

$I_{PN} = 50A$

### Features

- ◆ Hall effect measuring principle
- ◆ Galvanic isolation between primary and secondary circuit
- ◆ Low power consumption
- ◆ Extended measuring range
- ◆ Insulated plastic case recognized according to UL 94-V0

### Advantages

- ◆ Very good linearity
- ◆ Excellent accuracy
- ◆ Low temperature drift
- ◆ Wide frequency bandwidth
- ◆ Optimized response time
- ◆ No insertion losses
- ◆ High immunity against external Interference
- ◆ Excellent performance and price

### 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 $I_P$ (A)	Measuring resistance (@70°C) $R_M$ ( $\Omega$ )	
SICDS100V6	100 <sup>(1)</sup>	0~±110	0~50	with±12V@±100Amax
			0 ~ 22	with±12V@±120Amax
			0~110	with±15V@±100Amax
			0 ~ 33	with±15V@±120Amax

### General Description

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

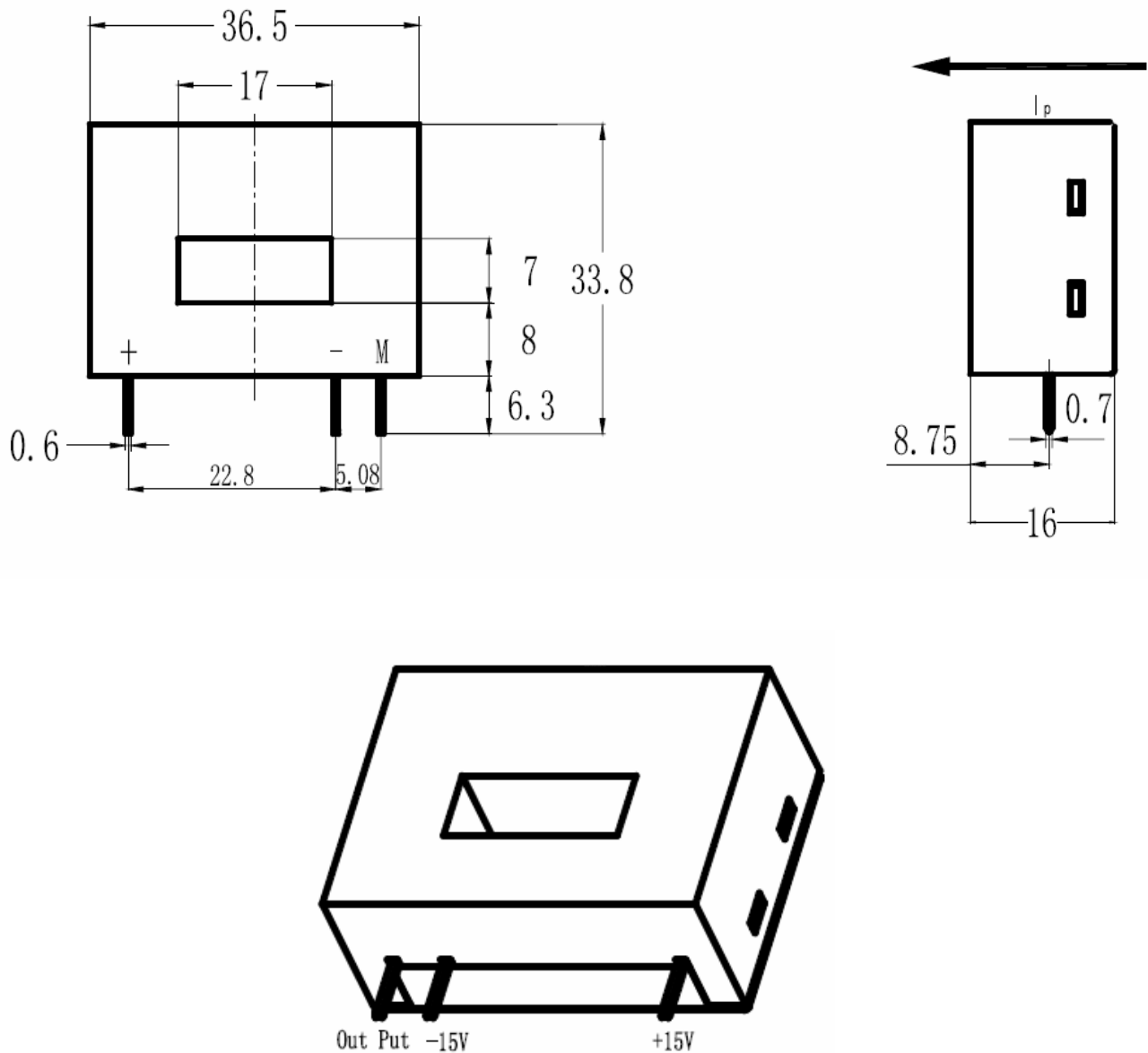
## Parameters Table

PARAMETERS	SYMBOL	UNIT	VALUE	CONDITIONS
<b>Electrical data</b>				
Supply voltage( $\pm 5\%$ )	$V_C$	V	$\pm 12 \dots 15$	
Current consumption	$I_C$	mA	$10(@\pm 15)+I_s$	
Secondary nominal r.m.s. current	$I_{SN}$	mA	50	@ $I_{PN}$
Conversion ratio	$K_N$		1:2000	
<b>Accuracy - Dynamic performance data</b>				
Linearity	$\epsilon_L$	%	$< \pm 0.15$	
Accuracy	$X_G$	%	$< \pm 0.45$	@ $I_{PN}$ , $V_C = \pm 15V$ , $T_A = 25^\circ C$
			$< \pm 0.70$	@ $I_{PN}$ , $V_C = \pm 12 \dots 15V$ , $T_A = 25^\circ C$
Offset current	$I_O$	mA	$< \pm 0.10$	@ $I_P = 0$ , $T_A = 25^\circ C$
Thermal drift of $I_O$	$I_{OT}$	mA	Typ	Max
			$\pm 0.05$	$\pm 0.30$
			$\pm 0.10$	$\pm 0.50$
Response time	$t_r$	$\mu S$	$< 1$	@ 90% of $I_{PN}$ step
di/dt accurately followed	$d_i/dt$	A/ $\mu S$	$> 200$	
Frequency bandwidth (1)	BW	kHz	DC~200	@-1dB
<b>General data</b>				
Ambient operating temperature	$T_A$	$^\circ C$	-40 ~ +85	
Ambient storage temperature	$T_S$	$^\circ C$	-40 ~ +90	
Secondary coil resistance	$R_s$	$\Omega$	120	@ $T_A = 70^\circ C$
<b>Isolation characteristics</b>				
R. m. s voltage for AC isolation test	$V_d$	KV	2.5	@50Hz, 1 min
Impulse withstand voltage 1.2/50us	$V_w$	KV	4.5	
Creepage distance	dCp	mm	5	
Clearance distance	dCI	mm	5	
Comparative Tracking Index	CTI		175	Group IIIa

### Notes:

- 1) DC can be measured 100A, and AC for 80A.
- 2) Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.

**Dimensions SICDS100V6** (in mm. 1 mm = 0.0394 inch)



**Instructions of use**

- 1 When the test current passes through the sensor, you can get the size of the output current. (Warning: wrong connection may lead to sensors damage.)
- 2  $I_s$  is positive when  $I_p$  flows in the direction of the arrow.
- 3 In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.
- 4 According to user needs, different rated input currents and output currents of the sensors can be customized.

## **RESTRICTIONS ON PRODUCT USE**

The information contained herein is subject to change without notice.

SEC ELECTRONICS INC. (for short SEC) exerts the greatest possible effort to ensure high quality and reliability. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing SEC products, to comply with the standards of safety in making a safe design for the entire system, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue. In developing your designs, please ensure that SEC products are used within specified operating ranges as set forth in the most recent SEC products specifications.

The SEC products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These SEC products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of SEC products listed in this document shall be made at the customer's own risk.