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=25ºC, V_{CC}=±15V

| Parameters	Symbol	S27S300D15YM		
Rated Current	I_f	300AT		
Maximum Current[1]	I_{fmax}	± 500A (@ R_M ≤ 5Ω)		
If = ± A_{DC} Measuring resistance @ 85°C	R_M	±12V	300A : 0Ω ~ 39Ω 500A : 0Ω ~ 12Ω	
		±15V	300A : 0Ω ~ 58Ω 500A : 0Ω ~ 22Ω	
		±20V	300A : 15Ω ~ 93Ω 500A : 15Ω ~ 45Ω	
Conversion Ratio	K	1 : 2000		
Output Current	I_{OUT}	± 150mA		
Offset Current	I_{OE}	± 0.2mA @ I_f = 0A		
Output Current Accuracy	X	I_{OUT} ± 0.4%		
Output Linearity	ε_L	± 0.1% @ I_f		
Supply Voltage[2]	V_{CC}	± 12V ~ ± 20V		
Consumption Current	I_{CC}	± 20mA (Output Current is not included)		
Response Time[3]	t_r	< 1.0μs @ di/dt = 100A / μs		
Output Temperature Characteristic	TCI_{OUT}	± 0.01 % / ºC @ I_f		
Offset Temperature Characteristic[4]	TCI_{OE}	< ± 0.5mA max. @ I_f = 0A (-40ºC ~ +85ºC)		
Hysteresis allowance	I_{OH}	≤ 0.08mA (0A ⇔ 3 x I_f)		
Insulation Withstanding	V_d	AC 4000V, for 1minute (sensing current 0.5mA), inside of aperture ⇔ terminals		
Insulation Resistance	R_{IS}	> 500MΩ (@ DC 500V) inside of aperture ⇔ terminals		
Frequency Bandwidth	f	DC .. 100 kHz		
Secondary Coil Resistance	R_S	25Ω @ T_A = 70ºC 28Ω @ T_A = 85ºC		
Operating Temperature	T_A	– 40ºC ~ +85ºC		
Storage Temperature	T_S	– 40ºC ~ +90ºC		

[1] @ V_{CC}=±15V 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 — [4] < ± 0.3mA max. @ I_f = 0A (-10ºC ~ +70ºC)

Electrical Performance data not yet available

Frequency Characteristic

Attenuation (dB) vs If frequency (kHz) @ If=1.0Arms
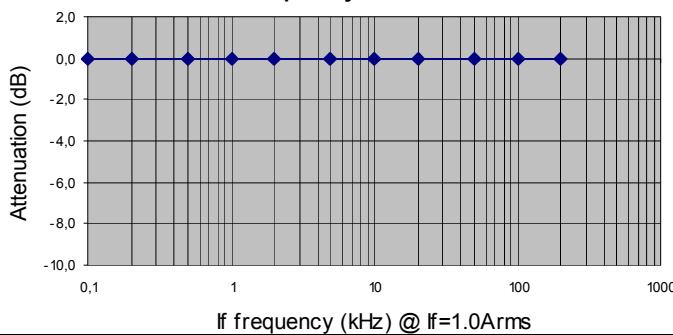
Saturation Characteristic (R_M=???Ω)

Output Voltage (V) vs Input current (A)

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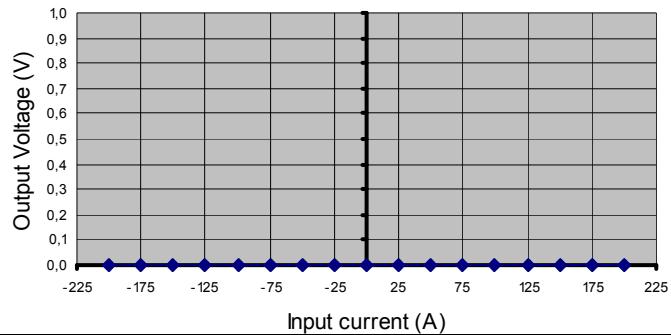
Mechanical dimensions in mm

68

60

LABEL

I_f

Molex 6410-03/A

2-Ø4.3

20

56.5

29.5

3
2
1

Ø54

Ø20.1

4-(4.3x5.3)

44

46

21.85

44

46

Terminal function:
1. +V_{CC}
2. OUTPUT
3. –V_{CC}
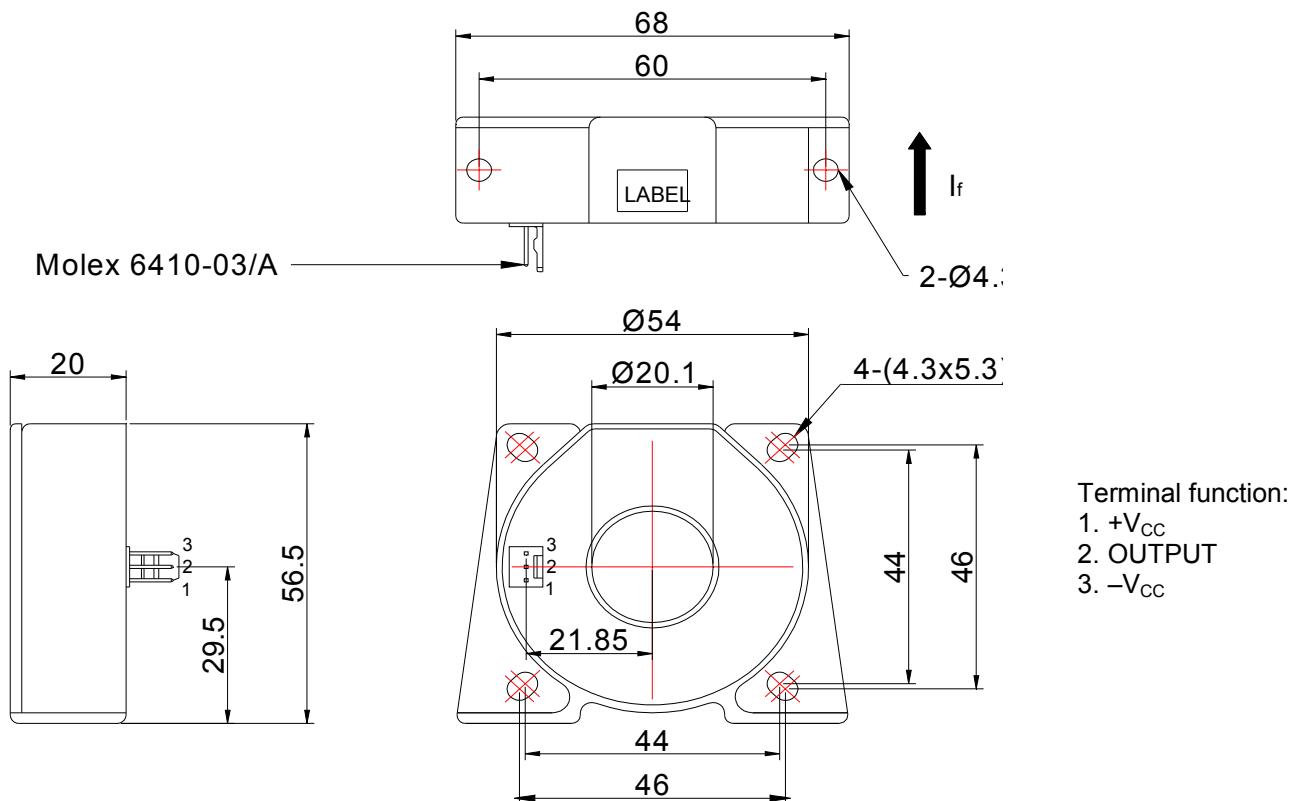
Electrical connection diagram

Voltage output

R_M

–V_{CC}

+V_{CC}

V_{OUT}

GND

3
2
1

–I_f

+I_f

Current output

–V_{CC}

+V_{CC}

I_{OUT}

GND

3
2
1

–I_f

+I_f
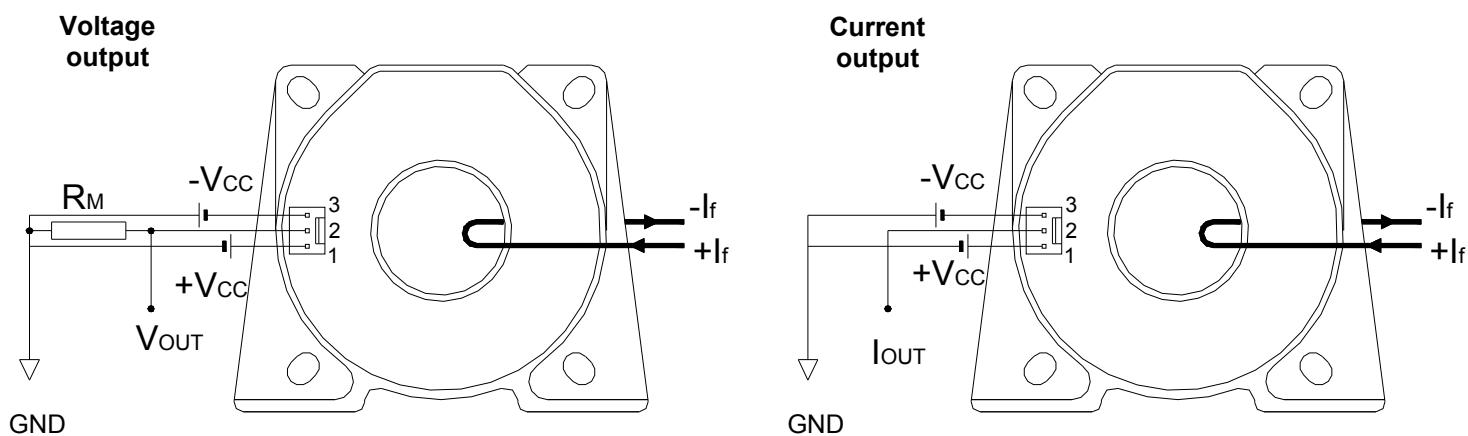
Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
90g	25	75	