

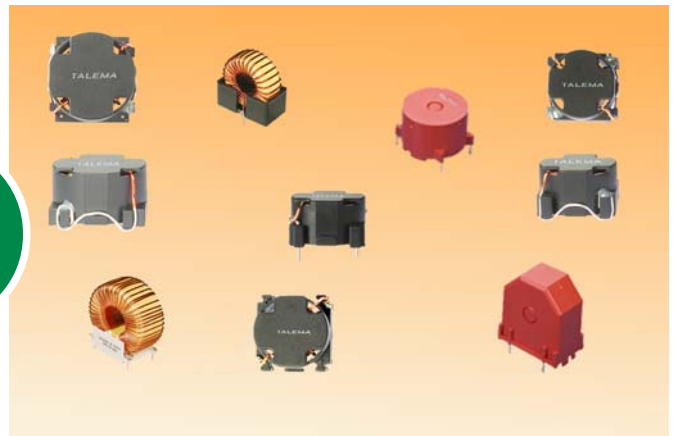


## SH50 Series • Inductors for National's 50kHz Simple Switcher™

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 <sub>DC</sub> )	L <sub>N</sub> (μH) Typical *	L <sub>O</sub> (μH) ±20% No DC Load	ET <sub>OP</sub> (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	5			
SH50C-3.0-68	3.0	68	55	90	0.02	4					
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	6A	6A			
SH50_-1.4-220	1.4	220	230	90	0.38		5	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	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	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		

### Notes:

- 1) Inductance will be typical for the I<sub>DC</sub> and ET<sub>OP</sub> values listed above.
- 2) No load Inductance measured at B<sub>OP</sub> maximum of 10 gauss (10mV @ 20kHz).
- 3) Simple Switcher™ is a trademark of National Semiconductor Corporation.

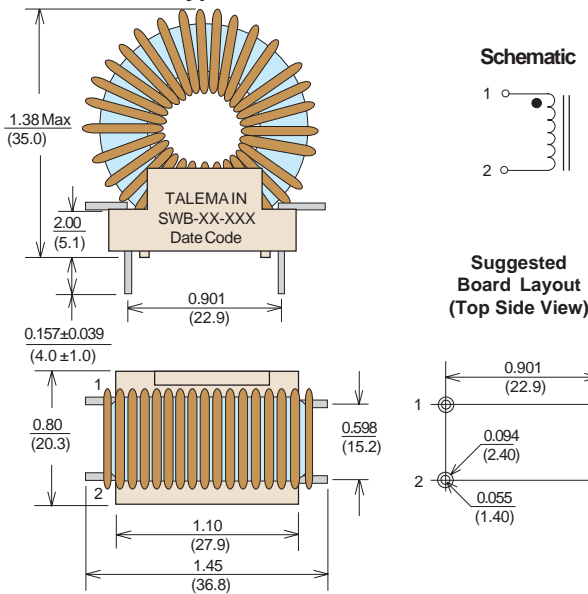
### Ordering Key

**SH50 C - 3.0 - 47**

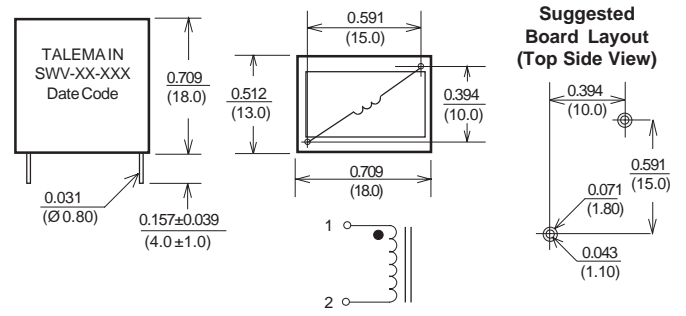
- Inductance Value in μH
- Current Rating (Amps)
- Mounting Style - Specify the appropriate suffix
  - C = Clip Mount
  - S = Surface Mount (S5 or S6)
  - T = Low Profile TH Mount
  - B = Base Mount
  - F = Flat Encapsulated
  - V = Vertical Encapsulated
- Basic Series Designation

# Mounting Styles • SH50 Series - Low Cost Toroidal Inductors

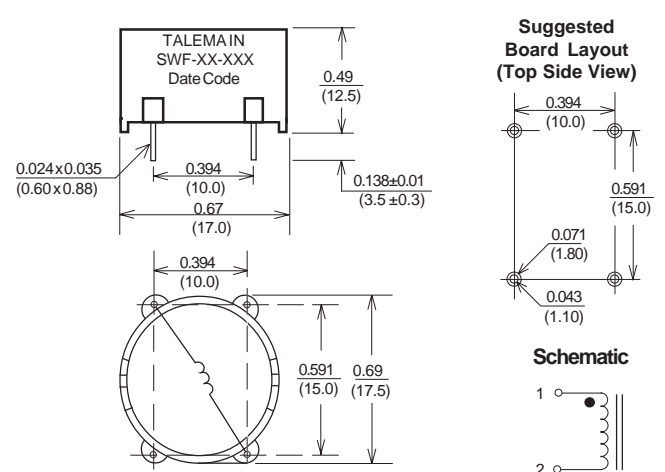
## Type SH50B - Vertical Mount



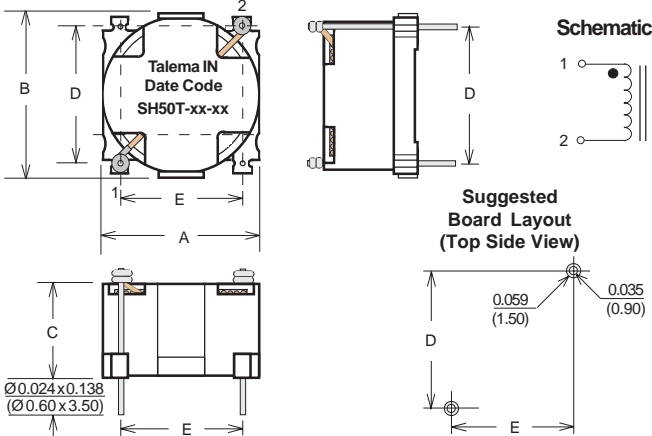
## Type SH50V - Vertical Mount - Size 2



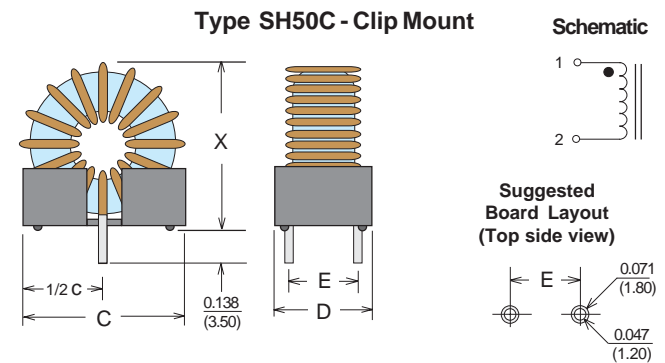
## Type SH50F - Flat Mount - Size 2



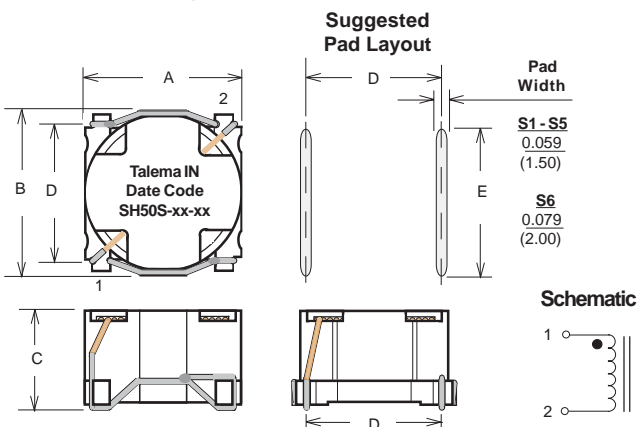
## Type SH50T - Through Hole Mount



## Type SH50C - Clip Mount



## Type SH50S - Surface Mount



Surface Coplanarity will be <0.005(0.13)

Mounting Style	Size Code	Dimensions - Inches (mm)			
		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)
	SH6A	0.925 (23.5)	0.957 (24.3)	0.445 (11.3)	0.843 (21.4)	0.748 (19.0)
Mounting Style	Size Code	Dimensions - Inches ±0.010 (mm ±0.25)				
		A	B	C	D	E
"T" THT	T5	0.669 (17.0)	0.701 (17.8)	0.409 (10.4)	0.600 (15.24)	0.500 (12.7)
	TH6A	0.925 (23.5)	0.957 (24.3)	0.386 (9.8)	0.650 (16.51)	0.800 (20.32)