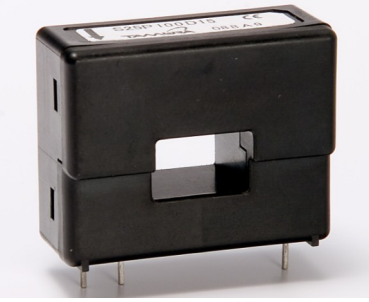
Hall Effect Current Sensor S25P050D15X



Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio K_N = 1:1000
- Printed circuit board mounting
- Aperture
- 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

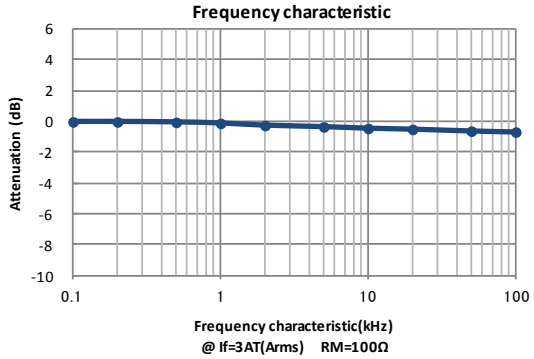
Specifications

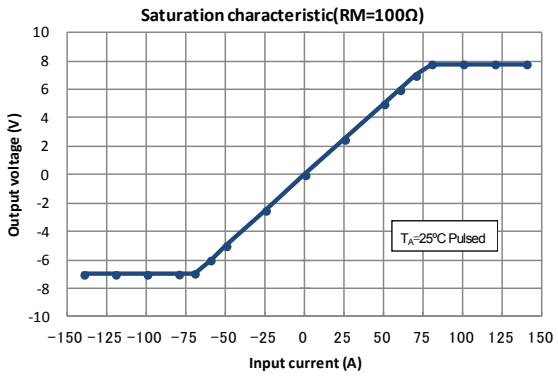
T_A=25ºC, V_{CC}=±15V

Parameters	Symbol	S25P050D15X
Primary nominal current	I_f	50A
Maximum current[1] (at 85°C)	I_{fmax}	± 55A (at R_M = 135Ω)
Measuring resistance（If = ±A_{DC} at 85°C)	R_M	60Ω ~ 95Ω (at V_{CC} = ±12V) 135Ω ~ 155Ω (at V_{CC} = ±15V)
Conversion Ratio	K_N	1 : 1000
Rated output current	I_O	50mA
Output current accuracy[2](at I_f)	X	I_O ± 0.5%
Offset current[3](at If=0A)	I_{Of}	≤ ± 0.2mA
Output linearity[2](0A～If)	ε_L	≤ ± 0.15% (at I_f)
Power supply voltage[1]	V_{CC}	± 12V..± 15V ± 5%
Consumption current	I_{CC}	≤ ± 16mA (Output current is not included)
Response rime[4]	t_r	≤ 1. 0μs (at di/dt = 100A / μs)
Thermal drift of gain[5]	Tclo	≤ ± 0.01% / ºC
Thermal drift of offset current	Tclof	≤ ± 0.5mA (at T_A = – 40ºC ⇔ +85ºC)
Hysteresis error	I_{OH}	≤ 0.3mA (at I_f=0A → I_f → 0A)
Insulation voltage	V_d	AC 3000V, for 1minute (sensing current 0.5mA), inside of through hole ⇔ terminal
Insulation resistance	R_{IS}	≥ 500MΩ (at DC 500V) , inside of through hole ⇔ terminal
Secondary coil resistance	R_S	80Ω (at T_A = 70ºC) 85Ω (at T_A = 85ºC)
Ambient operation temperature	T_A	– 40ºC ~ +85ºC
Ambient storage temperature	T_S	–40ºC ~ +90ºC

[1] At T_A = 70ºC , I_{fmax}= 70A(at 50Ω ≦ R_L ≦ 90Ω). 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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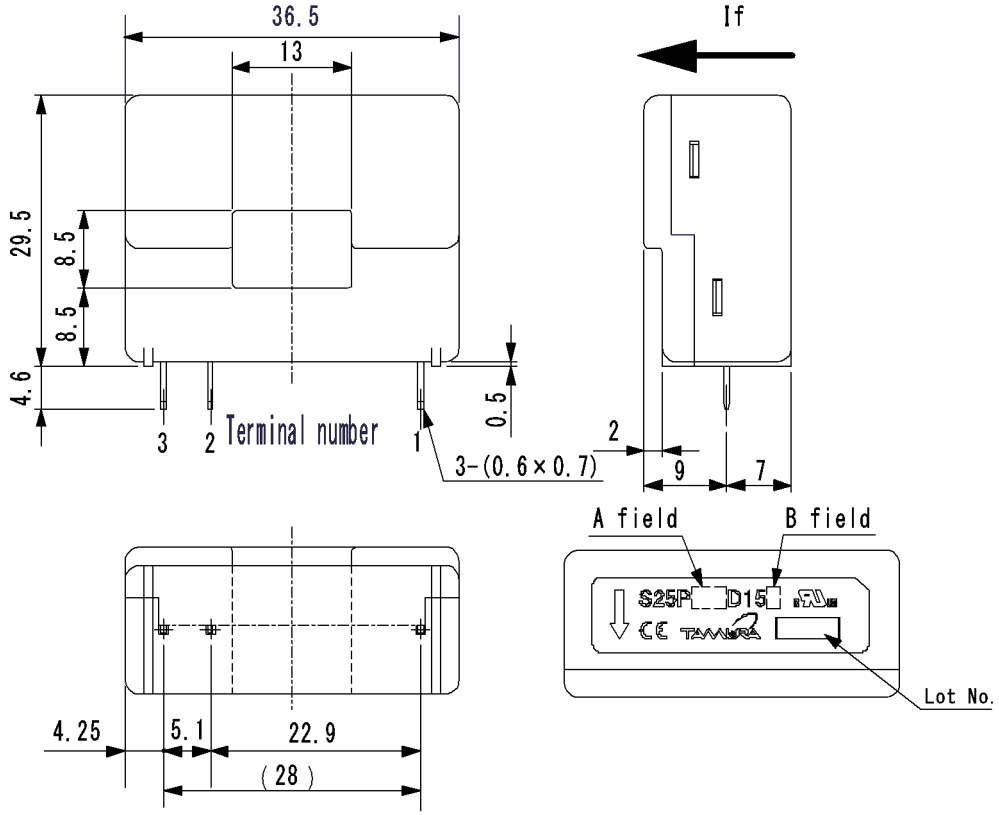
Mechanical dimensions



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

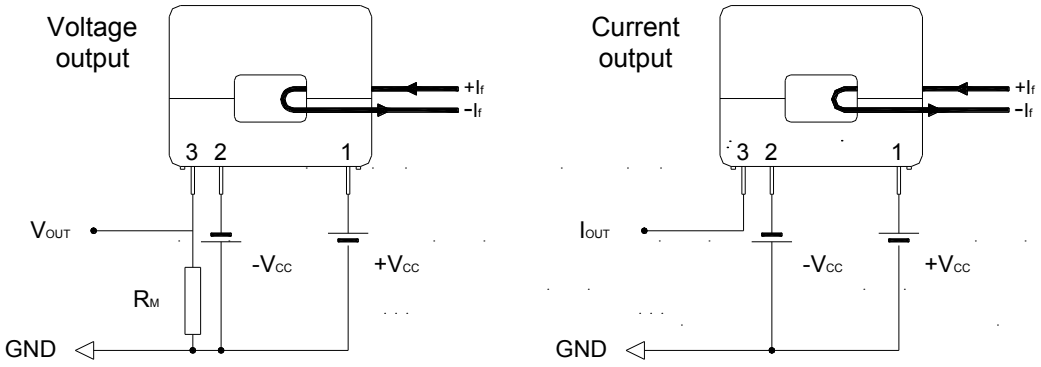
Terminal number:
1. +Vcc(+15V)
2. –Vcc(-15V)
3. I_{OUT}

A field display	
Current	A field
50A	050
100A	100
150A	150

B field display	
Coil turn	B field
1000T	X
2000T	Y

50A is 1000T only
150A is 2000T only

Electrical connection diagram



S25P050D15X
At I_f = 50A & V_{CC} = ±15V_{DC}
135Ω ≤ R_M ≤ 155Ω

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

Do not wrap the primary conductor around the core part of the product to increase measured current.

Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
20g	100	300	7200

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