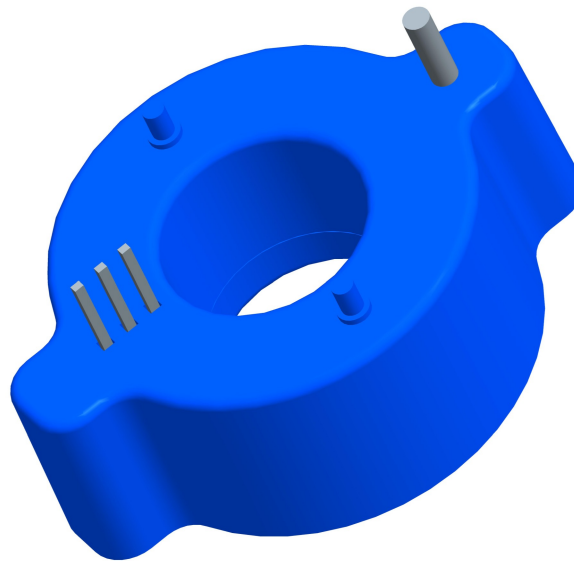


JCB F series

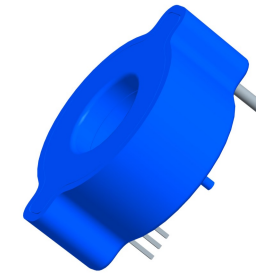
Programmable ASIC Current Transducer



JCB series

Programmable ASIC Current Transducer with +5V 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

- Open 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

JCB 20F

at $T_A = 25\text{ }^\circ\text{C}$, $V_C = +5\text{V}$, unless otherwise noted

Accuracy–dynamic Performance Data				Electrical Data			
V_{out}	Output voltage @ $\pm I_{pn}$ ($I_{pn}=20\text{A}$)	$2.5 \pm 2 * I_p / I_{pn}$	V	I_{PN}	Primary nominal current rms	20	A
V_{OE}	Electrical offset voltage	< 25	mV	I_O	Measurement range	$0 \sim \pm 20$	A
ε_L	Linearity error	0.4	% of I_{pn}	V_C	Supply voltage ($\pm 3\%$)	+5	V
X	Accuracy	1	% of I_{pn}	General Data			
X_m	Accuracy @ $T_A = 85\text{ }^\circ\text{C}$	< 2	% of I_{pn}				
BW	Frequency bandwidth (-3dB)	DC...2	kHz	T_A	Ambient operating temperature	-40~+85	°C
T_{Vout}	Temperature drift of V_{out} @ $I_p=0$	< 300	ppm/K	T_S	Ambient storage temperature	-40~+105	°C
I_C	Current consumption	< 20	mA	m	Mass	10	g
V_d	Insulation voltage (AC)	3	kV		Standards	EN 50178	UL 508
CTI	Comparative Tracking Index (group I)	600	V			IEC 61010	IEC 61326

JCB 25F

at $T_A = 25\text{ }^\circ\text{C}$, $V_C = +5\text{V}$, unless otherwise noted

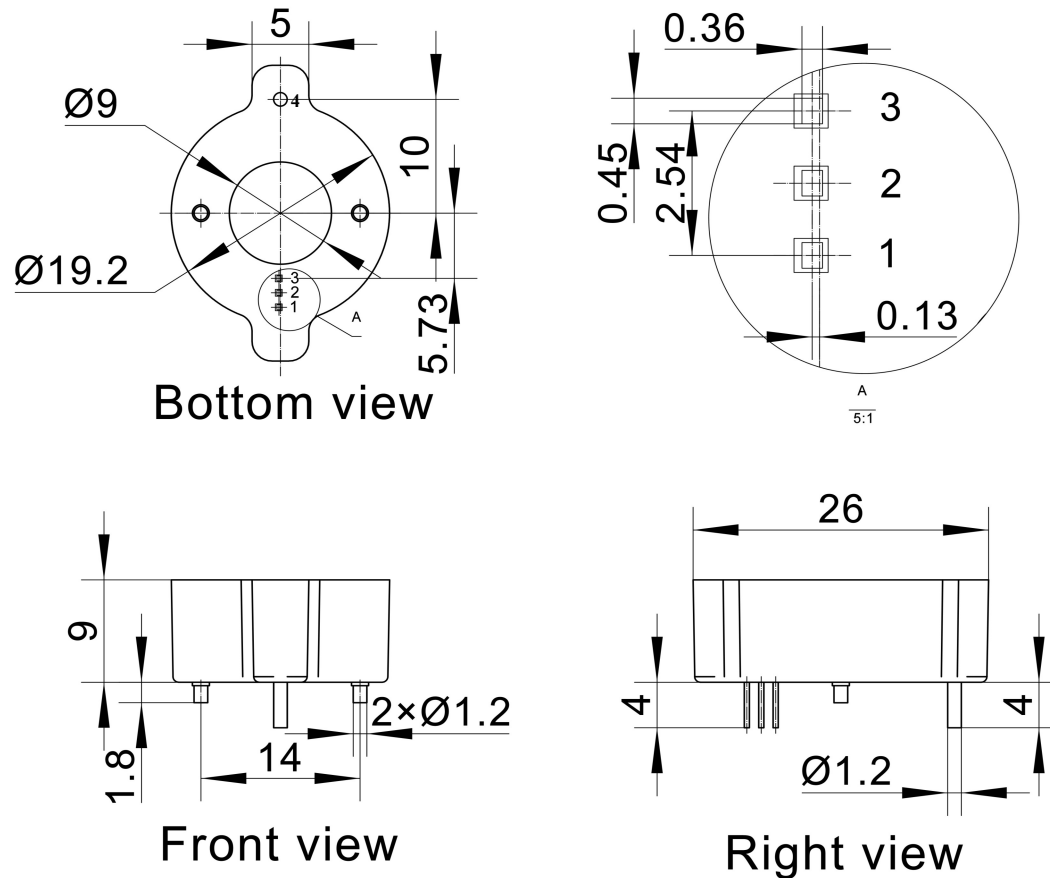
Accuracy–dynamic Performance Data				Electrical Data			
V_{out}	Output voltage @ $\pm I_{pn}$ ($I_{pn}=25\text{A}$)	$2.5 \pm 2 * I_p / I_{pn}$	V	I_{PN}	Primary nominal current rms	25	A
V_{OE}	Electrical offset voltage	< 25	mV	I_O	Measurement range	$0 \sim \pm 25$	A
ε_L	Linearity error	0.4	% of I_{pn}	V_C	Supply voltage ($\pm 3\%$)	+5	V
X	Accuracy	1	% of I_{pn}	General Data			
X_m	Accuracy @ $T_A = 85\text{ }^\circ\text{C}$	< 2	% of I_{pn}				
BW	Frequency bandwidth (-3dB)	DC...2	kHz	T_A	Ambient operating temperature	-40~+85	°C
T_{Vout}	Temperature drift of V_{out} @ $I_p=0$	< 300	ppm/K	T_S	Ambient storage temperature	-40~+105	°C
I_C	Current consumption	< 20	mA	m	Mass	10	g
V_d	Insulation voltage (AC)	3	kV		Standards	EN 50178	UL 508
CTI	Comparative Tracking Index (group I)	600	V			IEC 61010	IEC 61326

JCB 40F

at $T_A = 25\text{ }^\circ\text{C}$, $V_C = +5\text{V}$, unless otherwise noted

Accuracy–dynamic Performance Data				Electrical Data			
V_{out}	Output voltage @ $\pm I_{pn}$ ($I_{pn}=40\text{A}$)	$2.5 \pm 2 * I_p / I_{pn}$	V	I_{PN}	Primary nominal current rms	40	A
V_{OE}	Electrical offset voltage	< 25	mV	I_O	Measurement range	$0 \sim \pm 40$	A
ε_L	Linearity error	0.4	% of I_{pn}	V_C	Supply voltage ($\pm 3\%$)	+5	V
X	Accuracy	1	% of I_{pn}	General Data			
X_m	Accuracy @ $T_A = 85\text{ }^\circ\text{C}$	< 2	% of I_{pn}				
BW	Frequency bandwidth (-3dB)	DC...2	kHz	T_A	Ambient operating temperature	-40~+85	°C
T_{vout}	Temperature drift of V_{out} @ $I_p=0$	< 300	ppm/K	T_S	Ambient storage temperature	-40~+105	°C
I_C	Current consumption	< 20	mA	m	Mass	10	g
V_d	Insulation voltage (AC)	3	kV		Standards	EN 50178	UL 508
CTI	Comparative Tracking Index (group I)	600	V			IEC 61010	IEC 61326

Dimensions in JCB F series



Mechanical Characteristics

- Pin-out case length 4 mm
- Primary 3 pins (1 , 2 and 3) 0.36×0.45 mm
- Footprint TO-92S
- Recommended PCB hole 0.7 mm
- Two plastic pins and one fixation pin (4) with $\text{Ø} 1.2$ mm
- Recommended PCB hole $\text{Ø} 1.4$ mm
- Through-hole diameter : 9 mm

Pin Definition

1	Vout	Sensor Output
2	GND	Power Ground
3	Vcc	Supply Voltage