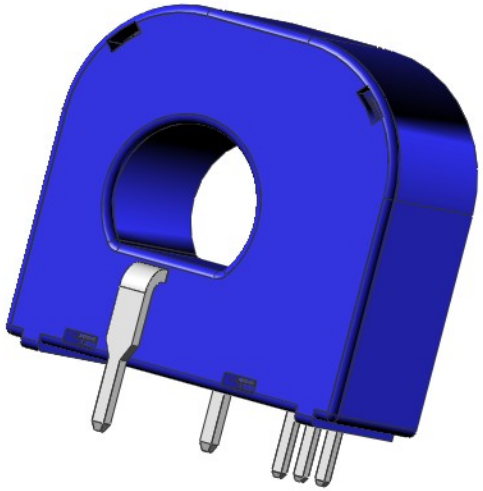
JCB series

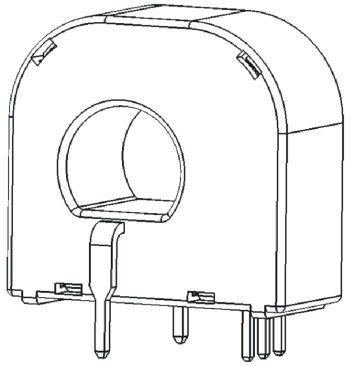
Low Cost Current Transducer



Rev 1.1.5

JCB series

Low Cost Current Transducer with +5V or 3.3V Single Supply Voltage



For electronic current detect: DC, AC, pulsed, mixed ...,with a galvanic isolation between primary circuit (high power) and secondary circuit (electronic circuit)

Features

- Opend loop current transducer
- Single supply voltage
- Ultra low power consumption
- Printed circuit board mounting
- Insulation voltage : 3kV
- Casing and materials UL-listed

Characteristics

- Low insertion loss
- Low temperature coefficient
- High immunity to external interference
- Stable accuracy
- Integration frequency filter
- Easy to mount with automatic handling system

Applications

- Photovoltaic Combiner Boxes
- Home appliance
- Shunt solution replacement
- Uninterruptible Power Supply

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JCB 25A

at T_A= 25 °C, Vc = +5V, unless otherwise noted

Accuracy–dynamic Performance Data			
V_{out}	Output voltage @ ±Ipn (Ipn=25A)	2.5±2*Ip/Ipn	V
V_{OE}	Electrical offset voltage	< 20	mV
ε_L	Linearity error	0.4	% of Ipn
X	Accuracy	1	% of Ipn
X_m	Accuracy at Tamb = 85 °C (max)	< 2	% of Ipn
BW	Frequency bandwidth (-3dB)	DC...1	kHz
T_{Vout}	Temperature drift of Vout @ Ip=0	< 300	ppm/K
I_C	Current consumption	< 15	mA
V_d	Insulation voltage (AC)	3	kV
dCp	Creepage distance	9.4	mm
dCl	Clearance distance	9.4	mm
CTI	Comparative Tracking Index (group I)	600	V

Electrical Data			
I_{PN}	Primary differential current	25	A
I_O	Measurement range	0~±25	A
V_C	Supply voltage (±3%)	+5	V

General Data			
T_A	Ambient operating temperature	-40~+85	°C
T_S	Ambient storage temperature	-40~+105	°C
m	Mass	10	g
	Standards	EN 50178	IEC 60950-1

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JCB 20A

at T_A= 25 °C, Vc = +5V, unless otherwise noted

Accuracy–dynamic Performance Data			
V_{out}	Output voltage @ ±Ipn (Ipn=20A)	1.65±1.25*Ip/Ipn	V
V_{OE}	Electrical offset voltage	< 20	mV
ε_L	Linearity error	0.4	% of Ipn
X	Accuracy	1	% of Ipn
X_m	Accuracy at Tamb = 85 °C (max)	< 2	% of Ipn
BW	Frequency bandwidth (-3dB)	DC...1	kHz
T_{Vout}	Temperature drift of Vout @ Ip=0	< 300	ppm/K
I_C	Current consumption	< 15	mA
V_d	Insulation voltage (AC)	3	kV
dCp	Creepage distance	9.4	mm
dCl	Clearance distance	9.4	mm
CTI	Comparative Tracking Index (group I)	600	V

Electrical Data			
I_{PN}	Primary differential current	20	A
I_O	Measurement range	0~±20	A
V_C	Supply voltage (±3%)	+5	V

General Data			
T_A	Ambient operating temperature	-40~+85	°C
T_S	Ambient storage temperature	-40~+105	°C
m	Mass	10	g
	Standards	EN 50178	IEC 60950-1

JCB 20B

at T_A= 25 °C, Vc = +3.3V, unless otherwise noted

Accuracy–dynamic Performance Data			
V_{out}	Output voltage @ ±Ipn (Ipn=20A)	1.65±1.25*Ip/Ipn	V
V_{OE}	Electrical offset voltage	< 20	mV
ε_L	Linearity error	0.4	% of Ipn
X	Accuracy	1	% of Ipn
X_m	Accuracy at Tamb = 85 °C (max)	< 2	% of Ipn
BW	Frequency bandwidth (-3dB)	DC...1	kHz
T_{Vout}	Temperature drift of Vout @ Ip=0	< 300	ppm/K
I_C	Current consumption	< 15	mA
V_d	Insulation voltage (AC)	3	kV
dCp	Creepage distance	9.4	mm
dCl	Clearance distance	9.4	mm
CTI	Comparative Tracking Index (group I)	600	V

Electrical Data			
I_{PN}	Primary differential current	20	A
I_O	Measurement range	0~±20	A
V_C	Supply voltage (±1%)	+3.3	V

General Data			
T_A	Ambient operating temperature	-40~+85	°C
T_S	Ambient storage temperature	-40~+105	°C
m	Mass	10	g
	Standards	EN 50178	IEC 60950-1

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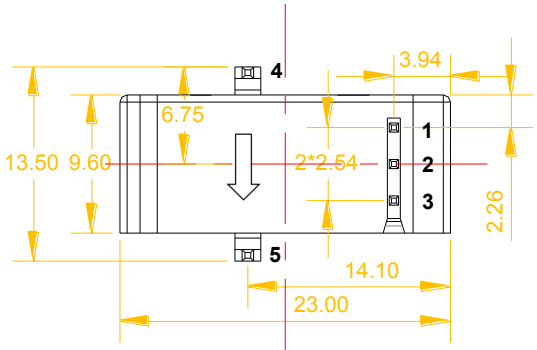
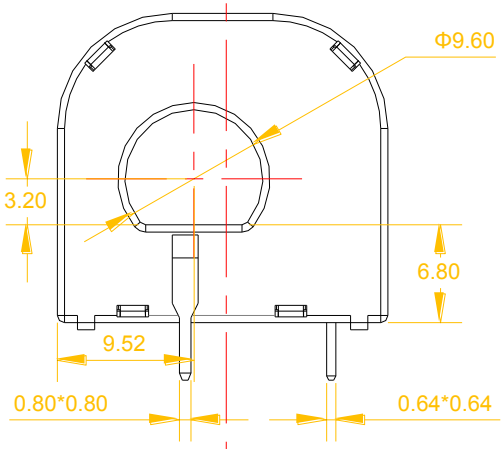
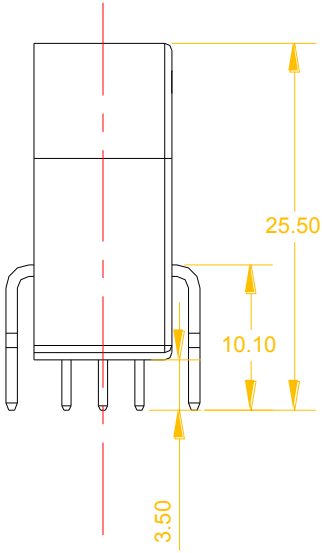


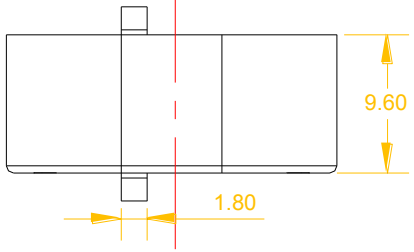
Bottom view



Front view



Left view



Top view

Dimensions in JCB series

(In mm. general linear tolerance ±0.1mm)

Mechanical Characteristics

- Pin-out case length 3.5 mm
- Primary 3 pins (1 , 2 and 3) 0.6 x 0.6 mm
  Recommended PCB hole 0.9 mm
- Two copper pins (4 and 5) with 0.8 x 0.8 mm
  Recommended PCB hole 1.2 mm
- Through-hole diameter : 9.6 mm

Pin Definition

1	Vcc	Supply Voltage
2	GND	Power Ground
3	Vout	Sensor Output
4	In+	Primary input Current (+)
5	In-	Primary input Current (-)

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