD-020C
- Fully RoHS compliant



### Electrical Specifications @ 25°C

Test voltage between windings: 500 Vrms

Operating temperature range: -40°C to +125°C

Climatic Category: IEC68-1 40/125/56

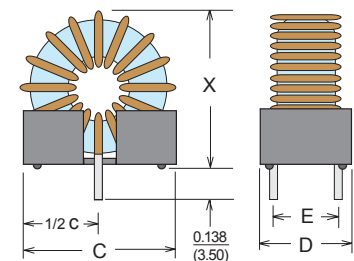
Test frequency: Inductance measured @ 10kHz / 10mV

| Part Number   | National Part Number | Rated Current (I <sub>DC</sub> ) | Inductance (µH) ±20% | ET <sub>OP</sub> (V-µSec) Max. @ 260kHz | DCR Nominal (mOhm) | Package Size |                |
|---------------|----------------------|----------------------------------|----------------------|---|--------------------|--------------|----------------|
|               |                      |                                  |                      |   |                    | Package Code | Lead Dia. (mm) |
| SH260C-4.9-23 | LM267X-L41           | 4.9                              | 22.8                 | 23.3                                    | 36                 | C3           | 0.80           |
| SH260C-4.3-10 | LM267X-L45           | 4.3                              | 10.2                 | 10.0                                    | 26                 | C1           | 0.75           |
| SH260C-5.0-15 | LM267X-L46           | 5.0                              | 14.8                 | 17.0                                    | 23                 | C2           | 0.80           |
| SH260C-5.0-10 | LM267X-L47           | 5.0                              | 10                   | 13.0                                    | 25                 | C2           | 0.75           |
| SH260C-5.0-50 | LM267X-L48           | 5.0                              | 50                   | 40.0                                    | 50                 | C4           | 0.90           |
| SH260C-5.0-33 | LM267X-L49           | 5.0                              | 33                   | 36.0                                    | 47                 | C4           | 0.80           |
| SH260C-5.0-23 | LM267X-L50           | 5.0                              | 23                   | 24.0                                    | 26                 | C3           | 0.80           |
| SH260S-4.9-23 | LM267X-L41           | 4.9                              | 22.8                 | 23.3                                    | 36                 | SH6A         |                |
| SH260S-4.3-10 | LM267X-L45           | 4.3                              | 10                   | 10.0                                    | 26                 | S4           |                |
| SH260S-5.0-15 | LM267X-L46           | 5.0                              | 15                   | 17.0                                    | 27                 | S5           |                |
| SH260S-5.0-10 | LM267X-L47           | 5.0                              | 11                   | 13.0                                    | 25                 | S5           |                |
| SH260S-5.0-50 | LM267X-L48           | 5.0                              | 52*                  | 40.0                                    | 25                 | SHC7         |                |
| SH260S-5.0-33 | LM267X-L49           | 5.0                              | 36*                  | 36.0                                    | 19                 | SHC7         |                |
| SH260S-5.0-23 | LM267X-L50           | 5.0                              | 24.7*                | 24.0                                    | 13                 | SHC7         |                |
| SH260T-4.9-23 | LM267X-L41           | 4.9                              | 22.8                 | 23.3                                    | 36                 | TH6A         |                |
| SH260T-4.3-10 | LM267X-L45           | 4.3                              | 10                   | 10.0                                    | 26                 | T4           |                |
| SH260T-5.0-15 | LM267X-L46           | 5.0                              | 15                   | 17.0                                    | 27                 | T5           |                |
| SH260T-5.0-10 | LM267X-L47           | 5.0                              | 11                   | 13.0                                    | 25                 | T5           |                |

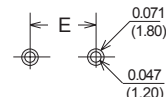
\* Note: Series connection with pins 2 - 4 connected

### Type SW260C - Clip Mount

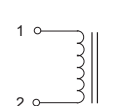
| Part Number   | Size Code | Dimensions - Inches ±0.01 (mm ±0.25) |                  |                  |                  |                 |
|---------------|-----------|--------------------------------------|------------------|------------------|------------------|-----------------|
|               |           | C                                    | D                | E                | Coil OD          | X = Coil OD +   |
| SH260C-4.3-10 | C1        | 0.580<br>(14.73)                     | 0.340<br>(8.64)  | 0.220<br>(5.58)  | 0.605<br>(15.40) | 0.110<br>(2.80) |
| SH260C-5.0-15 | C2        | 0.650<br>(16.50)                     | 0.449<br>(11.40) | 0.299<br>(7.60)  | 0.640<br>(16.26) | 0.110<br>(2.80) |
| SH260-5.0-10  | C2        | 0.650<br>(16.50)                     | 0.449<br>(11.40) | 0.299<br>(7.60)  | 0.590<br>(15.00) | 0.110<br>(2.80) |
| SH260C-4.9-23 | C3        | 0.827<br>(21.00)                     | 0.449<br>(11.40) | 0.299<br>(7.60)  | 0.840<br>(21.34) | 0.110<br>(2.80) |
| SH260C-5.0-23 |           |                                      |                  |                  |                  |                 |
| SH260C-5.0-50 | C4        | 0.949<br>(24.10)                     | 0.598<br>(15.20) | 0.449<br>(11.40) | 1.240<br>(31.50) | 0.110<br>(2.80) |
| SH260C-5.0-33 |           |                                      |                  |                  |                  |                 |



Suggested Board Layout (Top Side View)



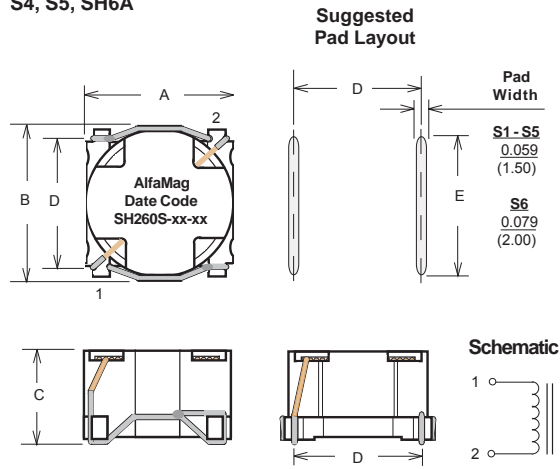
Schematic



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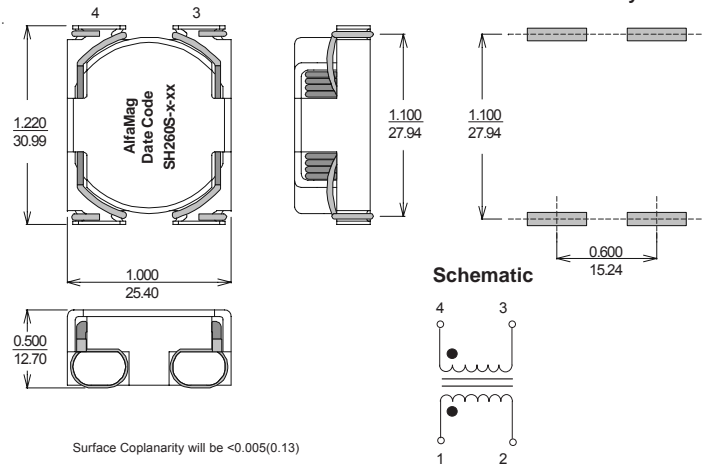
## Mounting Styles • SH260 Series • Low Cost Toroidal Inductors

### S4, S5, SH6A



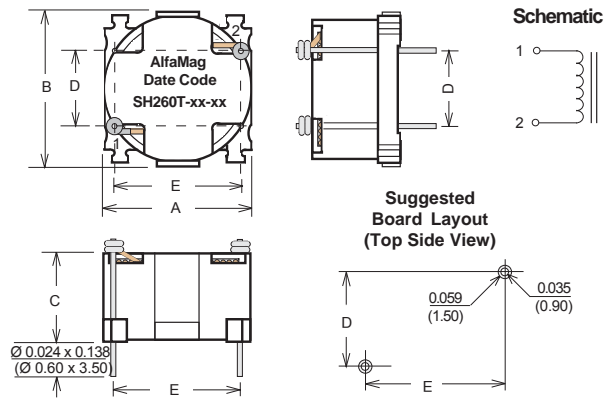
Surface Coplanarity will be <math><0.005(0.13)</math>

### SHC7



Surface Coplanarity will be <math><0.005(0.13)</math>

### T4, T5, TH6A



| Mounting Style | Size Code | Dimensions - Inches $\pm 0.010$ (mm $\pm 0.25$ ) |                 |                  |                  |                  |
|----------------|-----------|--|-----------------|------------------|------------------|------------------|
|                |           | A  | B               | C                | D                | E                |
| "S"<br>SMD     | S4        | 0.591<br>(15.0)                                  | 0.614<br>(15.6) | 0.394<br>(10.0)  | 0.508<br>(12.9)  | 0.551<br>(14.0)  |
|                | S5        | 0.669<br>(17.0)                                  | 0.701<br>(17.8) | 0.441<br>(11.2)  | 0.591<br>(15.0)  | 0.630<br>(16.0)  |
|                | SH6A      | 0.925<br>(23.5)                                  | 0.957<br>(24.3) | 0.417<br>(10.6)  | 0.827<br>(21.0)  | 0.748<br>(19.0)  |
| "T"<br>THT     | T4        | 0.591<br>(15.0)                                  | 0.614<br>(15.6) | 0.358<br>(9.10)  | 0.300<br>(7.62)  | 0.500<br>(12.70) |
|                | T5        | 0.669<br>(17.0)                                  | 0.701<br>(17.8) | 0.409<br>(10.40) | 0.600<br>(15.24) | 0.500<br>(12.70) |
|                | TH6A      | 0.925<br>(23.5)                                  | 0.957<br>(24.3) | 0.386<br>(9.80)  | 0.650<br>(16.51) | 0.800<br>(20.32) |

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