



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Hall Effect Current Sensors S23P***D15M1 Series



Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio $K_N = 1:1000$
- Printed circuit board mounting
- Integrated primary
- Insulated plastic case according to UL94V0
- UL Recognition

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

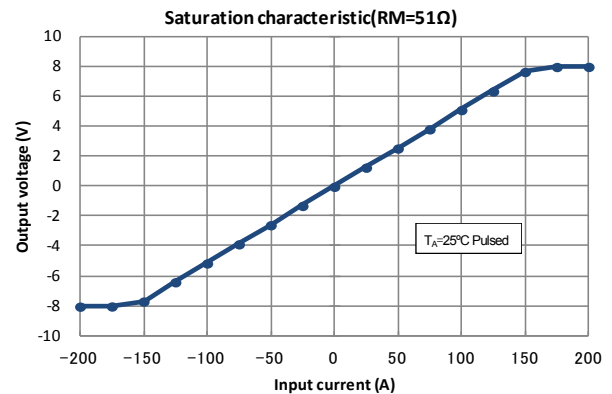
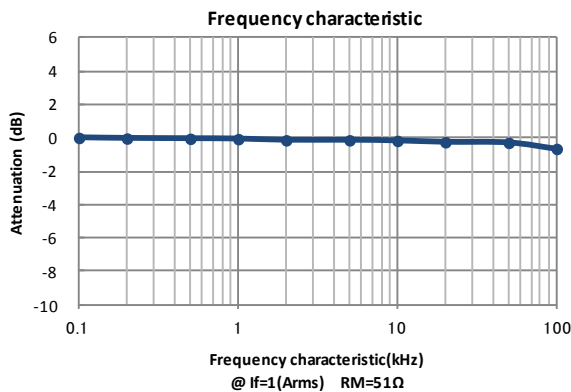
Specifications

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

Parameters	Symbol	S23P50/100D15M1	
Primary nominal current	I_f	50A	100A
Maximum current ¹ (at 85°C)	I_{fmax}	$\pm 226\text{A}$ (at $R_M \leq 7.5\Omega$)	
Measuring resistance ($I_f = \pm A_{DC}$ at 85°C)	R_M	20Ω~145Ω (at $V_{CC} = \pm 12\text{V}$) 48Ω~205Ω (at $V_{CC} = \pm 15\text{V}$)	20Ω~57Ω (at $V_{CC} = \pm 12\text{V}$) 48Ω~85Ω (at $V_{CC} = \pm 15\text{V}$)
Conversion Ratio	K_N	1 : 1000	1 : 1000
Rated output current	I_o	50mA	100mA
Output current accuracy ² (at I_f)	X	$I_o \pm 0.25\%$	
Offset current ³ (at $I_f=0\text{A}$)	I_{of}	$\leq \pm 0.30\text{mA}$	
Output linearity ² (0A~ I_f)	ϵ_L	$\leq \pm 0.15\%$ (at I_f)	
Power supply voltage ¹	V_{CC}	$\pm 12\text{V} \dots \pm 15\text{V} \pm 5\%$	
Consumption current	I_{CC}	$\leq \pm 16\text{mA}$ (Output current is not included)	
Response time ⁴	t_r	$\leq 0.5\mu\text{s}$ (at $di/dt = 100\text{A} / \mu\text{s}$)	
Thermal drift of gain ⁵	T_{clo}	$\leq \pm 0.01\%/^\circ\text{C}$	
Thermal drift of offset current	T_{clof}	$\leq \pm 0.5\text{mA typ} \leq \pm 0.8\text{mA max}$ (at $T_A = -25^\circ\text{C} \leftrightarrow +85^\circ\text{C}$)	
Hysteresis error	I_{oH}	$\leq 0.3\text{mA}$ (at $I_f=0\text{A} \rightarrow I_f \rightarrow 0\text{A}$)	
Insulation voltage	V_d	AC5000V, for 1minute (sensing current 0.5mA), Primary \leftrightarrow Secondary	
Insulation resistance	R_{is}	$\geq 500\text{M}\Omega$ (at DC500V) Primary \leftrightarrow Secondary	
Secondary coil resistance	R_s	33Ω (at $T_A = 70^\circ\text{C}$) 35Ω (at $T_A = 85^\circ\text{C}$)	
Ambient operation temperature	T_A	$-40^\circ\text{C} \sim +85^\circ\text{C}$	
Ambient storage temperature	T_s	$-40^\circ\text{C} \sim +90^\circ\text{C}$	

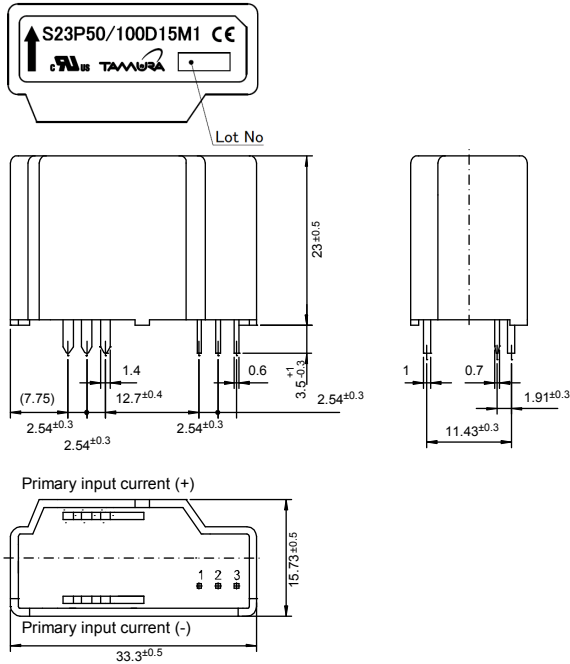
¹ At $V_{CC}=\pm 12\text{V}$, I_{fmax} Operating Time: ≤ 3 Seconds. Maximum current is restricted by V_{CC} — ² Without offset current — ³ After removal of core hysteresis — ⁴ Time between 90% input current full scale and 90% of sensor output full scale — ⁵ Without Thermal drift of offset current

Electrical Performances



Hall Effect Current Sensors S23P***D15M1 Series

Mechanical dimensions



- NOTES
1. Unit is mm
 2. Tolerance is 0.5mm

Terminal number:

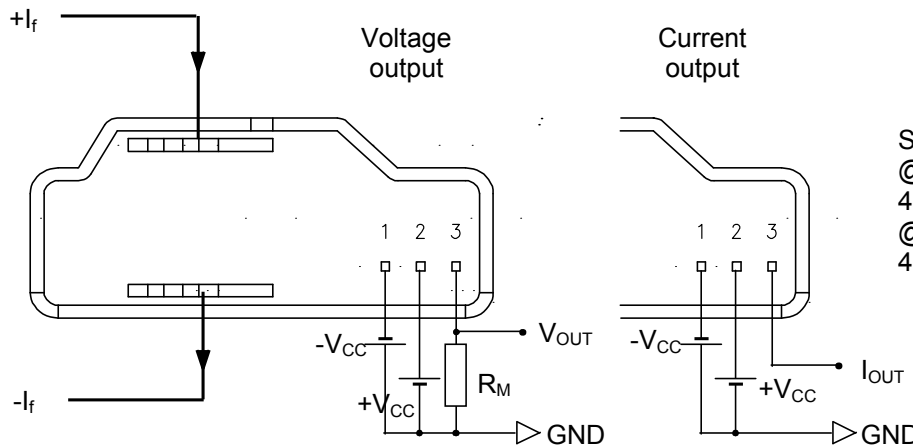
1. -V_{CC}(-15V)
2. +V_{CC}(+15V)
3. I_{OUT}

Connection specific

1. The primary connection
6Pins 1.4×1mm
Recommended PCB hole diameter:Φ2mm

2. The secondary connection
3Pins 0.7×0.6mm
Recommended PCB hole diameter:Φ1.2mm

Electrical connection diagram



S23PxxxD15M1
 @ I_F=50A & V_{CC}=±15VDC
 48Ω ≤ R_M ≤ 205Ω
 @ I_F=100A & V_{CC}=±15VDC
 48Ω ≤ R_M ≤ 85Ω

UL Standard

- UL 508 , CSA C22.2 No.14 (UL FILE No.E243511)
- For use in Pollution Degree 2 Environment.
 - Maximum Surrounding air temperature rating, 85°C.

CAUTION

Provide two min. 100 by 85 mm, 0.5 mm thick copper conductor-cum-heat sink as primary conductor of each side for safe usage. The primary conductor temperature and PCB should not exceed 100°C.

Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
26g	100	400	9600