



Hall Effect Current Sensor S29S1T0D24ZM

Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio K = 1:5000
- Panel mounting with Molex 6410-03C.
- 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

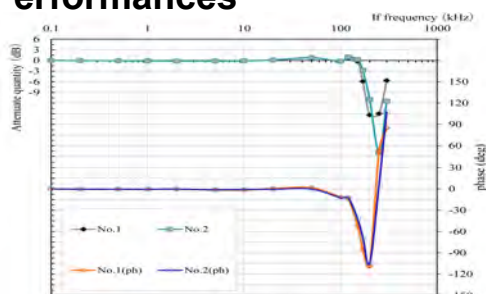
$T_A=25^{\circ}\text{C}$, $V_{CC}=\pm 24\text{V}$

Parameters	Symbol	S29S1T0D24ZM		
Rated Current	I_f	1000A		
Maximum Current	I_{fmax}	$\pm 2100\text{A}$ (see below)		
$I_f = \pm A_{DC}$ Measuring resistance @ 85°C	R_M	$\pm 15\text{V}$	70°C	1000A : $0\Omega \sim 21\Omega$ 1200A : $0\Omega \sim 9\Omega$ 1300A : $0\Omega \sim 5\Omega$
			85°C	1000A : $0\Omega \sim 18\Omega$ 1200A : $0\Omega \sim 7\Omega$
		$\pm 24\text{V}$	70°C	1000A : $0\Omega \sim 60.5\Omega$ 1800A : $0\Omega \sim 14\Omega$ 2100A : $0\Omega \sim 4\Omega$
			85°C	1000A : $10\Omega \sim 58.5\Omega$ 1800A : $10\Omega \sim 12\Omega$
Conversion Ratio	K	1 : 5000		
Output Current	I_{OUT}	$\pm 200\text{mA}$		
Offset Current	I_{OE}	$\leq \pm 0.4\text{mA}$ @ $I_f = 0\text{A}^1$		
Output Current Accuracy	X	$I_{OUT} \pm 0.4\%$ (without I_{of})		
Output Linearity	ϵ_L	$\leq \pm 0.1\%$ @ I_f		
Supply Voltage	V_{CC}	$\pm 15\text{V} \sim \pm 24\text{V}$ ($\pm 5\%$)		
Consumption Current	I_{CC}	$\pm 35\text{mA}$ (Output Current is not included)		
Response Time ²	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 (without TCI_{OE})		
Offset Temperature Characteristic	TCI_{OE}	$\leq \pm 0.8\text{mA}$ max @ $I_f = 0\text{A}$		
Hysteresis allowance	I_{OH}	$\leq 0.2\text{mA}$ ($0\text{A} \leftrightarrow 3 \times I_f$)		
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	48 Ω @ $T_A = 70^{\circ}\text{C}$ 50 Ω @ $T_A = 85^{\circ}\text{C}$		
Operating Temperature	T_A	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$		
Storage Temperature	T_S	$-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$		

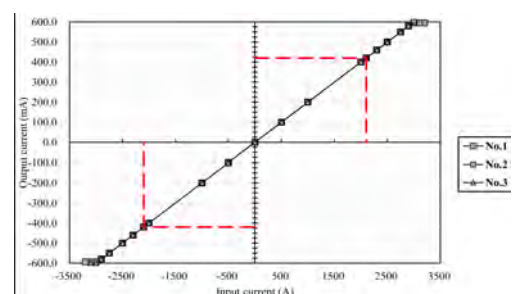
¹ Offset current value is after removal of core hysteresis — ² Time between 90% input current full scale and 90% of sensor output full scale

Electrical Performances

Frequency Characteristics

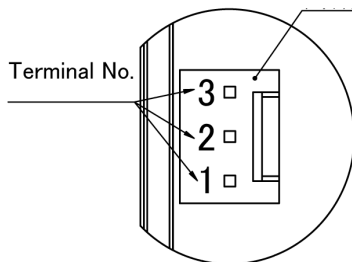
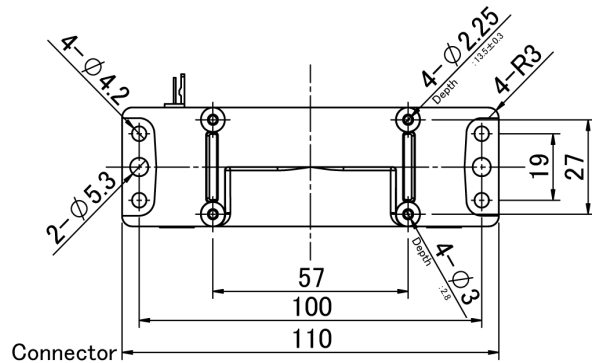
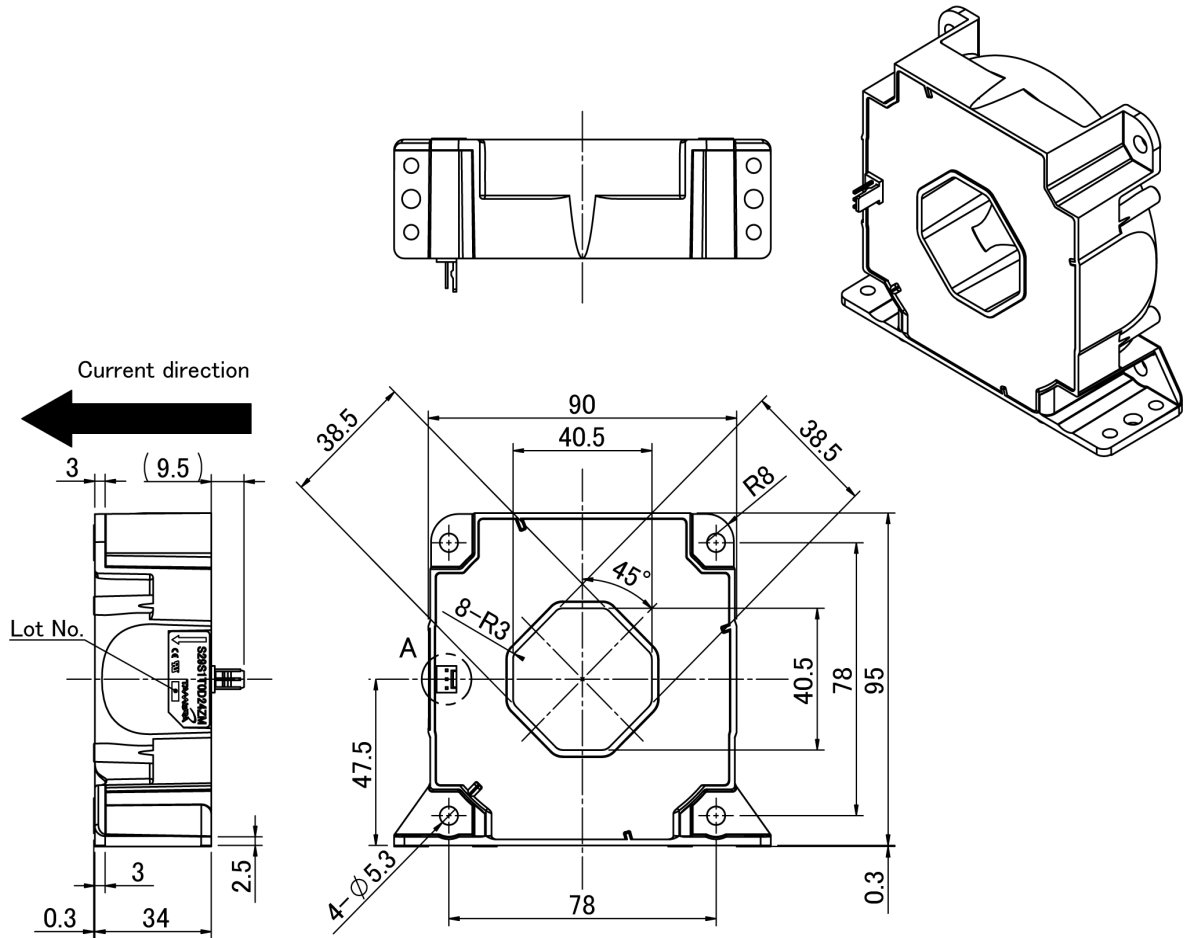


Saturation Characteristics



Hall Effect Current Sensor S29S1T0D24ZM

Mechanical dimensions in mm



Detail A (2:1)

Tolerance : ± 0.5
Unit : mm

Terminal No.
1. -Vcc
2. Iout
3. +Vcc

Connector	
Maker	Molex
Part No.	6410-03C (38-00-6293)

Plating of terminal : Sn

Weight : 560g

*Unless specified, tolerance shall be ± 0.5 mm

Mouser Electronics

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Tamura:

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