

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

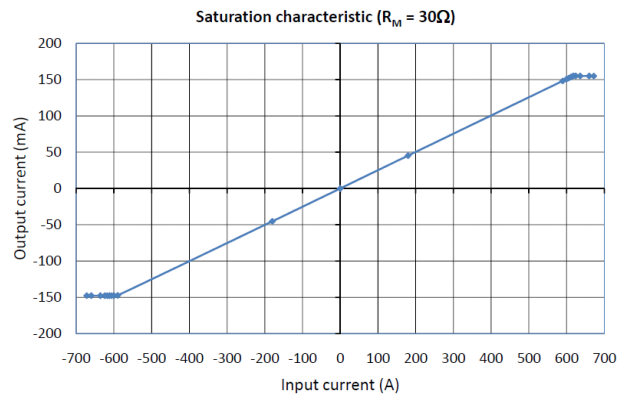
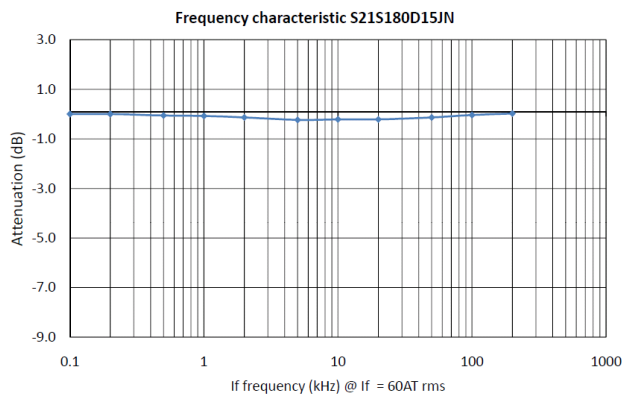
Specifications

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

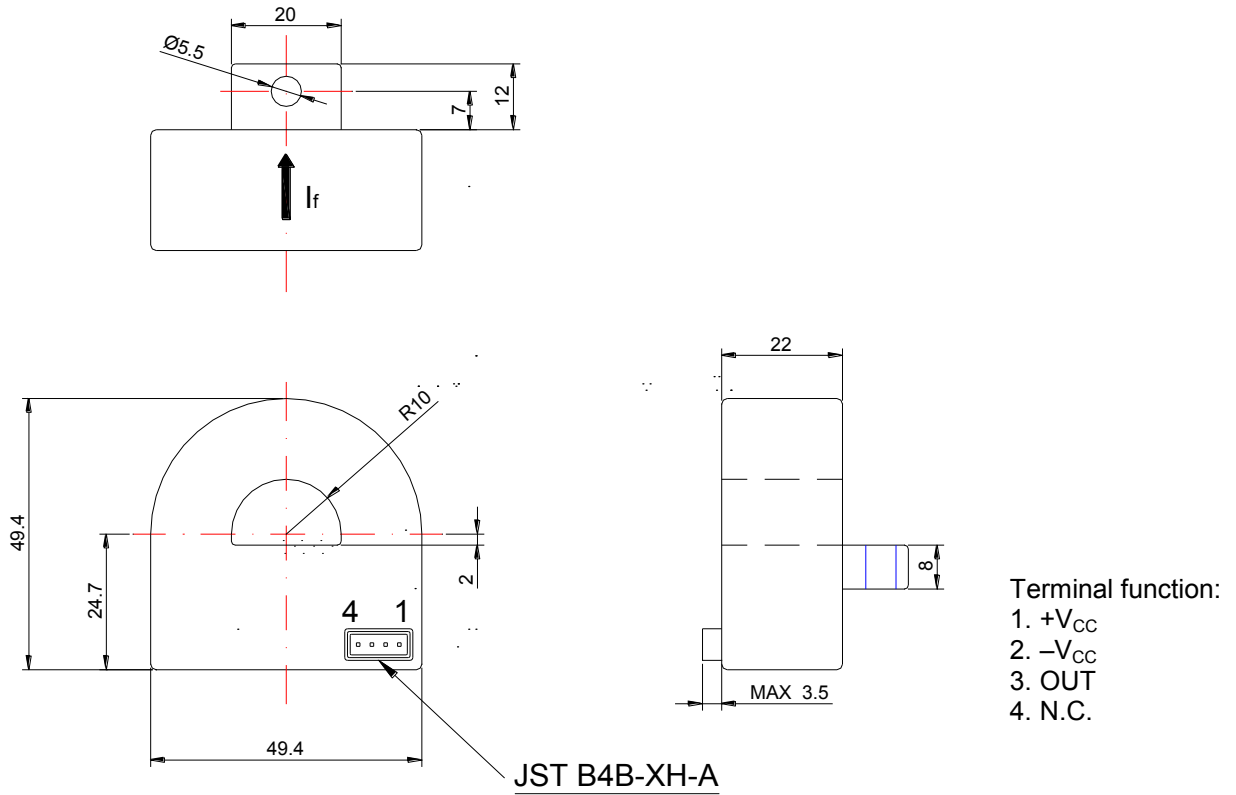
Parameters	Symbol	S21S180D15JN
Rated Current	I_f	180A
Maximum Current ¹	I_{fmax}	$\pm 540\text{A @ } T_A=25^\circ\text{C}$ $5\Omega \leq R_m \leq 30\Omega$ $\pm 540\text{A @ } T_A=80^\circ\text{C}$ $5\Omega \leq R_m \leq 20\Omega$
Measuring resistance $I_f = \pm A_{DC} @ 80^\circ\text{C}$	R_M	$0 - 68\Omega @ V_{CC} \pm 12\text{V}$ $0 - 100\Omega @ V_{CC} \pm 15\text{V}$
Conversion Ratio	K	1 : 4000
Output Current	I_{OUT}	$\pm 45\text{mA}$
Offset Current	I_{OE}	$\leq \pm 0.2\text{mA @ } I_f = 0\text{A}$
Output Current Accuracy	X	$I_{OUT} \pm 1\%$ (without I_{OE})
Output Linearity	ϵ_L	$\leq \pm 0.3\%$ @ I_f
Supply Voltage ²	V_{CC}	$\pm 12\text{V} \pm 5\%$
Consumption Current	I_{CC}	$\leq \pm 16\text{mA}$ (Output Current is not included)
Response Time ³	t_r	$\leq 1\mu\text{s @ } di/dt = 100\text{A} / \mu\text{s}$
Output Temperature Characteristic	$T_{CI_{OUT}}$	$\leq \pm 0.02\% / ^\circ\text{C @ } I_f$
Offset Temperature Characteristic	$T_{CI_{OE}}$	$\leq \pm 0.01\text{mA} / ^\circ\text{C @ } I_f = 0\text{A}$
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}	500M Ω (@ DC 500V) inside of aperture \leftrightarrow terminal
Frequency Bandwidth	f	DC .. 200 kHz
Secondary Coil Resistance	R_S	$48\Omega @ 25^\circ\text{C}$ $60\Omega @ 80^\circ\text{C}$
Operating Temperature	T_A	$-30^\circ\text{C} \sim +80^\circ\text{C}$
Storage Temperature	T_S	$-40^\circ\text{C} \sim +85^\circ\text{C}$

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

Electrical Performances

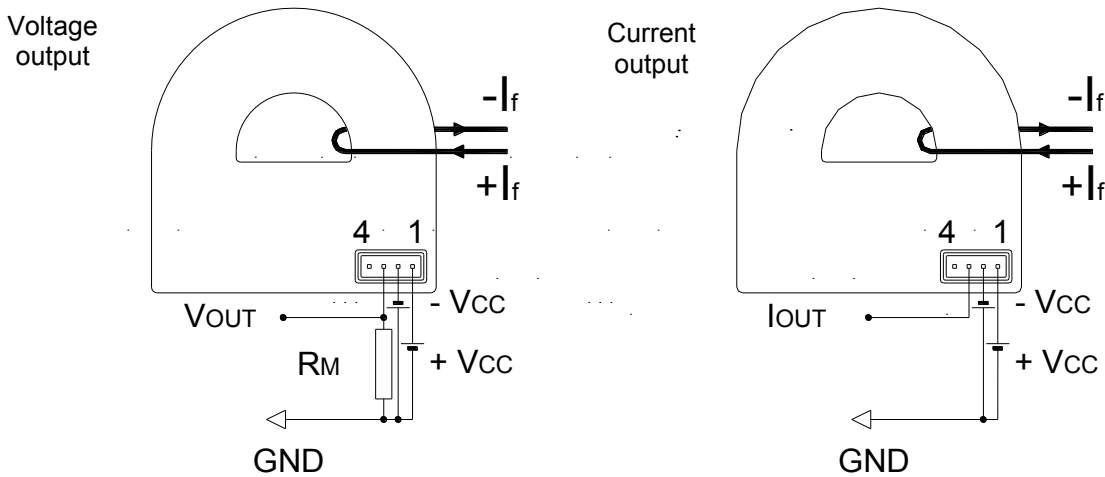


Mechanical dimensions in mm



- Terminal function:
1. +V_{CC}
 2. -V_{CC}
 3. OUT
 4. N.C.

Electrical connection diagram



Package & Weight Information

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