TBC-LSR508 Series Closed Loop Mode Hall Effect Current Sensor

TBC-LSR508 series current sensor is a closed loop device based on the measuring principle of the hall effect, with a galvanic isolation between primary and secondary circuit. It has strong anti-jamming ability and provides accurate electronic measurement of DC, AC or pulsed currents.

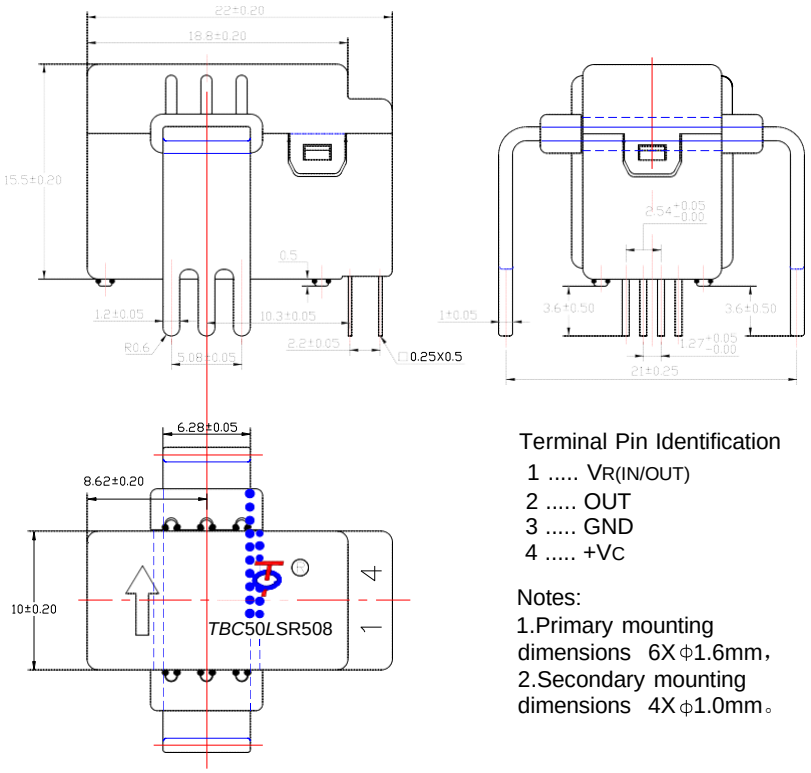
Electrical data(Ta=25℃±5℃, RL=10KΩ, CL=10nF)

Parameter \ Type	TBC06 LSR508	TBC10 LSR508	TBC15 LSR508	TBC20 LSR508	TBC25 LSR508	TBC30 LSR508	TBC32 LSR508	TBC40 LSR508	TBC50 LSR508	Unit
Rated input (Ipn)	±6	±10	±15	±20	±25	±30	±32	±40	±50	A
Measuring ran(Ip)	±15	±25	±37.5	±50	±62.5	±75	±80	±100	±125	A
Turns (Np/Ns)	1:1200	1:1000	1:1125	1:1000	1:1250	1:1125	1:1200	1:1000	1:1000	T
Internal resister	40.0	20.0	15.0	10.0	10.0	7.5	7.5	5.0	4.0	Ω
Rated output	@ Ip=±Ipn				±0.8±0.5%					V
Output resistance					≤20					Ω
Size of primary pins					6.28 ×1.0					mm
(Vc) Supply voltage					+5±5%					V
Power consumption					≤15+Ip/Ns					mA
(Vref) Reference voltage					+2.5±0.5%(Output)					V
Vrefinternal resist resistor					200					Ω
Vref external range resistor					2.0-2.8(Input)					V
Zero voltage	@ Ip=0				+2.5±0.5%					V
Offset drift					≤±0.1					mV/℃
output drift					≤±0.1					mV/℃
Linearity	@ Ip=0-±Ipn				≤0.1					%FS
Total accuracy					≤±1.0					%
di/dt accurately followed					> 50					A/μS
Response time	@ Ip=Ipn, 50 A/μS ,10%-90%				< 1.0					μS
Bandwidth	@-3dB				DC-200					KHz
Galvanic isolation	@ 50Hz,AC,1min				3.0					KV

Applications

- Variable speed drives
- Welding machine
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Electrochemical
- Solar inverters

Mechanical dimension(for reference only)



Terminal Pin Identification

1 ..... VR(IN/OUT)
2 ..... OUT
3 ..... GND
4 ..... +Vc

Notes:
1.Primary mounting dimensions 6XΦ1.6mm，
2.Secondary mounting dimensions 4XΦ1.0mm。

Remarks :

1. All dimensions are in mm.
2. General tolerance ±1mm.

Directions for use

1. When the current will be measured goes through a sensor, the voltage will be measured at the output end. (Note: The false wiring may result in the damage of the sensor).

2. Custom design in the different rated input current and the output voltage available.

Standards

UL94-V0.

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

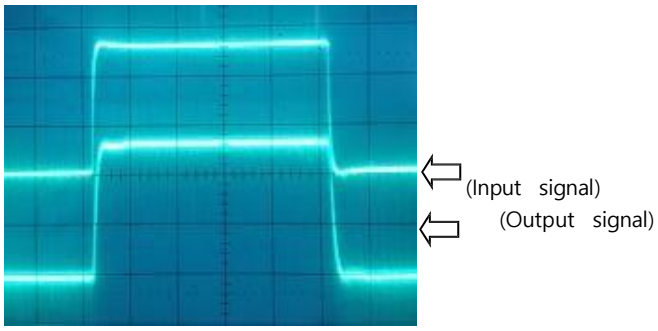
SJ 20790-2000

General data

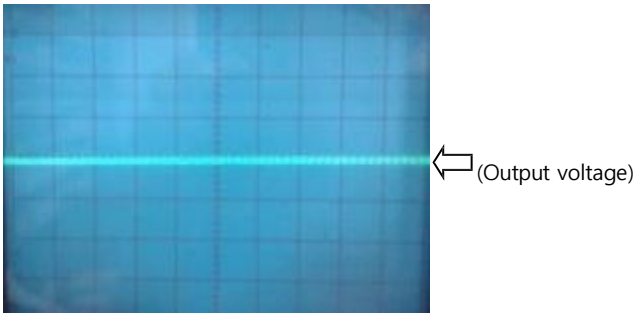
	Value	Unit	Symbol
Operating temperature	-40 to +105	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	12	g	M

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise



Input current-output voltage characteristic