

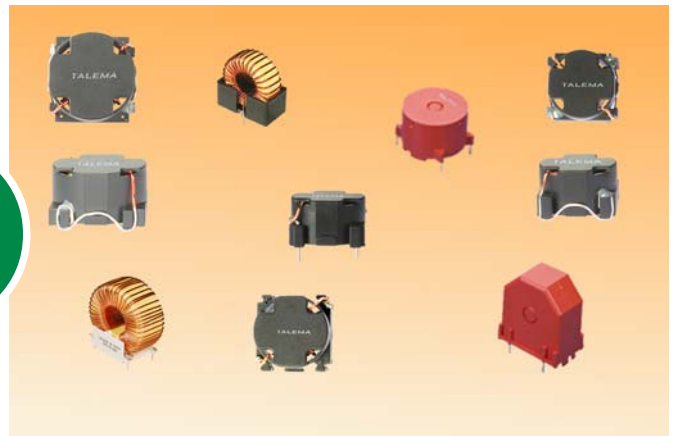


SH50 Series • Inductors for National's 50kHz Simple Switcher™

Compatible with National Semiconductor's Simple Switcher™ Part Number's LM2574, LM2475 and LM2576

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 Talema 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 | Rated Current (I _{DC}) | L _N (μH) Typical * | L _O (μH) ±20% No DC Load | ET _{OP} (V-μSec) Max. | DCR (Ohms) Max. | Package | | | | | |
|-----------------|----------------------------------|-------------------------------|-------------------------------------|--------------------------------|-----------------|---------|-----|-----|-----|-----|-----|
| | | | | | | "C" | "S" | "T" | "B" | "F" | "V" |
| SH50_-3.0-47 | 3.0 | 47 | 38 | 90 | 0.05 | 2 | 5 | * | | | |
| SH50C-5.0-36 | 5.0 | 36 | 55 | 90 | 0.02 | 4 | | | | | |
| SH50C-3.0-100 | 3.0 | 100 | 91 | 90 | 0.04 | 4 | | | | | |
| SH50_-2.0-150 | 2.0 | 150 | 130 | 90 | 0.10 | 4 | 6 | 6 | | | |
| SH50_-1.4-220 | 1.4 | 220 | 230 | 90 | 0.38 | | 5 | * | | 2 | 2 |
| SH50_-1.4-176 | 1.4 | 220 | 176 | 90 | 0.14 | 3 | 6A | 6A | | | |
| SH50_-0.9-330 | 0.9 | 330 | 302 | 90 | 0.74 | | 5 | * | | 2 | 2 |
| SH50_-0.9-267 | 0.9 | 330 | 267 | 90 | 0.18 | 3 | 6A | 6A | | | |
| SH50C-0.64-470 | 0.64 | 470 | 426 | 90 | 0.16 | 4 | | | | | |
| SH50_-0.85-680 | 0.85 | 680 | 657 | 90 | 1.25 | | 5 | * | | 2 | 2 |
| SH50C-3.0-150 | 3.0 | 150 | 136 | 200 | 0.10 | 4 | | | | | |
| SH50C-3.0-220 | 3.0 | 220 | 167 | 200 | 0.07 | 5 | | | | | |
| SH50C-3.0-330 | 3.0 | 330 | 292 | 200 | 0.15 | 5 | | | | | |
| SH50C-2.0-470 | 2.0 | 470 | 369 | 200 | 0.17 | 5 | | | | | |
| SH50C-1.3-680 | 1.3 | 680 | 562 | 200 | 0.20 | 5 | | | | | |
| SH50C-0.95-1000 | 0.95 | 1000 | 762 | 200 | 0.24 | 5 | | | | | |
| SH50B-0.62-1500 | 0.62 | 1500 | 1150 | 200 | 1.00 | | | | 8 | | |
| SH50B-0.42-2200 | 0.42 | 2200 | 1730 | 200 | 1.80 | | | | 8 | | |

* The previous SW "T" (size 5 - plate version) has been discontinued and replaced with a pin equivalent "Flat Mount" - Package SH50F, size 2. Dimensions on the following Mounting Styles page.

Notes:

- 1) Inductance will be typical for the I_{DC} and ET_{OP} values listed above.
- 2) No load Inductance measured at B_{OP} maximum of 10 gauss (10mV @ 20kHz).
- 3) Simple Switcher™ is a trademark of National Semiconductor Corporation.

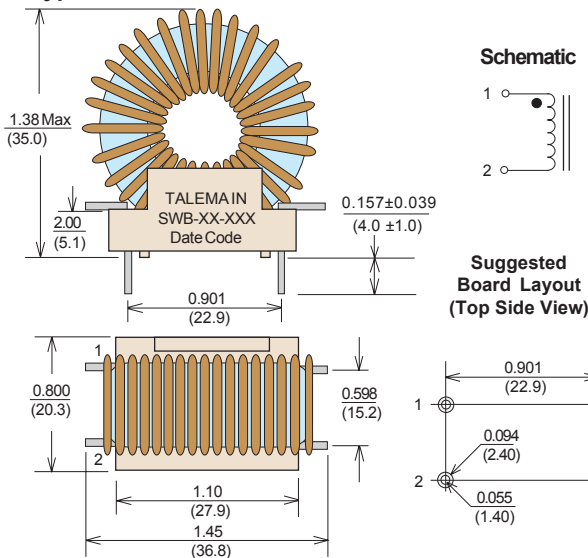
Ordering Key

SH50 C - 3.0 - 47

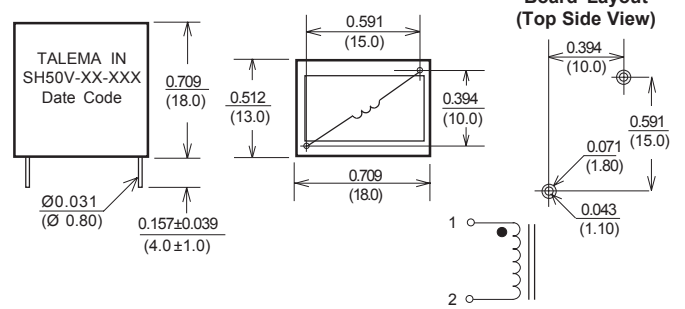
- Inductance Value in μH
- Current Rating (Amps)
- Mounting Style - Specify the appropriate suffix
- C = Clip Mount
- S = Surface Mount (S5 or S6)
- T = Low Profile TH Mount
- B = Base Mount
- F = Flat Encapsulated
- V = Vertical Encapsulated
- Basic Series Designation

Mounting Styles • SH50 Series - Low Cost Toroidal Inductors

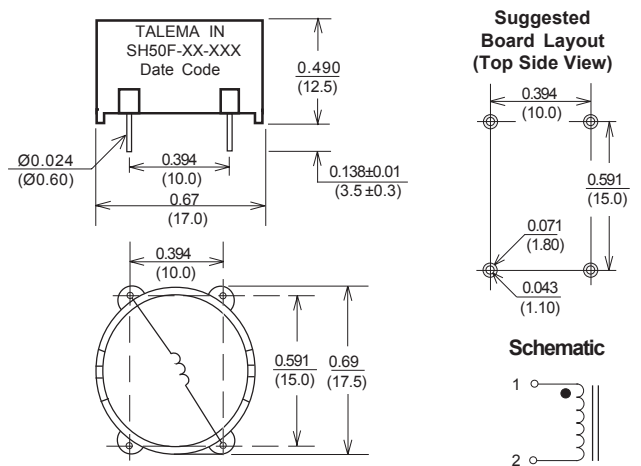
Type SH50B - Vertical Mount



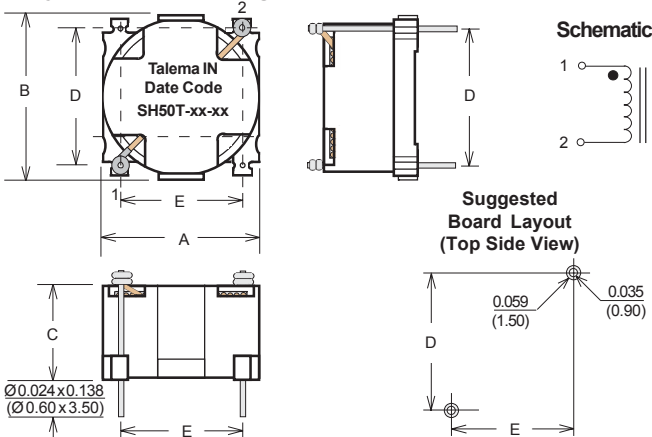
Type SH50V - Vertical Mount - Size 2



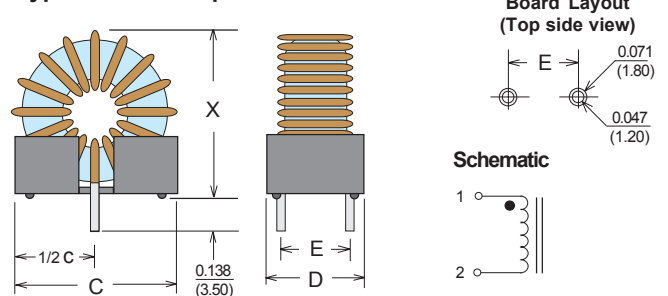
Type SH50F - Flat Mount - Size 2



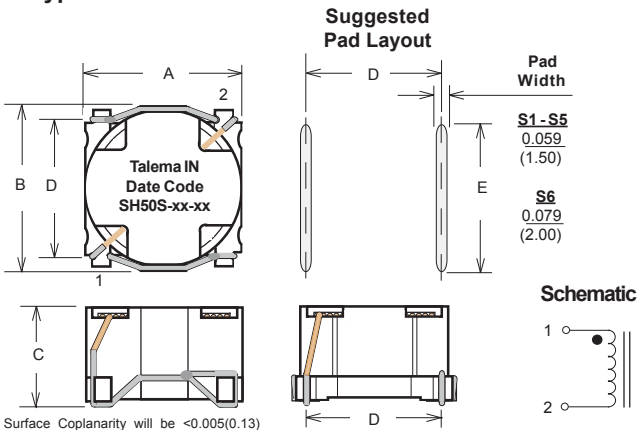
Type SH50T - Through Hole Mount



Type SH50C - Clip Mount



Type SH50S - Surface Mount



| Mounting Style | Size Code | Dimensions - Inches ± 0.010 (mm ± 0.25) | | | |
|-------------------------|-----------|--|-----------------|-----------------|-----------------|
| | | C | D | E | X = Coil O.D. + |
| "C" Vertical Clip Mount | C2 | 0.650 (16.5) | 0.449 (11.4) | 0.299 (7.60) | 0.110 (2.80) |
| | C3 | 0.827 (21.0) | 0.449 (11.4) | 0.299 (7.60) | 0.110 (2.80) |
| | C4 | 0.949 (24.1) | 0.598 (15.2) | 0.449 (11.4) | 0.110 (2.80) |
| | C5 | 1.252 (31.8) | 0.701 (17.8) | 0.500 (12.7) | 0.130 (3.30) |

| Mounting Style | Size Code | Dimensions - Inches ± 0.010 (mm ± 0.25) | | | | |
|----------------|-----------|--|-----------------|-----------------|------------------|------------------|
| | | A | B | C | D | E |
| "S" SMD | S5 | 0.669 (17.0) | 0.701 (17.8) | 0.441 (11.2) | 0.591 (15.0) | 0.630 (16.0) |
| | S6 | 0.925 (23.5) | 0.957 (24.3) | 0.555 (14.1) | 0.843 (21.4) | 0.748 (19.0) |
| | SH6A | 0.925 (23.5) | 0.957 (24.3) | 0.402 (10.2) | 0.843 (21.4) | 0.748 (19.0) |
| "T" THT | T6 | 0.925 (23.5) | 0.957 (24.3) | 0.531 (13.5) | 0.650 (16.51) | 0.800 (20.32) |
| | TH6A | 0.925 (23.5) | 0.957 (24.3) | 0.386 (9.8) | 0.650 (16.51) | 0.800 (20.32) |