



# Hall Effect Current Sensor S28S500D24ZM

## 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

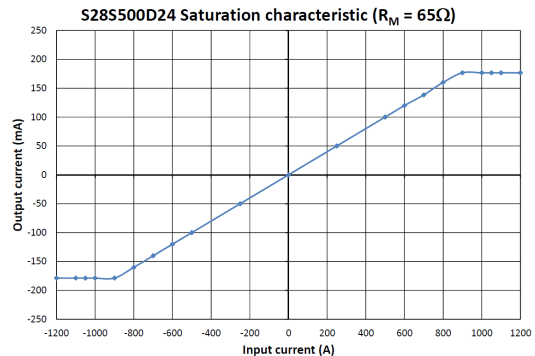
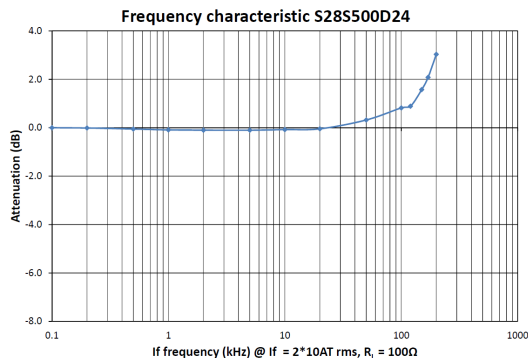
## Specifications

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

Parameters	Symbol	S28S500D24ZM	
Rated Current	$I_f$	500A	
Maximum Current <sup>1</sup>	$I_{fmax}$	$\pm 800\text{AT}$ (see below)	
$I_f = \pm A_{DC}$ Measuring resistance @ $85^\circ\text{C}$	$R_M$	$\pm 15\text{V}$	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	$\epsilon_L$	$\leq \pm 0.1\%$ @ $I_f$	
Supply Voltage <sup>2</sup>	$V_{CC}$	$\pm 15\text{V} \sim \pm 24\text{V}$ ( $\pm 5\%$ )	
Consumption Current	$I_{CC}$	$\pm 30\text{mA}$ (Output Current is not included)	
Response Time <sup>3</sup>	$t_r$	$< 1.0\mu\text{s}$ @ $di/dt = 100\text{A} / \mu\text{s}$	
Output Temperature Characteristic	$TCI_{OUT}$	$< \pm 0.01\%$ / $^\circ\text{C}$ @ $I_f$ (w/o $TCI_{OE}$ )	
Offset Temperature Characteristic <sup>4</sup>	$TCI_{OE}$	$< \pm 0.4\text{mA}$ @ $I_f = 0\text{A}$ (max)	
Hysteresis allowance	$I_{OH}$	$\leq 0.2\text{mA}$ (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	$R_S$	$70\Omega$ @ $T_A = 70^\circ\text{C}$	
Operating Temperature	$T_A$	$-40^\circ\text{C} \sim +70^\circ\text{C}$	
Storage Temperature	$T_S$	$-40^\circ\text{C} \sim +85^\circ\text{C}$	

<sup>1</sup> @  $V_{CC}=\pm 15\text{V}$  for 10 Seconds — <sup>2</sup> Rated Current is restricted by  $V_{CC}$  — <sup>3</sup> 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



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## Mechanical dimensions in mm

