



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!



Contact us

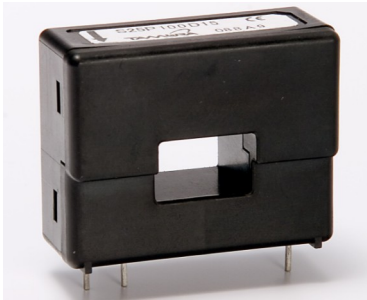
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Hall Effect Current Sensors S25P***D15Y Series



Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio $K_N = 1:2000$
- 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

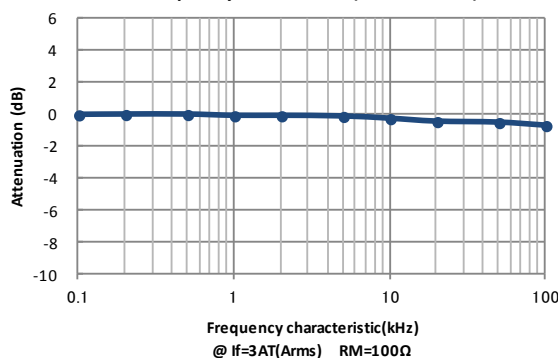
 $T_A=25^{\circ}\text{C}, V_{CC}=\pm 15\text{V}$

Parameters	Symbol	S25P100D15Y	S25P150D15Y
Primary nominal current	I_f	100A	150A
Maximum current ¹ (at 85°C)	I_{fmax}	$\pm 150\text{A}$ (at $20\Omega \leq R_M \leq 25\Omega$)	$\pm 200\text{A}$ ((at $0\Omega \leq R_M \leq 40\Omega$))
Measuring resistance ($I_f = \pm A_{DC}$ at 85°C)	R_M	0Ω ~ 42Ω (at $V_{CC} = \pm 12\text{V}$) 20Ω ~ 102Ω (at $V_{CC} = \pm 15\text{V}$)	0Ω ~ 15Ω (at $V_{CC} = \pm 12\text{V}$) 0Ω ~ 55Ω (at $V_{CC} = \pm 15\text{V}$)
Conversion Ratio	K_N	1 : 2000	
Rated output current	I_o	50mA	75mA
Output current accuracy ² (at I_f)	X	$I_o \pm 0.5\%$	
Offset current ³ (at $I_f=0\text{A}$)	I_{of}	$\leq \pm 0.1\text{mA}$	$\leq \pm 0.2\text{mA}$
Output linearity ² (0A~ I_f)	ϵ_L	$\leq \pm 0.15\%$ (at I_f)	$\leq \pm 0.25\%$ (at I_f)
Power supply voltage ¹	V_{CC}	$\pm 12\text{V}.. \pm 15\text{V} \pm 5\%$	
Consumption current	I_{CC}	$\leq \pm 16\text{mA}$ (Output current is not included)	
Response time ⁴	t_r	$\leq 1.0\mu\text{s}$ (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}	$\leq \pm 0.5\text{mA}$ (at $T_A = -40^{\circ}\text{C} \leftrightarrow +85^{\circ}\text{C}$)	
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	AC 3000V, for 1minute (sensing current 0.5mA), inside of through hole \leftrightarrow terminal	
Insulation resistance	R_{is}	$\geq 500\text{M}\Omega$ (at DC 500V) , inside of through hole \leftrightarrow terminal	
Secondary coil resistance	R_s	120Ω (at $T_A = 70^{\circ}\text{C}$) 128Ω (at $T_A = 85^{\circ}\text{C}$)	95Ω (at $T_A = 70^{\circ}\text{C}$) 85Ω (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	$-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$	

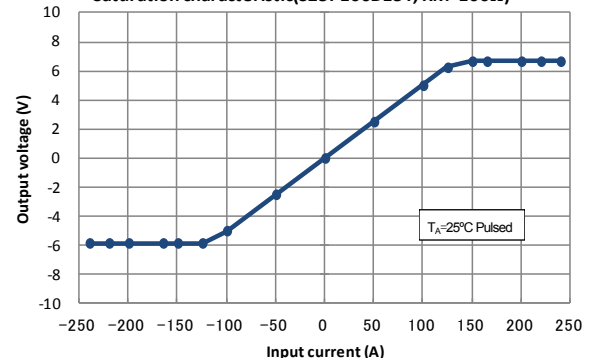
¹ Maximum current is restricted by V_{CC} — ² Without offset current — ³ After removal of core hysteresis — ⁴ Time between 90% input current full scale and 90% of sensor output full scale — ⁵ Without Thermal drift of offset current — ⁶ At Small signal

Electrical Performances

Frequency characteristic(S25P100D15Y)

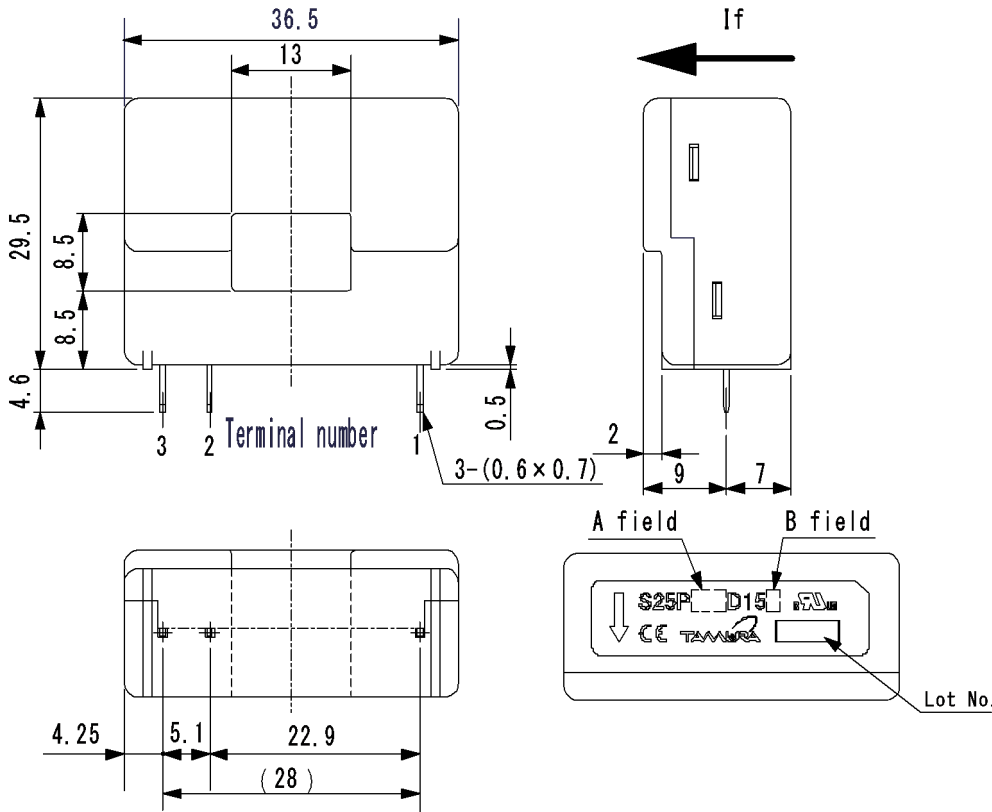


Saturation characteristic(S25P100D15Y, $R_M=100\Omega$)



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Mechanical dimensions



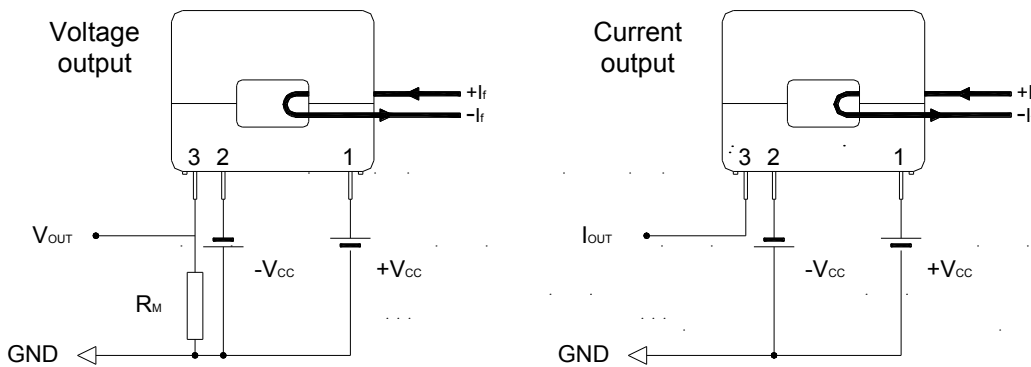
- NOTES
1. Unit is mm
 2. Tolerance is 0.5mm

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

A field display		B field display	
Current	A field	Coil turn	B field
50A	050	1000T	X
100A	100	2000T	Y
150A	150		

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

Electrical connection diagram



S25P100D15Y
At $I_f = 100A$ & $V_{CC} = \pm 15V_{DC}$
 $20\Omega \leq R_M \leq 102\Omega$

S25P150D15Y
At $I_f = 150A$ & $V_{CC} = \pm 15V_{DC}$
 $0\Omega \leq R_M \leq 55\Omega$

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

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



Tamura reserve the right to modify its products in order to improve them without prior notice