

# Hall Effect Current Sensors S23P\*\*\*D15 Series



## Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio K = 1:2000
- Printed circuit board mounting
- Integrated primary
- Insulated plastic case according to UL94V0

## Advantage:

- 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

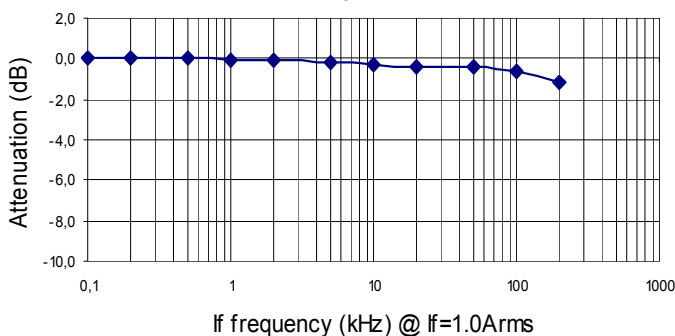
$T_A=25^{\circ}\text{C}$ ,  $V_{CC}=\pm 15\text{V}$

Parameters	Symbol	S23P50/100D15	
Rated Current	$I_f$	50A	100A
Maximum Current <sup>1</sup>	$I_{fmax}$	$\pm 110\text{A}$ (@ $R_M \leq 71\Omega$ )	$\pm 160\text{A}$ (@ $R_M \leq 25\Omega$ )
Measuring resistance $I_f = \pm A_{DC}$ @ $85^{\circ}\text{C}$	$R_M$	$0\Omega \sim 217\Omega$ @ $V_{CC} = \pm 12\text{V}$ $0\Omega \sim 327\Omega$ @ $V_{CC} = \pm 15\text{V}$	$0\Omega \sim 57\Omega$ @ $V_{CC} = \pm 12\text{V}$ $45\Omega \sim 114\Omega$ @ $V_{CC} = \pm 15\text{V}$
Conversion Ratio	<b>K</b>	1 : 2000	1 : 2000
Output Current	$I_{OUT}$	$\pm 25\text{mA}$	$\pm 50\text{mA}$
Offset Current	$I_{OE}$	$\pm 0.15\text{mA}$ @ $I_f=0\text{A}$	
Output Current Accuracy	<b>X</b>	$I_{OUT} \pm 0.25\%$	
Output Linearity	$\epsilon_L$	$\pm 0.15\%$ @ $I_f$	
Supply Voltage <sup>2</sup>	$V_{CC}$	$\pm 15\text{V}$ ( $\pm 11.4\text{V} \sim \pm 16\text{V}$ )	
Consumption Current	$I_{CC}$	$\pm 16\text{mA}$ (Output Current is not included)	
Response Time <sup>3</sup>	$t_r$	$< 1.0\mu\text{s}$ @ $di/dt = 100\text{A} / \mu\text{s}$	
Output Temperature Characteristic	$TCI_{OUT}$	$\pm 0.01\%/^{\circ}\text{C}$ @ $I_f$	
Offset Temperature Characteristic	$TCI_{OE}$	$< \pm 0.5\text{mA}$ typ. @ $I_f = 0\text{A}$ ( $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ )	
Hysteresis allowance	$I_{OH}$	$\leq 0.3\text{mA}$ ( $0\text{A} \leftrightarrow I_f$ )	
Insulation Withstanding	$V_d$	AC5000V, for 1minute (sensing current 0.5mA), Primary $\leftrightarrow$ Secondary	
Insulation Resistance	$R_{IS}$	$> 500\text{M}\Omega$ (@ DC500V) Primary $\leftrightarrow$ Secondary	
Frequency Bandwidth	<b>f</b>	DC .. 200 kHz	
Secondary Coil Resistance	$R_s$	$115\Omega$ @ $T_A = 70^{\circ}\text{C}$ $121\Omega$ @ $T_A = 85^{\circ}\text{C}$	
Operating Temperature	$T_A$	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
Storage Temperature	$T_s$	$-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$	

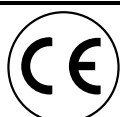
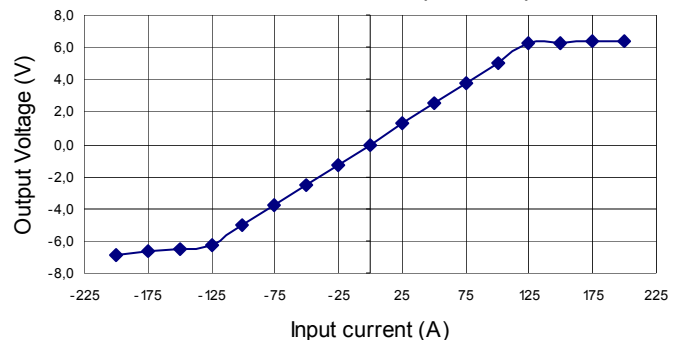
<sup>1</sup> @  $V_{CC}=\pm 15\text{V}$  for 10 Seconds — <sup>2</sup> Rated Current is restricted by  $V_{CC}$  — <sup>3</sup> Time between 10% input current full scale and 90% of sensor output full scale

## Electrical Performances

Frequency Characteristic

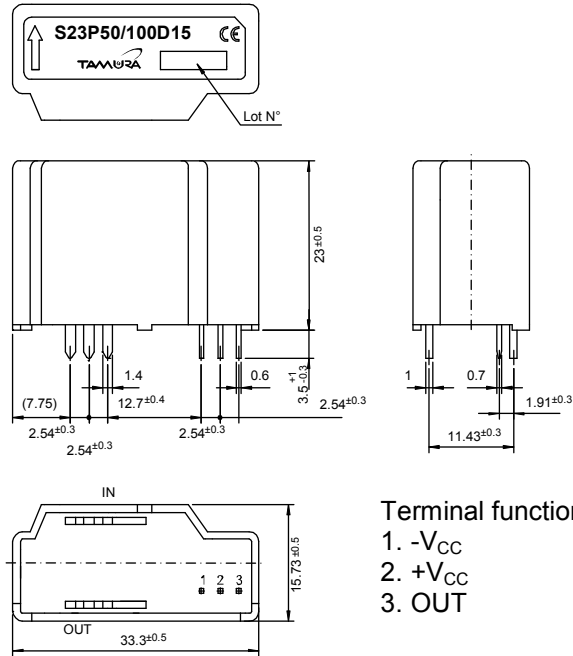


Saturation Characteristic ( $R_M=100\Omega$ )

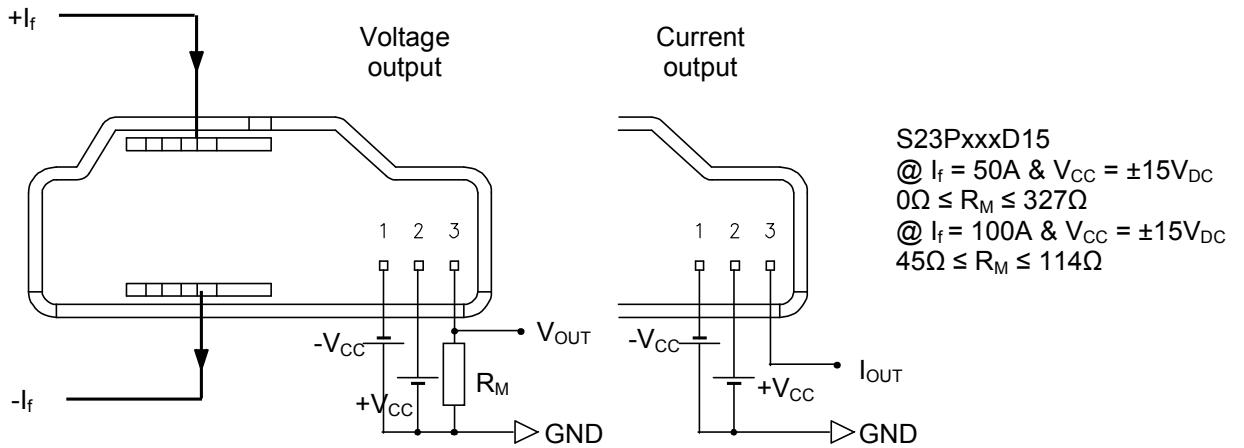


# Hall Effect Current Sensors S23P\*\*\*D15 Series

## Mechanical dimensions in mm



## Electrical connection diagram



## Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
26g	100	100	2400

