TBC-DT52 Series Closed Loop Mode Hall Effect Current Sensor

TBC-DT52 series current sensor is a closed loop device based on the measuring principle of the hall effect and null balance method, with a galvanic isolation between primary and secondary circuit. It provides accurate electronic measurement of DC, AC or pulsed currents.

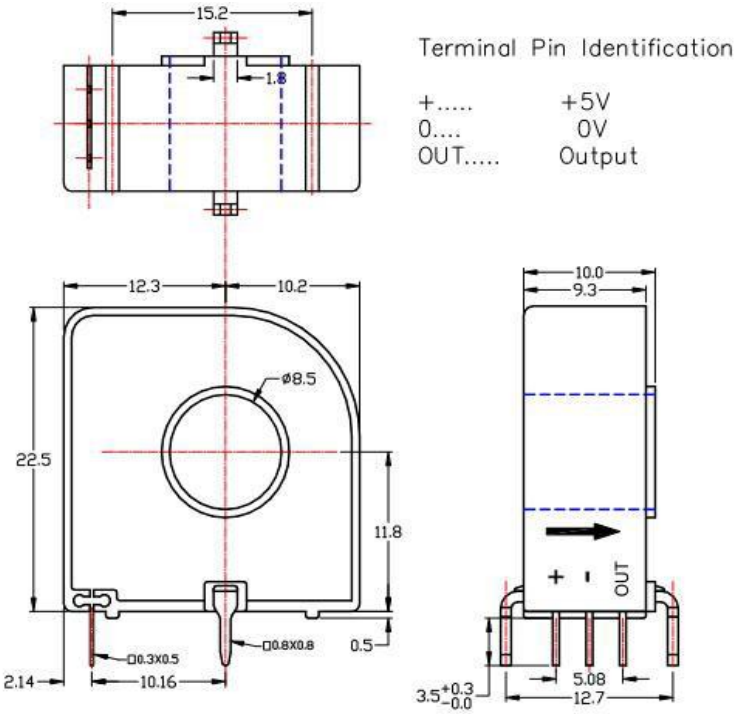
Electrical data (Ta=25℃±5℃)

Parameter \ Type	TBC06DT52	TBC15DT52	TBC25DT52	TBC50DT52	Unit
Rated input (Ipn)	±6.0	±15	±25	±50	A
Measure current range (Ip)	±6.6	±16.5	±27.5	±55	A
Secondary Turns (Ns)	1200±1	1200±1	1000±1	1000±1	T
Internal resister	100±0.1% ,	40±0.1% ,	20±0.1% ,	10±0.1% ,	Ω
Rated output (Vsn)	@ Ip=±Ipn ±2.0±1.0%				V
Supply voltage	+5±5%				V
Power consumption	≤20+Ip/Ns				mA
Zero voltage	@Ip=0 2.5±0.8%	@Ip=0 2.5±0.4%			V
Zero drift	≤±0.2				mV/℃
Output drift	≤±0.2				mV/℃
Linearity	@ Ip=0-±Ipn ≤0.1				%FS
Total precision	≤±1.0				%FS
di/dt accurately followed	> 50				A/μS
Response time	@ Ip=Ipn,50 A/μS,10%-90% < 0.5				μS
Bandwidth	@-3dB DC-200				KHz
Galvanic isolation	@ 50HZ, AC,1min 2.5				KV

Applications

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

Mechanical dimension (for reference only)



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 are available.

Standards

UL94-V0.

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

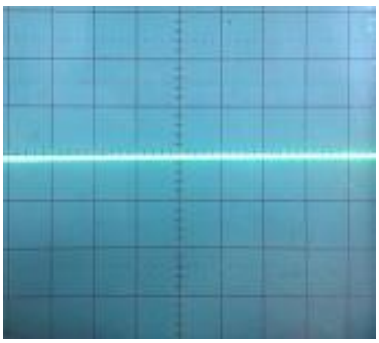
SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	9	g	M

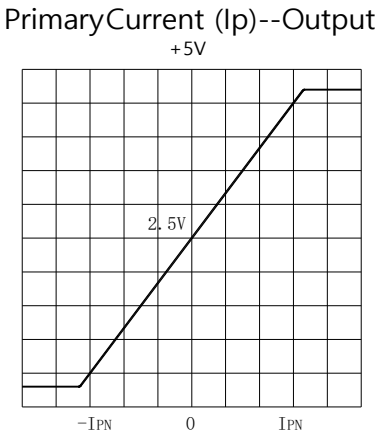
Characteristics chart

Effects of impulse noise



⇦ (Output voltage)

Input Current-Output Voltage



Operation Principle