

Hall Effect Current Sensor S27S300D15YM



Features:

- Closed Loop type
- Current or voltage output
- Conversion ratio $K = 1:2000$
- Panel mounting with Molex connector
- Large aperture
- Insulated plastic case according to UL94V0

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

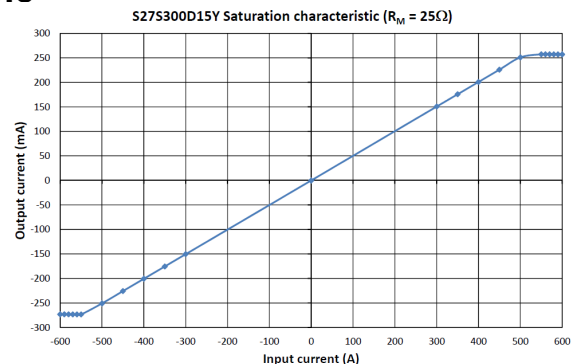
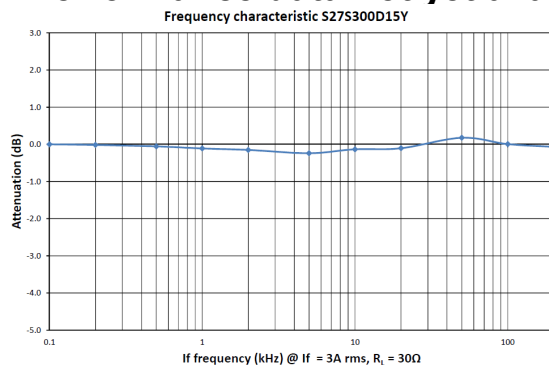
Specifications

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

Parameters	Symbol	S27S300D15YM	
Rated Current	I_f	300A	
Maximum Current ¹	I_{fmax}	$\pm 500\text{A}$ (@ $R_M \leq 5\Omega$)	
$I_f = \pm A_{DC}$ Measuring resistance @ 85°C	R_M	$\pm 12\text{V}$	300A : $0\Omega \sim 39\Omega$ 500A : $0\Omega \sim 12\Omega$
		$\pm 15\text{V}$	300A : $0\Omega \sim 58\Omega$ 500A : $0\Omega \sim 22\Omega$
		$\pm 20\text{V}$	300A : $15\Omega \sim 93\Omega$ 500A : $15\Omega \sim 45\Omega$
Conversion Ratio	K	1 : 2000	
Output Current	I_{OUT}	$\pm 150\text{mA}$	
Offset Current	I_{OE}	$\leq \pm 0.2\text{mA}$ @ $I_f = 0\text{A}$	
Output Current Accuracy	X	$I_{OUT} \pm 0.4\%$ (w/o lof)	
Output Linearity	ϵ_L	$\pm 0.1\%$ @ I_f	
Supply Voltage ²	V_{CC}	$\pm 12\text{V} \sim \pm 20\text{V}$ ($\pm 5\%$)	
Consumption Current	I_{CC}	$\pm 20\text{mA}$ (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	TCl_{OUT}	$\leq \pm 0.01\%$ / $^\circ\text{C}$ @ I_f	
Offset Temperature Characteristic	TCl_{OE}	$\leq \pm 0.5\text{mA}$ max. @ $I_f = 0\text{A}$ ($-40^\circ\text{C} \sim +85^\circ\text{C}$)	
Hysteresis allowance	I_{OH}	$\leq 0.08\text{mA}$ ($0\text{A} \leftrightarrow 3 \times I_f$)	
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	25 Ω @ $T_A = 70^\circ\text{C}$ 28 Ω @ $T_A = 85^\circ\text{C}$	
Operating Temperature	T_A	$-40^\circ\text{C} \sim +85^\circ\text{C}$	
Storage Temperature	T_S	$-40^\circ\text{C} \sim +90^\circ\text{C}$	

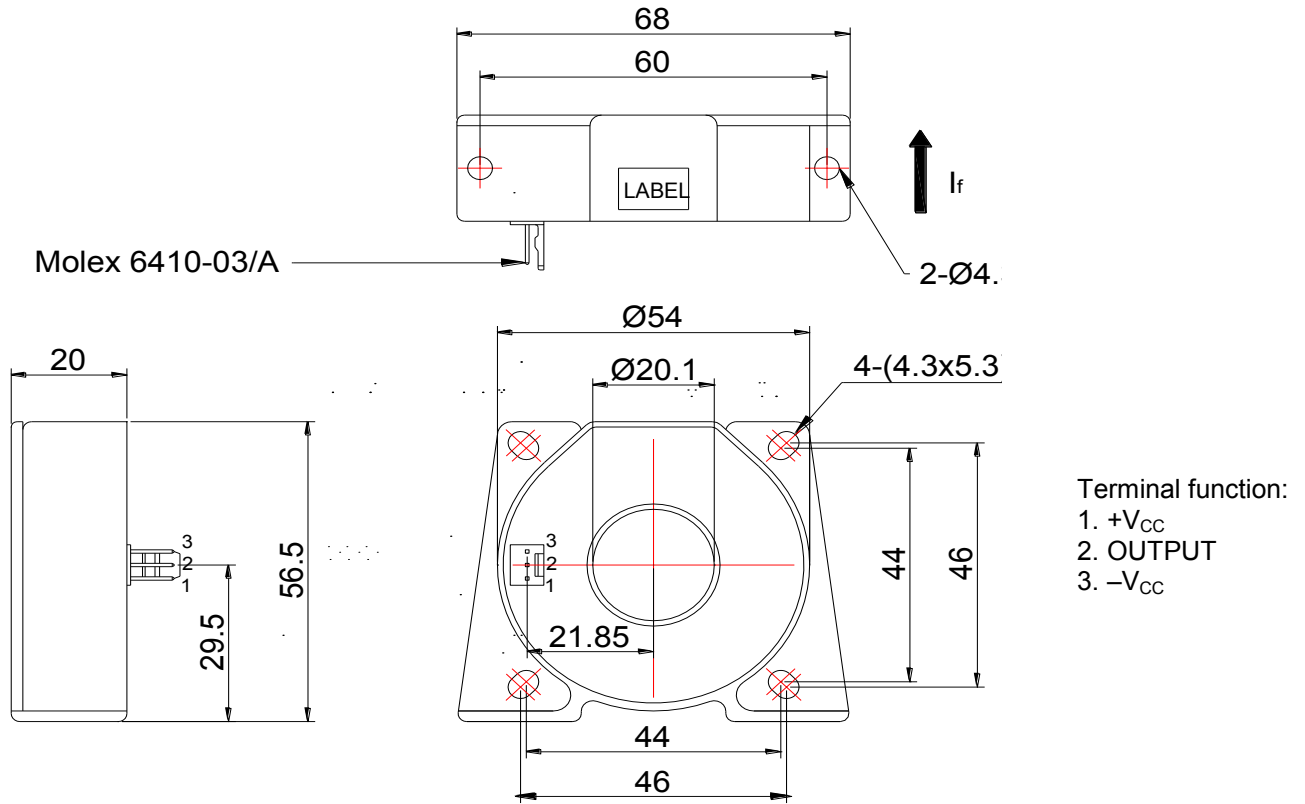
¹ @ $V_{CC}=\pm 15\text{V}$ for 10 Seconds — ² Rated Current is restricted by V_{CC} — ³ Time between 10% input current full scale and 90% of sensor output full scale — $< \pm 0.3\text{mA}$ max. @ $I_f = 0\text{A}$ ($-10^\circ\text{C} \sim +70^\circ\text{C}$)

Electrical Performance data not yet available

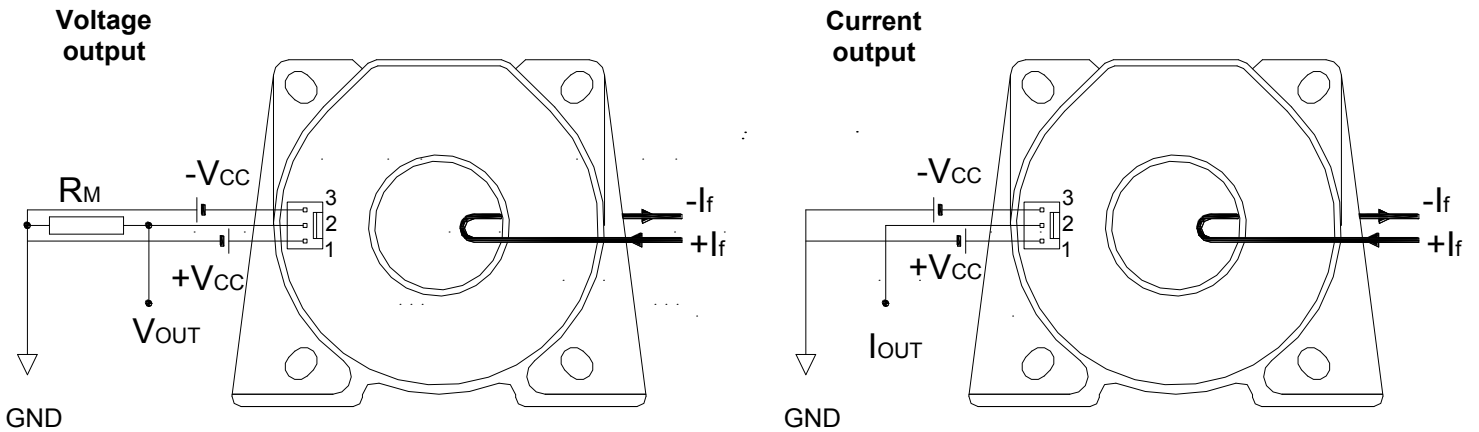


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Mechanical dimensions in mm



Electrical connection diagram



Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet

Mouser Electronics

Authorized Distributor

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Tamura:

[S27S300D15YM](#)