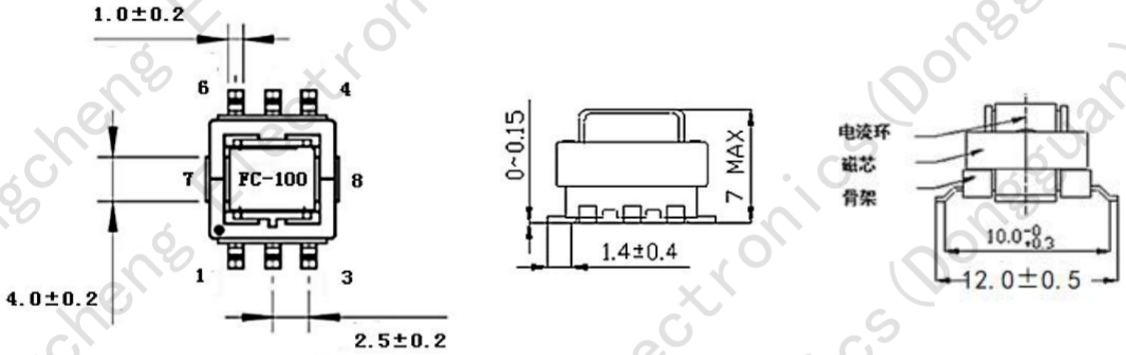
方成电子（东莞）有限公司

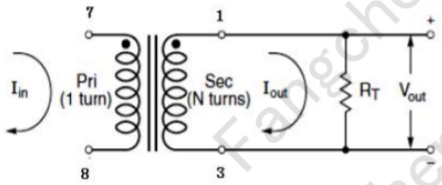
FC-SCT8.3 –30A-Series Current Sense Transformers

Height: 7.0mm Max
Current Rating: up to 30A
Frequency Range: 100 kHz, 0.1 Vrms
Low Primary DCR version
Ambient temperature –40°C to +85°C
Storage temperature Component: –40°C to +125°C

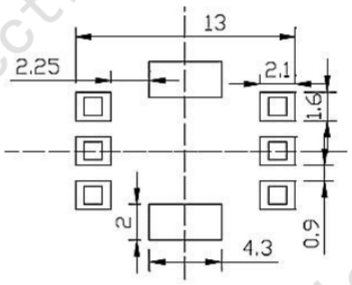
1. Dimensions:mm



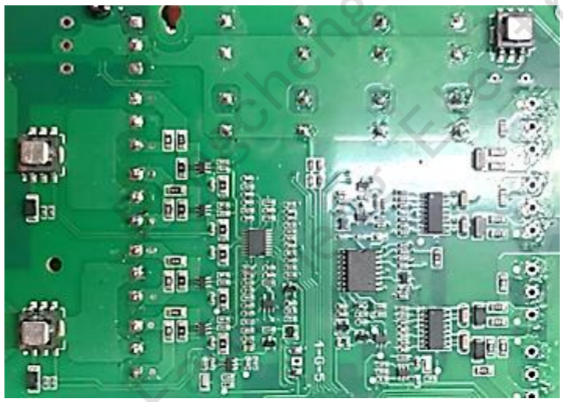
2.Schematic:



3.LAYOUT RECOMMENDATION



It is used as DC current transformer for various electronic device detection.



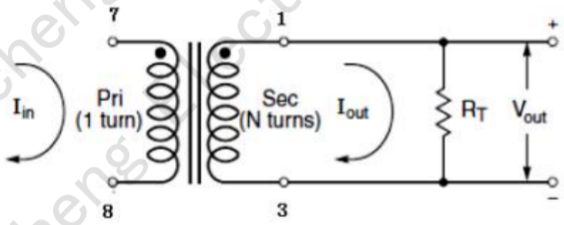
FangchengElectronics(Dongguan)Co.,LTD TEL：0769-82988010 FAX：0769-82988065
E-mail:yhl@fangchengcoils.com http://www.fangchengcoils.com

5. ELECTRIC CHARACTERICS)

Part Number	Turns Ration	Current Rating$_2$ NP7-8,(A)	Secondary Inductance (PIN1-3-mH min)	DCR (mΩ MAX)		Hipot (DCV$_{RMS}$)
				Primary (7-8)	Secondary (1-3)	Np-Ns
FC-SCT8.3-1:100-30A	1:100	30	3.0	0.35	3500	1500V
FC-SCT8.3-1:200-30A	1:200	30	10.0	0.35	7500	1500V

It is used as DC current transformer for various electronic device detection.

6. Application circuit and pinning



$$B_{max} = \frac{V_{sense,\,max} \cdot \delta_{max}}{n_s \cdot A_e \cdot f_{osc}}$$

$$R_T = \frac{V_{sense,\,max} \cdot n_s}{I_{prim,\,max}}$$

With:1

B_{max} Maximum magnetic flux density in the ferrite core of the current sense transformer

$V_{sense,max}$ Maximum output voltage of the measurement signal $_{max}$ Maximum duty cycle

n_s Number of turns of the secondary winding of the current sense transformer

A_e Effective magnetic area of the ferrite core

f_{osc} Operating frequency of the switching operator IC

Typical value for A_e: 2.5 x 10_{-6} m_2

Typical B_{max}: 200 m

With:2

RT Resistance of burden resistor

Vsense,max Maximum output voltage of the measurement signal

ns Number of turns on the secondary side of the CT

Iprim,max Maximum primary current (peak current)