

Hall Effect Current Sensor S28S500D24Z



Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio $K = 1:5000$
- Panel mounting with Molex mini-fit Jr
- Large aperture
- Insulated plastic case according to UL94V0

Advantages:

- Excellent accuracy and linearity
- Very low temperature drift
- No insertion loss
- High Immunity to external interferences
- Optimised response time
- Wide supply voltage range

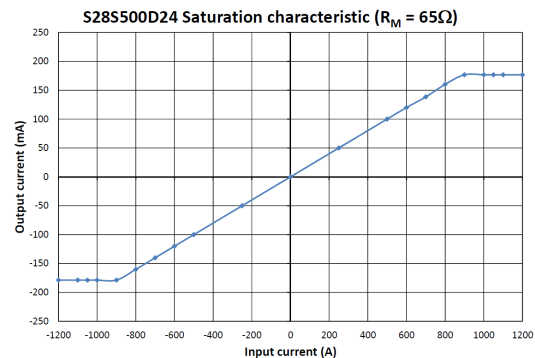
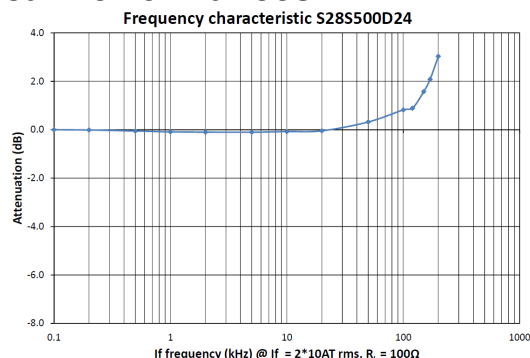
Specifications

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

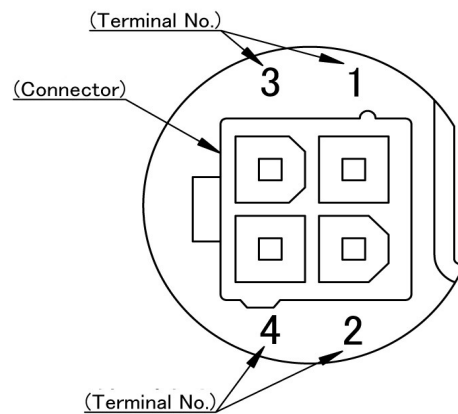
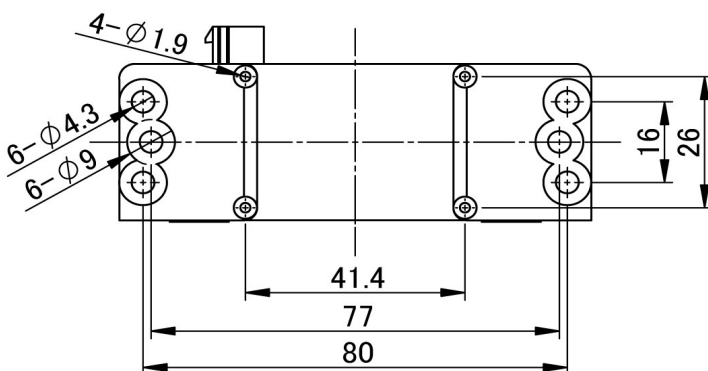
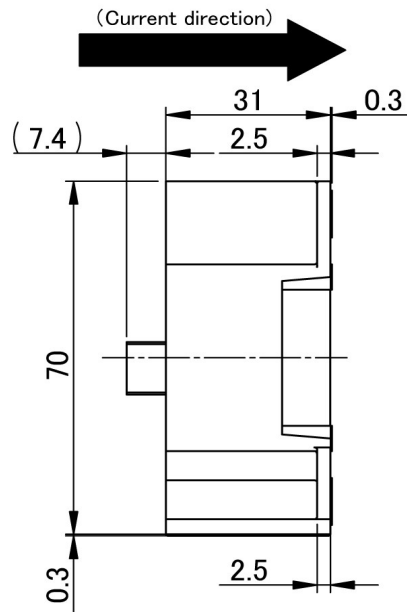
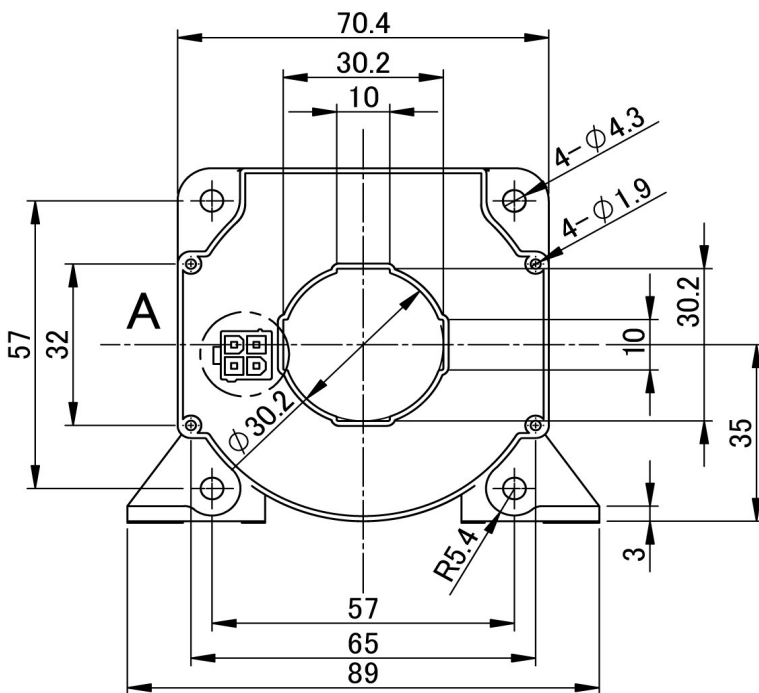
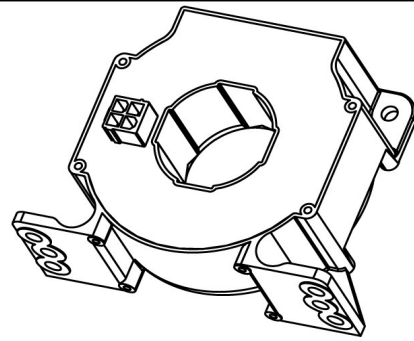
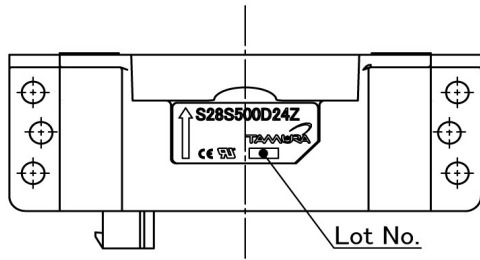
Parameters	Symbol	S28S500D24Z	
Rated Current	I_f	500A	
Maximum Current ¹	I_{fmax}	$\pm 800\text{A}$ (see below)	
$I_f = \pm A_{DC}$ Measuring resistance @ 85°C	R_M	$\pm 15\text{V}$	500AT : $0\Omega \sim 60\Omega$ 800AT : $0\Omega \sim 11\Omega$
		$\pm 18\text{V}$	500AT : $0\Omega \sim 92\Omega$ 800AT : $0\Omega \sim 30\Omega$
		$\pm 24\text{V}$	500AT : $5\Omega \sim 149\Omega$ 800AT : $5\Omega \sim 65\Omega$
Conversion Ratio	K	1 : 5000	
Output Current	I_{OUT}	$\pm 100\text{mA}$	
Offset Current	I_{OE}	$\leq \pm 0.4\text{mA}$ @ $I_f = 0\text{A}$	
Output Current Accuracy	X	$I_{OUT} \pm 0.5\%$ (w/o I_{OE})	
Output Linearity	ϵ_L	$\leq \pm 0.1\%$ @ I_f	
Supply Voltage ²	V_{CC}	$\pm 15\text{V} \sim \pm 24\text{V}$ ($\pm 5\%$)	
Consumption Current	I_{CC}	$\pm 30\text{mA}$ (Output Current is not included)	
Response Time ³	t_r	$< 1.0\mu\text{s}$ @ $di/dt = 100\text{A} / \mu\text{s}$	
Output Temperature Characteristic	TCI_{OUT}	$< \pm 0.01\%$ / $^\circ\text{C}$ @ I_f (w/o TCI_{OE})	
Offset Temperature Characteristic ⁴	TCI_{OE}	$< \pm 0.4\text{mA}$ @ $I_f = 0\text{A}$ (Max)	
Hysteresis allowance	I_{OH}	$\leq 0.2\text{mA}$ ($0\text{A} \leftrightarrow 3 \times I_f$) Max	
Insulation Withstanding	V_d	AC 4000V, for 1minute (sensing current 0.5mA), inside of aperture \leftrightarrow terminals	
Insulation Resistance	R_{IS}	$> 500\text{M}\Omega$ (@ DC 500V) inside of aperture \leftrightarrow terminals	
Frequency Bandwidth	f	DC .. 100 kHz	
Secondary Coil Resistance	R_S	70Ω @ $T_A = 70^\circ\text{C}$	
Operating Temperature	T_A	$-40^\circ\text{C} \sim +70^\circ\text{C}$	
Storage Temperature	T_S	$-40^\circ\text{C} \sim +85^\circ\text{C}$	

¹ @ $V_{CC} = \pm 15\text{V}$ 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 — $< \pm 0.4\text{mA}$ max. @ $I_f = 0\text{A}$ ($-10^\circ\text{C} \sim +70^\circ\text{C}$)

Electrical Performances



Hall Effect Current Sensor S28S500D24Z



Detail A (2.5:1)

(Tolerance): ± 0.5

(Unit): mm

(Terminal No.)

1. NC
2. -Vcc
3. Output
4. +Vcc

(Connector)

Molex	39-28-8040	5566-04A-210
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Mouser Electronics

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Tamura:

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