

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

Compatible with National Semiconductor's Simple Switcher™ Part Numbers' 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 9001:2015 and ISO 14001:2015 certified Talema facility
- Meets lead free reflow level J-STD-020F for SMD
- Fully RoHS & REACH Compliant

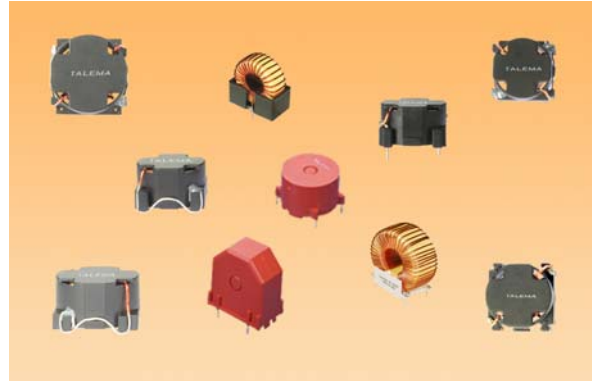
### Electrical Specifications @25°C

Test frequency: Inductance measured @20KHz / 10mV

Test voltage between windings: 500Vrms

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

Climatic Category: IEC68-1 40/125/56



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	*		2	
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		

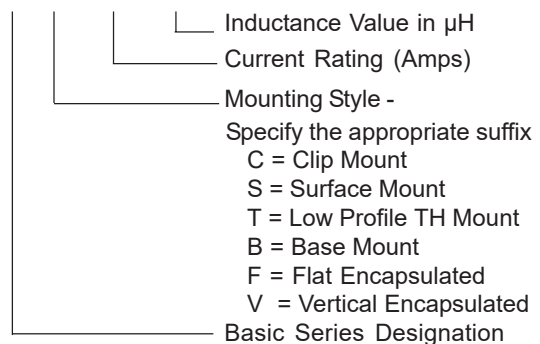
\* The previous SW "T" (Size 5 - Plate version) has been discontinued and replaced with a pin equivalent "Flat Mount" - Package SH50F, Size 2. Dimensions on the following Mounting Styles

### 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 (@20KHz / 10mV)
- 3) Simple Switcher™ is a trademark of National Semiconductor Corporation.

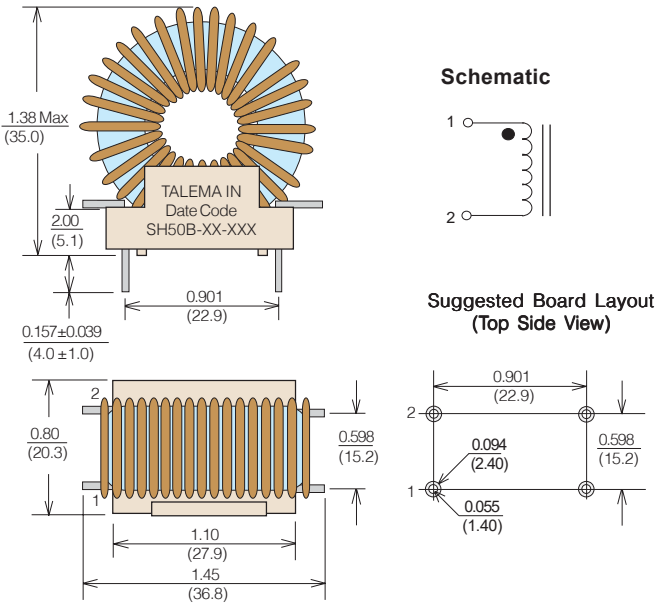
### Ordering Key

**SH50 C - 3.0 - 47**

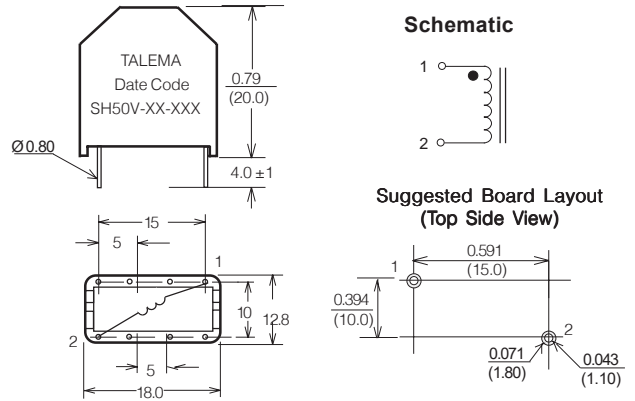


Mounting Styles • SH50 Series • Low Cost Toroidal Inductors

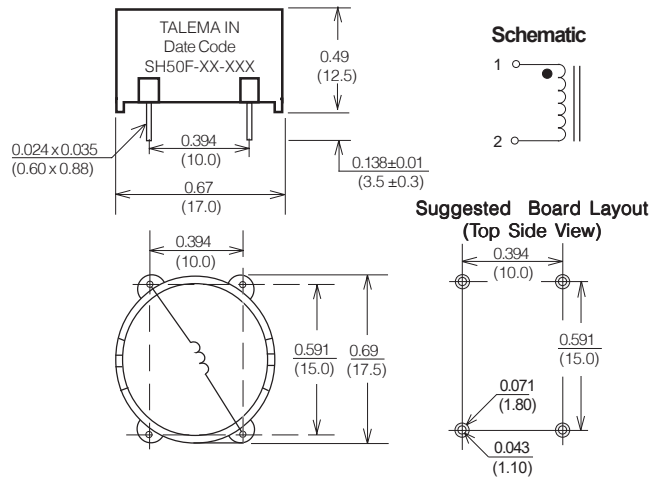
Type SH50B - Vertical Mount



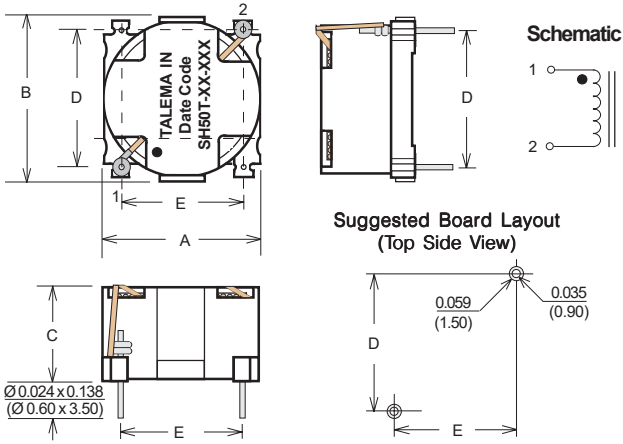
Type SH50V - Vertical Mount - Size 2



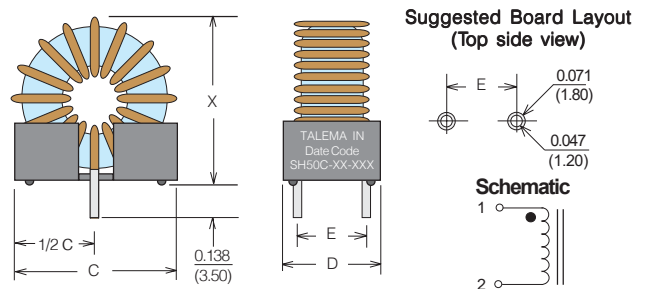
Type SH50F - Flat Mount - Size 2



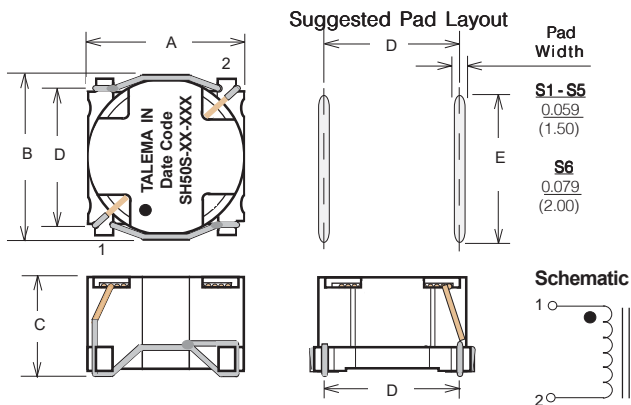
Type SH50T - Through Hole Mount



Type SH50C - Clip Mount



Type SH50S - Surface Mount



Surface Coplanarity will be < 0.005(0.13)

Mounting Style	Size Code	Dimensions - Inches ± 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)
	SH6	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)

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