

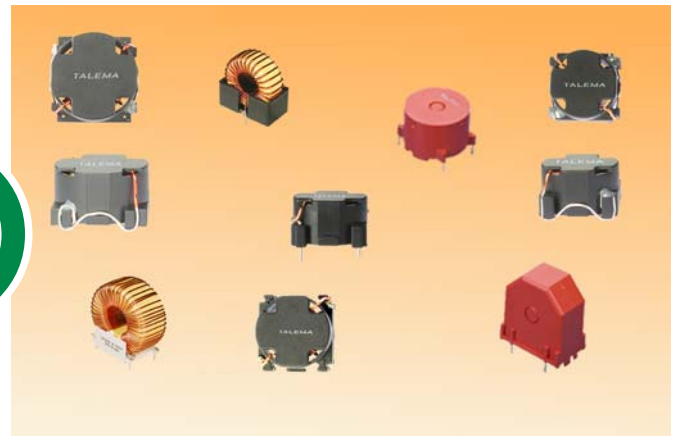


SH50 Series • Inductors for National's 50kHz Simple Switcher™

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	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_{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.

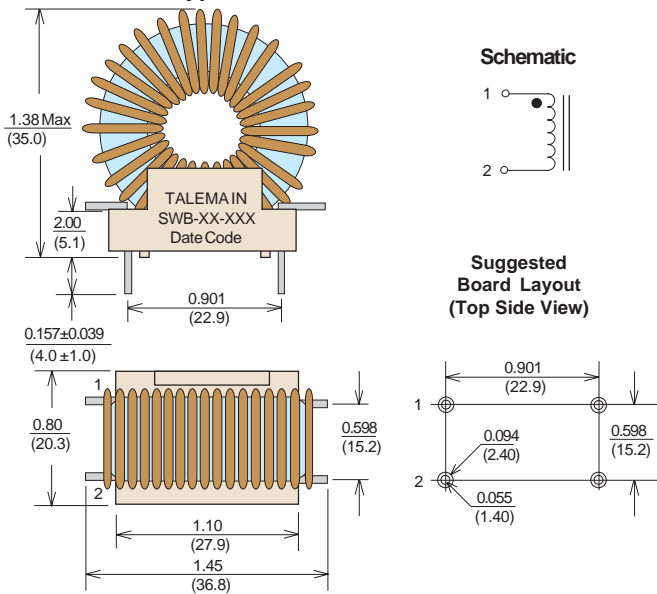
Ordering Key

SH50 C - 3.0 - 47

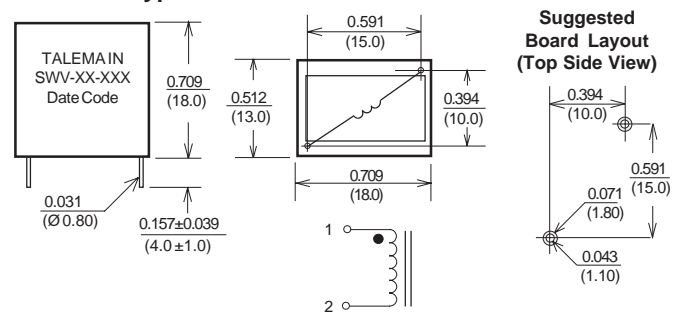
- Inductance Value in μH
- Current Rating (Amps)
- Mounting Style - Specify the appropriate suffix
 - C = Clip Mount
 - S = Surface Mount (S5 or S6)
 - T = Low Profile TH Mount
 - B = Base Mount
 - F = Flat Encapsulated
 - V = Vertical Encapsulated
- Basic Series Designation

Mounting Styles • SH50 Series - Low Cost Toroidal Inductors

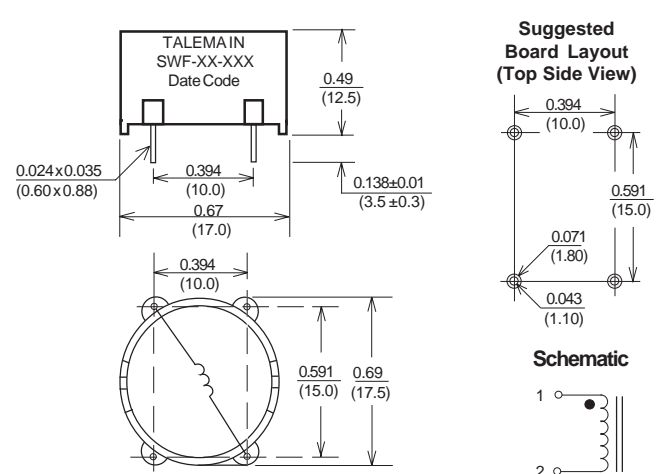
Type SH50B - Vertical Mount



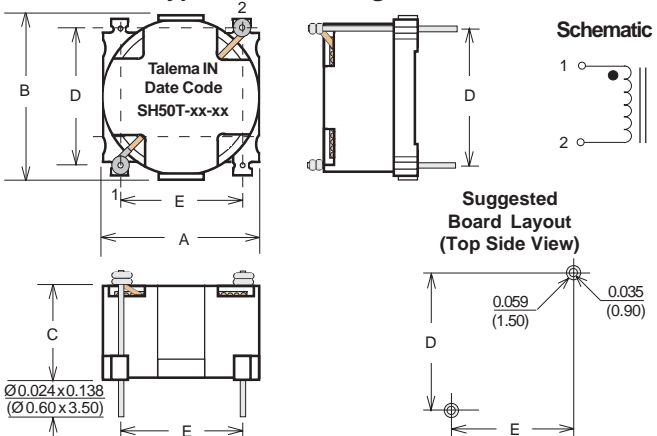
Type SH50V - Vertical Mount - Size 2



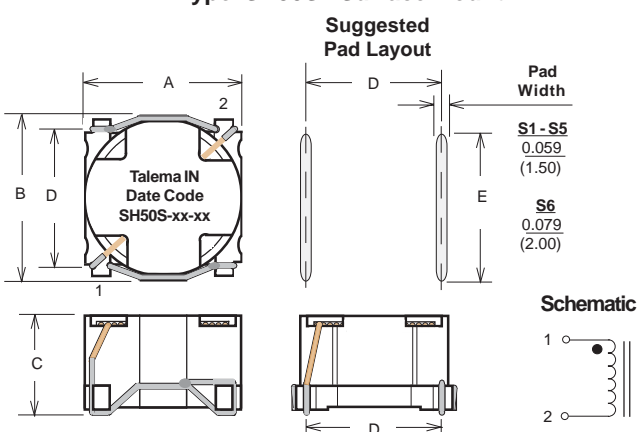
Type SH50F - Flat Mount - Size 2



Type SH50T - Through Hole Mount

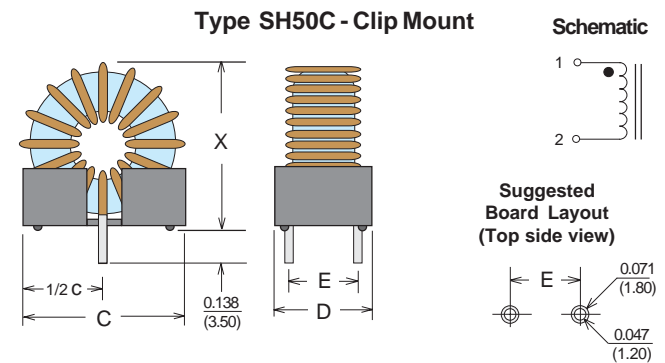


Type SH50S - Surface Mount



Surface Coplanarity will be <0.005(0.13)

Type SH50C - Clip Mount



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



SH50 Series Cross Reference for National's 50kHz Simple Switcher™

Pulse Engineering - Talema

Pulse Eng. Part Number	Talema part Number					
	Vertical Clip Mount	Flat Open SMD	Flat Open THT	Vertical THT Base Mount	Flat THT Encapsulated	Vertical THT Encapsulated
PE-53112 PE-92114K	SH50C-3.0-47 SH50C-5.0-36	SH50S-3.0-47	SH50T-3.0-47			
PE-92108K PE-53113	SH50C-3.0-100 SH50C-2.0-150	SH50S-2.0-150	SH50T-2.0-150			
PE-52626 PE-53145	SH50C-1.4-176	SH50S-1.4-220 SH50S-1.4-176	SH50T-1.4-220 SH50T-1.4-176		SH50F-1.4-220	SH50V-1.4-220
PE-52627 PE-53146	SH50C-0.90-267	SH50S-0.90-330 SH50S-0.90-267	SH50T-0.90-330 SH50T-0.90-267		SH50F-0.90-330	SH50V-0.90-330
PE-53114 PE-52629	SH50C-0.64-470	SH50S-0.85-680	SH50T-0.85-680		SH50F-0.85-680	SH50V-0.85-680
PE-53115 PE-53116	SH50C-3.0-150 SH50C-3.0-220					
PE-53117 PE-53118	SH50C-3.0-330 SH50C-2.0-470					
PE-53119 PE-53120	SH50C-1.3-680 SH50C-0.95-1000					
PE-53121 PE-53122				SH50B-0.62-1500 SH50B-0.42-2200		

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