

# SCS4.4 / SCS4.6 / SCS8.3 Series

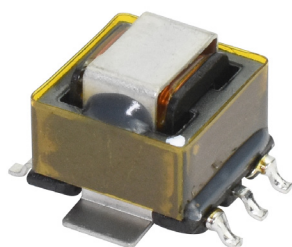
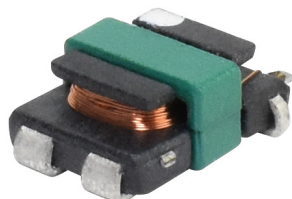
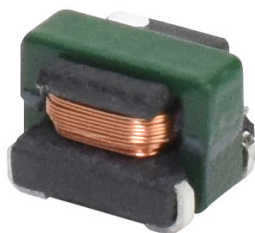
## High Frequency SMD Current Sensing Transformers

The SCS series (our newest line of high frequency transformer products) is expanded to include three additional platforms in the SCS4.4, SCS4.6 and SCS8.3 series.

These Current Sense Transformers are designed for operating frequencies of 50kHz up to 1MHz and can sense from 7 up to 15A. Available inductance ranges are 33uH to 22mH and 2:1 thru 220:1 respectively. They are of the smallest footprint and the most compact size currently on the market.

SCS surface mount components are used for detecting the current passing directly through an applications conductor. They can accurately sense current flow in power supply circuits through a non-invasive way, along with safety and control circuits.

The current sensor can be used in a variety of applications including feedback control, load drop/shutdown protection, safety/control circuits and power supply DC to DC converters/chargers. They present a cost-effective, low loss approach to measuring currents in high frequency voltage regulators and switch mode power supplies.



### General Features

- Very low DC resistance
- Different turns ratios
- Designed for automatic pick and place
- Surface mount technology

### Specifications

- EE Core sizes: 4.4 mm, 4.6 mm & 8.3 mm
- Primary rated sensed current:  
7 A (SCS4.4), 9 A (SCS4.6), 15 A (SCS8.3)
- Primary current causes less than 35°C / 40°C (SCS4.4 /SCS4.6) temperature rise above 25°C ambient. Higher current causes an increased temperature rise
- Operating temperature range: -40 °C to +125 °C
- Storage temperature component: -40 °C to +165 °C
- Inductance measured between secondary pins at 100 kHz, 0.1 Vrms, 0 A<sub>DC</sub> (SCS4.4 /SCS4.6)
- Isolation (hipot) between windings  
500 Vrms / 1 min (SCS4.4 /SCS4.6); 1.5 kVAC /3 mA / 1 s (SCS8.3)
- Frequency 50 kHz to 1 MHz

### Applications

- Switching power supplies
- Feedback control
- Overload sensing
- Motor control
- Load drop/shut down detection
- LCD televisions
- Notebook PCs
- Portable communication equipment
- DC-DC converters

# SCS4.4 / SCS4.6 / SCS8.3 Series

## PRODUCT IDENTIFICATION

**SCS - 4-6 - 100T - TR**

Type / Product Series

SCS = Signal Current Sensing Transformer

Packaging

TR = Tape & Reel

EE Core Size

4-6 = 4.6 mm

Number of Secondary Turns

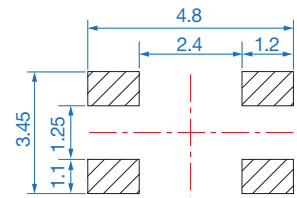
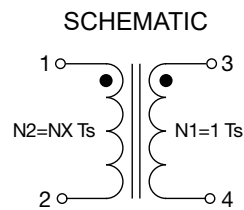
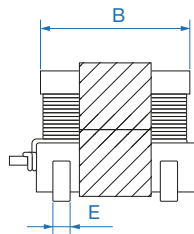
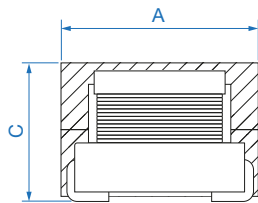
100T = 100 Turns

## MECHANICAL SPECIFICATIONS

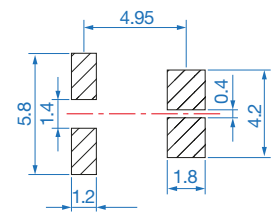
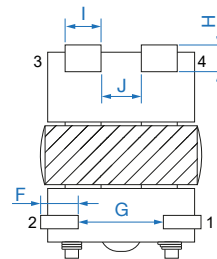
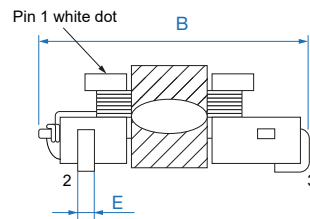
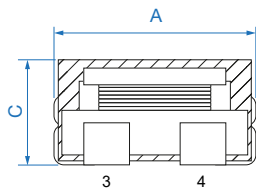
Dimensions are in mm.

SERIES	A Max	B Max	C Max	E	F	G	H	I	J
SCS4.4	4.70	3.65	3.55	0.4	-	-	-	-	-
SCS4.6	5.20	7.20	2.80	0.4	1.2	2.6	1.2	1.1	1.2
SCS8.3	11.00	13.0	2.52	0.7	-	-	7.8 Max	-	-

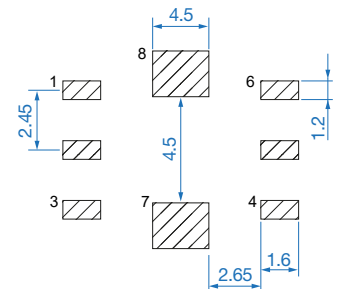
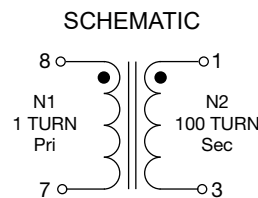
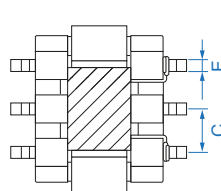
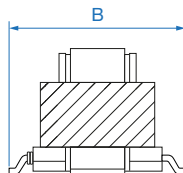
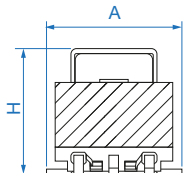
### SCS4.4 SERIES



### SCS4.6 SERIES



### SCS8.3 SERIES



Custom versions available upon request.



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[belfuse.com/signal](http://belfuse.com/signal)

## ELECTRICAL SPECIFICATIONS

Electrical specifications for all part numbers measured at 25°C unless otherwise stated.

Part Number	Turns ratio	Secondary Inductance * Min (mH)	DCR		Primary Current Max (A)
	Sec : Pri		Sec Max (Ω)	Pri Ref (Ω)	
SCS-4-4-20T-TR	20:1	0.033	0.35	0.003	7
SCS-4-4-30T-TR	30:1	0.074	0.80	0.003	7
SCS-4-4-40T-TR	40:1	0.132	1.60	0.003	7
SCS-4-4-50T-TR	50:1	0.205	2.50	0.003	7
SCS-4-4-60T-TR	60:1	0.295	3.60	0.003	7
SCS-4-4-70T-TR	70:1	0.400	4.60	0.003	7
SCS-4-4-100T-TR	100:1	0.820	9.50	0.003	7
SCS-4-4-125T-TR	125:1	1.280	13.0	0.003	7
SCS-4-4-150T-TR	150:1	1.800	21.0	0.003	7
SCS-4-6-20T-TR	20:1	0.053	0.42	0.0015	9
SCS-4-6-50T-TR	50:1	0.333	2.76	0.0015	9
SCS-4-6-70T-TR	70:1	0.652	5.04	0.0015	9
SCS-4-6-100T-TR	100:1	1.330	10.68	0.0015	9
SCS-4-6-150T-TR	150:1	2.993	22.30	0.0015	9
SCS-8-3-20T-TR	20:1	0.22	0.21	0.0039	15
SCS-8-3-30T-TR	30:1	0.50	0.32	0.0039	15
SCS-8-3-40T-TR	40:1	0.88	0.50	0.0039	15
SCS-8-3-50T-TR	50:1	1.40	0.65	0.0039	15
SCS-8-3-60T-TR	60:1	2.00	0.81	0.0039	15
SCS-8-3-70T-TR	70:1	2.70	1.00	0.0039	15
SCS-8-3-80T-TR	80:1	3.50	1.30	0.0039	15
SCS-8-3-100T-TR	100:1	5.60	2.00	0.0039	15
SCS-8-3-125T-TR	125:1	8.70	5.20	0.0039	15
SCS-8-3-150T-TR	150:1	12.60	6.50	0.0039	15
SCS-8-3-200T-TR	200:1	22.00	8.00	0.0039	15

\* Min. Secondary Inductance @ 100 kHz / 0.1 V

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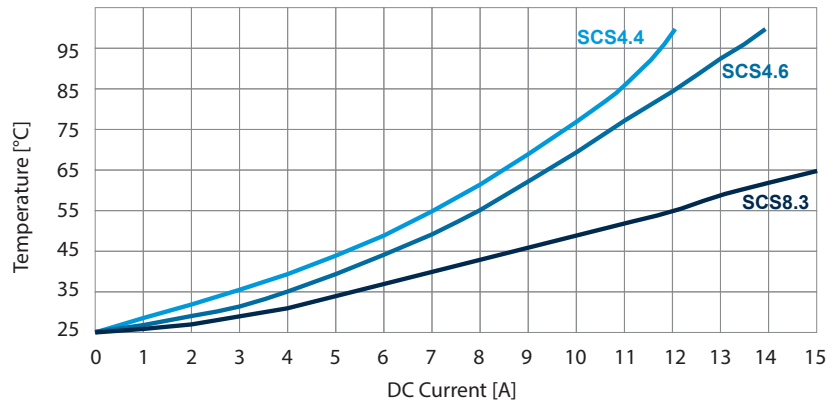


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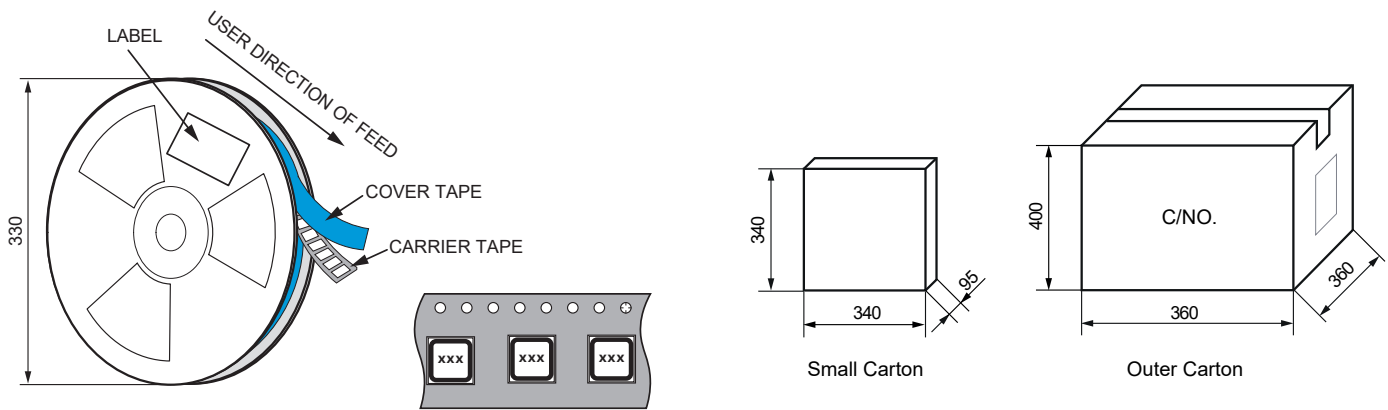
# SCS4.4 / SCS4.6 / SCS8.3 Series

## TEMPERATURE RISE VS CURRENT (25 °C)



- **Test equipment**  
Inductance measured at 0 ADC on HP 4284A LCR meter or equivalent  
DCR measured on Chroma 16502 micro-OHM meter or equivalent

## TAPE AND REEL SPECIFICATIONS



Series	Packaging Quantity (pcs)		
	Pcs / Reel	Pcs / Small carton	Pcs / Outer carton
SCS4.4	2000	8000	32000
SCS4.6	2500	10000	40000
SCS8.3	350	1050	4200

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## About Signal Transformer

Signal Transformer is known as the world's leader of wire wound magnetic solutions since 1959. With over 50 years of experience manufacturing transformers, chokes, inductors and custom or modified standard products. Signal offers not only the most comprehensive line of certified standard power conversion products, with our vast engineering, manufacturing and regulatory resources; Signal Transformer excels in the design and manufacturer of cost effective, specialized platforms.



**For more information,  
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