

# Hall Effect Current Sensor S21S180D15JN



## Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio K = 1:4000
- Panel mounting with JST connector
- Aperture
- Insulated plastic case according to UL94V0

## Advantages:

- Excellent accuracy and linearity
- Low temperature drift
- Wide frequency bandwidth
- No insertion loss
- High Immunity to external interferences
- Optimised response time
- Current overload capability

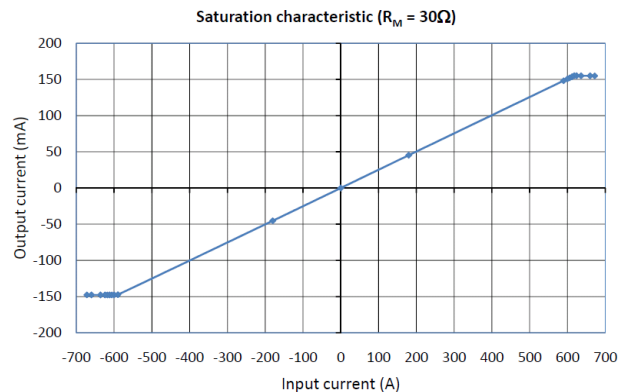
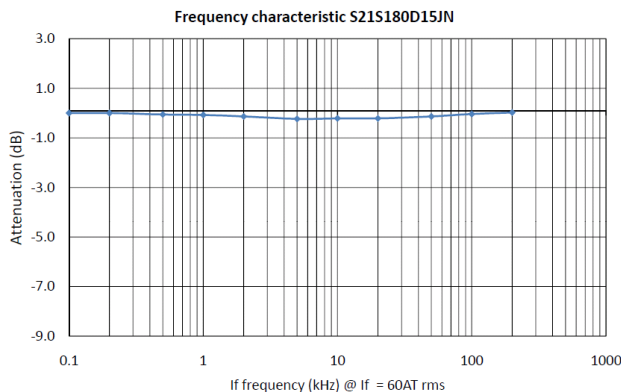
## Specifications

$T_A=25^{\circ}\text{C}$ ,  $V_{CC}=\pm 15\text{V}$

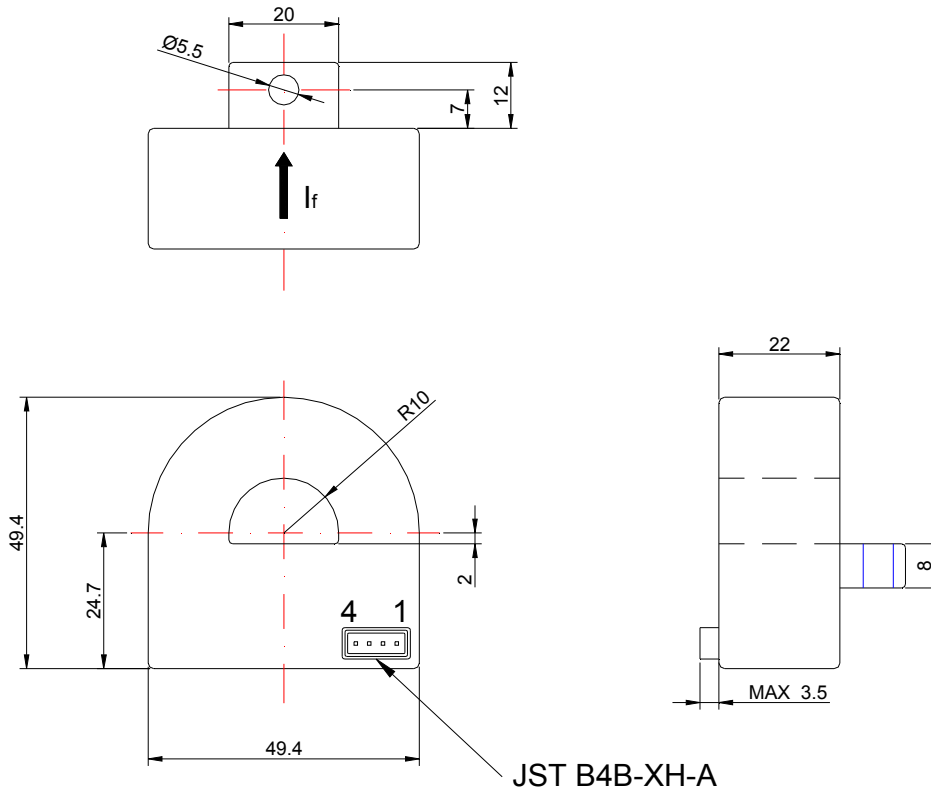
Parameters	Symbol	S21S180D15JN
Rated Current	$I_f$	180A
Maximum Current <sup>1</sup>	$I_{fmax}$	$\pm 540\text{A}$
Measuring resistance $I_f = \pm A_{DC}$ @ $80^{\circ}\text{C}$	$R_M$	$5\Omega \sim 30\Omega$
Conversion Ratio	<b>K</b>	1 : 4000
Output Current	$I_{OUT}$	$\pm 45\text{mA}$
Offset Current	$I_{OE}$	$\pm 0.2\text{mA}$ @ $I_f = 0\text{A}$
Output Current Accuracy	<b>X</b>	$I_{OUT} \pm 1\%$ (without $I_{OE}$ )
Output Linearity	$\epsilon_L$	$\pm 0.3\%$ @ $I_f$
Supply Voltage <sup>2</sup>	$V_{CC}$	$\pm 15\text{V} \pm 5\%$
Consumption Current	$I_{CC}$	$\leq \pm 16\text{mA}$ (Output Current is not included)
Response Time <sup>3</sup>	$t_r$	$\leq 1\mu\text{s}$ @ $di/dt = 100\text{A} / \mu\text{s}$
Output Temperature Characteristic	$T_{CI_{OUT}}$	$\pm 0.02\% / ^{\circ}\text{C}$ @ $I_f$
Offset Temperature Characteristic	$T_{CI_{OE}}$	$\pm 0.01\text{mA} / ^{\circ}\text{C}$ @ $I_f = 0\text{A}$
Hysteresis allowance	$I_{OH}$	$\leq 0.2\text{mA}$ ( $0\text{A} \leftrightarrow I_f$ )
Insulation Withstanding	$V_d$	AC 2500V, for 1minute (sensing current 0.5mA), inside of aperture $\leftrightarrow$ terminal
Insulation Resistance	$R_{IS}$	$> 500\text{M}\Omega$ (@ DC 500V) inside of aperture $\leftrightarrow$ terminal
Frequency Bandwidth	<b>f</b>	DC .. 200 kHz
Secondary Coil Resistance	$R_s$	$48\Omega$ (typical)
Operating Temperature	$T_A$	$-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$
Storage Temperature	$T_s$	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

<sup>1</sup> @  $V_{CC}=\pm 15\text{V}$  for 10 Seconds — <sup>2</sup> Rated Current is restricted by  $V_{CC}$  — <sup>3</sup> Time between 10% input current full scale and 90% of sensor output full scale

## Electrical Performances



## Mechanical dimensions in mm

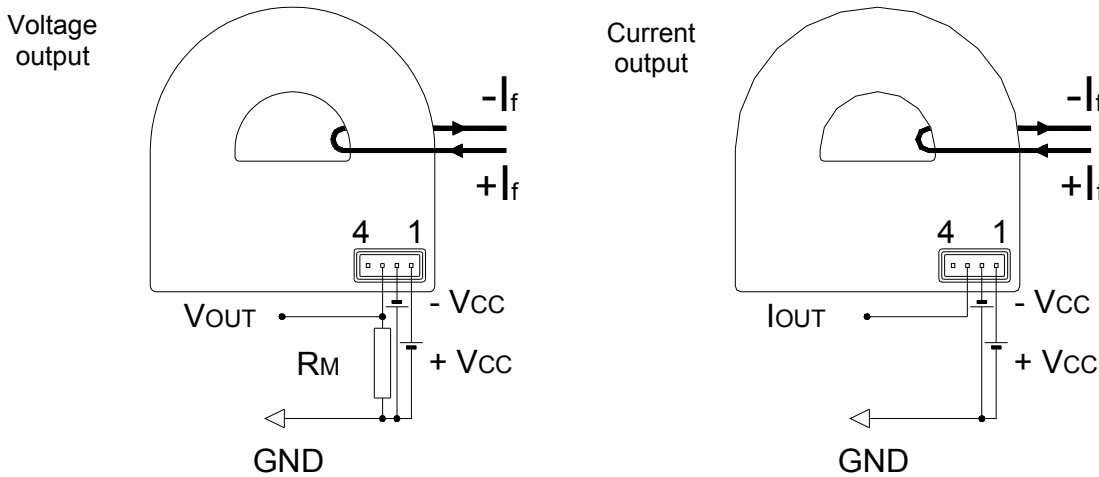


JST B4B-XH-A

Terminal function:

1. +V<sub>CC</sub>
2. -V<sub>CC</sub>
3. OUT
4. N.C.

## Electrical connection diagram



## Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
71g	25	100	1600