BYD Microelectronics Co., Ltd.

BSY2-IOV2-M

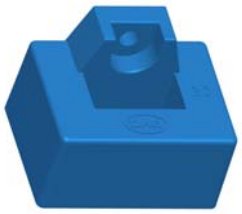
Current Sensors

Description

For the electronic measurement of currents : DC, AC, pulsed, mixed, with a galvanic isolation between the primary circuit and the secondary circuit.

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Compact design for PCB mounting
- Low power consumption
- Extended measuring range (3 *I_{PN})
- Insulated plastic case recognized according to UL 94-V0



I_{PN} = 50…600A

V_{OUT} = ± 4 V

Advantages

- Easy installation
- Excellent accuracy
- No insertion losses
- Excellent performance and price
- Only one design for wide current ratings range
- High immunity against external Interference

Industrial applications

- AC variable speed drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Power supplies for welding applications
- Static converters for DC motor drives
- Switched-Mode Power Supplies (SMPS)

TYPES OF PRODUCTS

Type	Primary nominal current r. m. s I_{PN} (A)	Primary current measuring range I_{PM} (A)
BSY2 – 50/4IOV2	50	±150
BSY2 -75/4IOV2	75	±225
BSY2-100/4IOV2	100	±300
BSY2-150/4IOV2	150	±450
BSY2-200/4IOV2	200	±600
BSY2-300/4IOV2	300	±900
BSY2-400/4IOV2	400	±900
BSY2-500/4IOV2	500	±900
BSY2-600/4IOV2	600	±900

Parameters Table

PARAMETERS	SYMBOL	UNIT	VALUE	CONDITIONS
Electrical data				
Supply voltage(±5%)(1)	V_C	V	±15	
Current consumption	I_C	mA	±15	
Output voltage(Analog)	V_{OUT}	mV	±4V±40	@ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C
Overload capability(1ms)	I_{PC}	At	50* I_{PN}	
Isolation resistance	R_{IS}	MΩ	>1000	@ 500 VDC
Output internal resistance	R_{OUT}	Ω	100	approx
Load resistance(2)	R_L	KΩ	>1	
R. m. s voltage for AC isolation test	V_d	KV	3	@50Hz, 1 min
R. m. s rated voltage、safe separation	V_b	V	500	
Accuracy - Dynamic performance data				
Linearity(3) (0…±I_{PN})	ε_L	%of I_{PN}	<±1	
Accuracy	X	%	<±1	@ I_{PN}, T_A = 25°C (without offset)
Electrical offset voltage	V_{OE}	mV	<±20	@T_A = 25°C
Hysteresis offset voltage	V_{OH}	mV	<±20	@ I_P= 0; after an excursion of 1* I_{PN}
Temperature coefficient of VOE	TCV_{OE}	mV/K	<±2	@BSY2 50--75IOV2-M
			<±1	@BSY2 100--600IOV2-M
Temperature coefficient of V_{OUT}	TCV_{OUT}	%/K	<±0.1	@% of reading
Response time	t_r	μS	<3	@ 90% of I_{PN} step
d_i/d_t accurately followed	d_i/d_t	A/μS	>50	
Frequency bandwidth (4)	BW	kHz	DC~50	@-3dB
General data				
Ambient operating temperature	T_A	℃	-40….+85	
Ambient storage temperature	T_S	℃	-40….+105	
Mass	m	g	approx 60	

Notes:

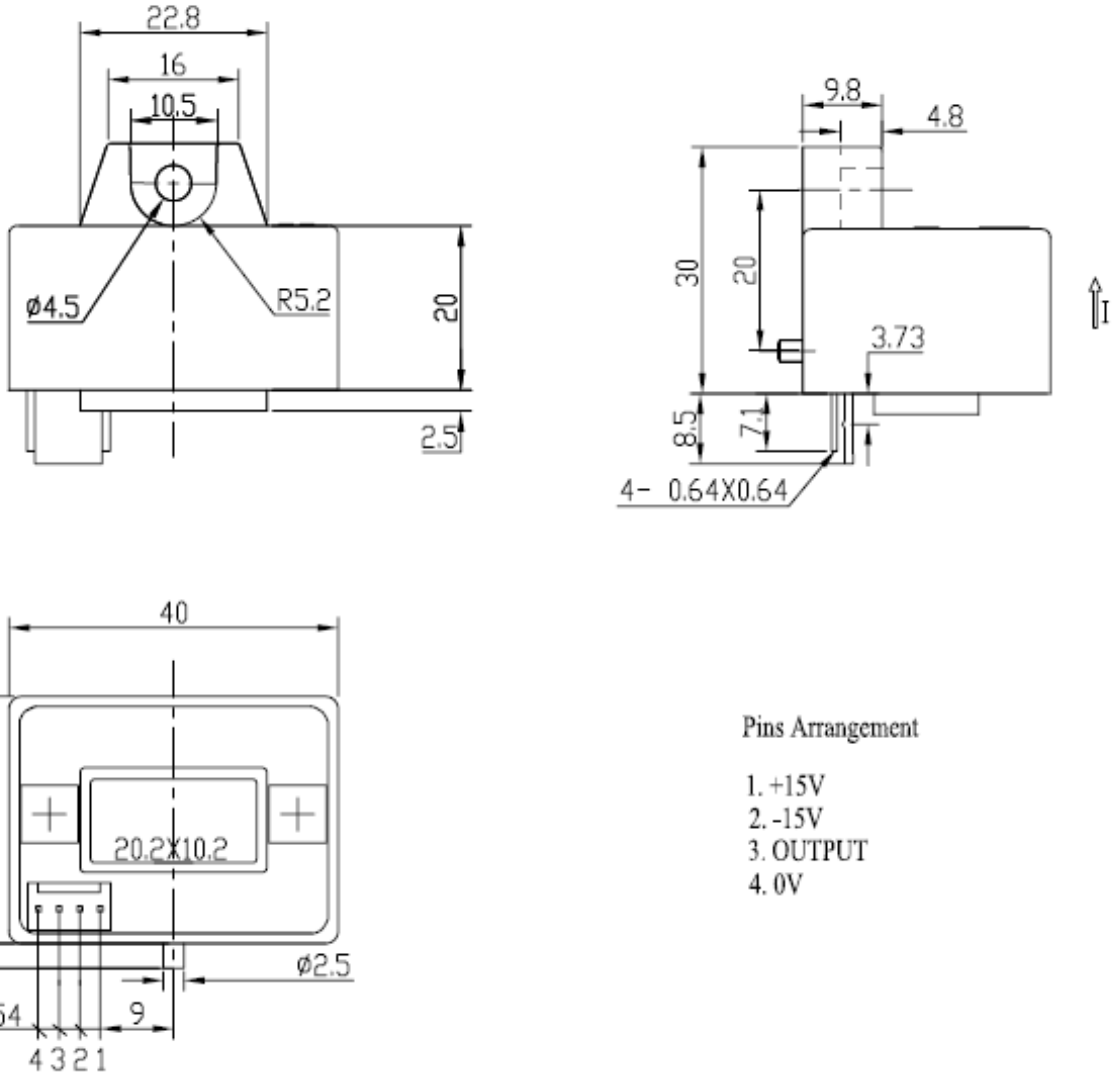
（1）Operating at ±12V ≤V_C<±15V will reduce the measuring range.

（2）If the customer uses 1 KΩ of the load resistor, the primary current has to be limited as the nominal. To measure the full defined measuring range, the load resistor should be at minimum 10 KΩ

（3）Linearity data exclude the electrical offset.

（4）Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.

Dimensions BSY2-IOV2-M (in mm. 1 mm = 0.0394 inch)



Pins Arrangement

1. +15V
2. -15V
3. OUTPUT
4. 0V

◆Instructions of use

1. When the test current passes through the sensors you can get the size of the output voltage. (Warning: wrong connection may lead to sensors damage)
2. Based on user needs, the sensors output range can be appropriately regulated.
3. According to user needs, different rated input currents and output voltages of the sensors can be customized.

RESTRICTIONS ON PRODUCT USE

- The information contained herein is subject to change without notice.

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