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

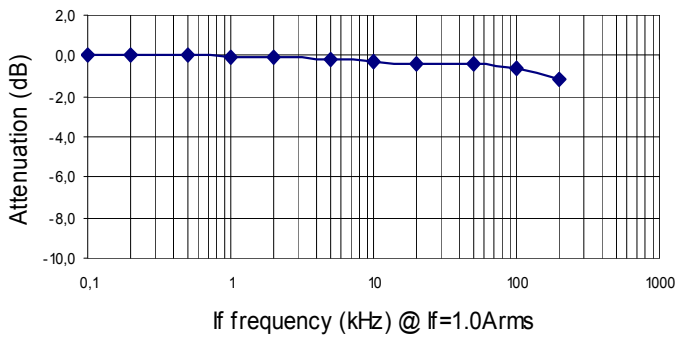
T_A=25ºC, V_{CC}=±15V

Parameters	Symbol	S23P50/100D15	
Rated Current	I_f	50A	100A
Maximum Current[1]	I_{fmax}	±110A (@ R_M≤71Ω)	±160A (@ R_M≤25Ω)
Measuring resistance If = $±A_{DC}$ @ 85°C	R_M	0Ω~217Ω @ V_{CC} = ±12V 0Ω~327Ω @ V_{CC} = ±15V	0Ω~57Ω @ V_{CC} = ±12V 45Ω~114Ω @ V_{CC} = ±15V
Conversion Ratio	K	1 : 2000	1 : 2000
Output Current	I_{OUT}	±25mA	±50mA
Offset Current	I_{OE}	±0.15mA @ I_f=0A	
Output Current Accuracy	X	I_{OUT} ±0.25%	
Output Linearity	ε_L	±0.15% @ I_f	
Supply Voltage[2]	V_{CC}	±15V (±11.4V~±16V)	
Consumption Current	I_{CC}	±16mA (Output Current is not included)	
Response Time[3]	t_r	< 1.0µs @ di/dt = 100A / µs	
Output Temperature Characteristic	TCI_{OUT}	±0.01%/ºC @ I_f	
Offset Temperature Characteristic	TCI_{OE}	< ±0.5mA typ. @ I_f = 0A (-40ºC~+85ºC)	
Hysteresis allowance	I_{OH}	≤ 0.3mA (0A ⇔ I_f)	
Insulation Withstanding	V_d	AC5000V, for 1minute (sensing current 0.5mA), Primary ⇔ Secondary	
Insulation Resistance	R_{IS}	> 500MΩ (@ DC500V) Primary ⇔ Secondary	
Frequency Bandwidth	f	DC .. 200 kHz	
Secondary Coil Resistance	R_S	115Ω @ T_A = 70ºC 121Ω @ T_A = 85ºC	
Operating Temperature	T_A	–40ºC ~ +85ºC	
Storage Temperature	T_S	–40ºC ~ +90ºC	

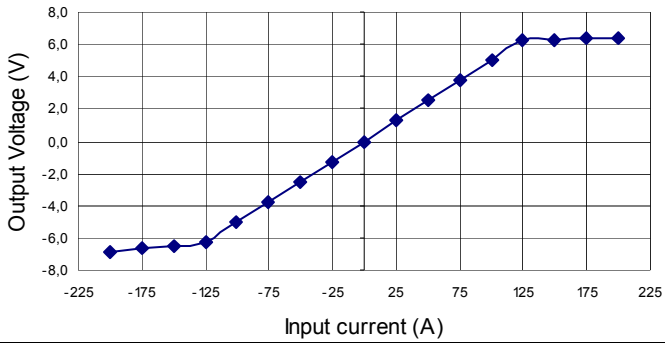
[1] @ V_{CC}=±15V for 10 Seconds — [2] Rated Current is restricted by V_{CC} — [3] Time between 10% input current full scale and 90% of sensor output full scale

Electrical Performances

Frequency Characteristic



Saturation Characteristic (R_M=100Ω)



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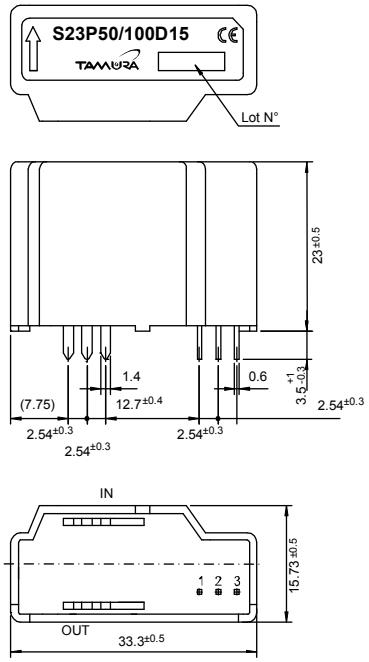
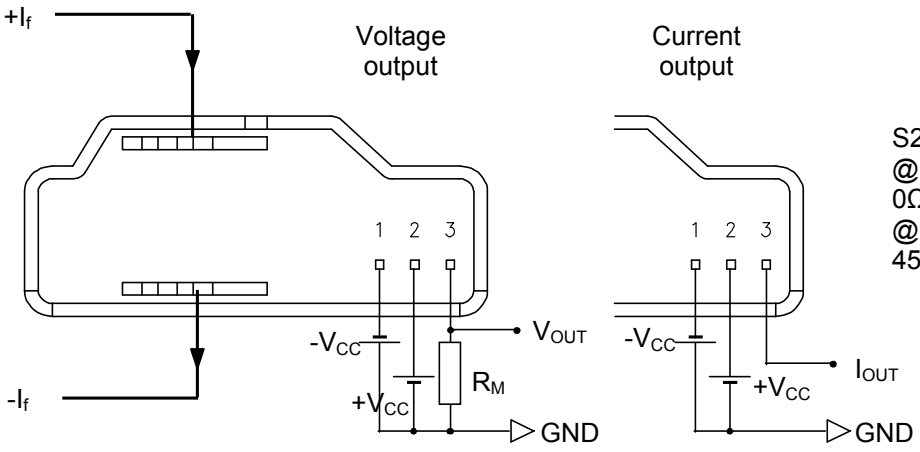
Mechanical dimensions in mm



Terminal function:
1. $-V_{CC}$
2. $+V_{CC}$
3. OUT

Electrical connection diagram



S23PxxxD15
@ I_f = 50A & V_{CC} = ±15V_{DC}
0Ω ≤ R_M ≤ 327Ω
@ I_f = 100A & V_{CC} = ±15V_{DC}
45Ω ≤ R_M ≤ 114Ω

Package & Weight Information

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