

Hall Effect Current Sensors S23P***D15 Series

Features:

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

- 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

• UL Recognition T _A =25°C, V _{CC} =±15V						
Parameters	Symbol	S23P50/100D15				
Primary nominal current	l _f	50A	100A			
Maximum current ¹ (at 85°C)	I _{fmax}	± 110A (at R _M ≤71Ω)	± 160A (at R _M ≤25Ω)			
Measuring resistance (If = ±A _{DC} at 85°C)	R _M	0Ω~217Ω (at V _{CC} = ±12V) 0Ω~327Ω (at V _{CC} = ±15V)	0Ω~57Ω (at V _{CC} = ±12V) 45Ω~114Ω (at V _{CC} = ±15V)			
Conversion Ratio	K _N	1 : 2000	1:2000			
Rated output current	I _o	25mA	50mA			
Output current accuracy ² (at I _f)	X	I ₀ ±0.25%				
Offset current ³ (at If=0A)	I _{Of}	≤ ±0.15mA				
Output linearity ² (0A~If)	€ ∟	≤ ±0.15% (at I _f)				
Power supply voltage ¹	V _{cc}	± 12V ± 15V ± 5%				
Consumption current	Icc	≤ ±16mA (Output current is not included)				
Response rime ⁴	tr	≤ 0.5µs (at di/dt = 100A / µs)				
Thermal drift of gain ⁵	Tclo	≤ ±0.01%/°C				
Thermal drift of offset current	Tclof	≤ ±0.5mA max. (at T_A = -25°C \Leftrightarrow +85°C)				
Hysteresis error	I _{ОН}	\leq 0.3mA (at I _f =0A \rightarrow I _f \rightarrow 0A)				
Insulation voltage	V _d	AC5000V, for 1minute (sensing current 0.5mA), Primary \Leftrightarrow Secondary				
Insulation resistance	R _{IS}	≥ 500MΩ (at DC500V) Primary \Leftrightarrow Secondary				
Secondary coil resistance	Rs	115Ω (at T _A = 70°C) 121Ω (at T _A = 85°C)				
Ambient operation temperature	T _A	_40°C ~ +85°C				
Ambient storage temperature	Τs	_40°C ~ +90°C				

¹ At $V_{CC}=\pm 15V$, Ifmax Operating Time: ≤ 10 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











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Mechanical dimensions



Electrical connection diagram



S23PxxxD15 At I_f = 50A & V_{CC} = $\pm 15V_{DC}$ $0\Omega \le R_M \le 327\Omega$

At I_f = 100A & V_{CC} = $\pm 15V_{DC}$ $45\Omega \le R_M \le 114\Omega$

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 cupper 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







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