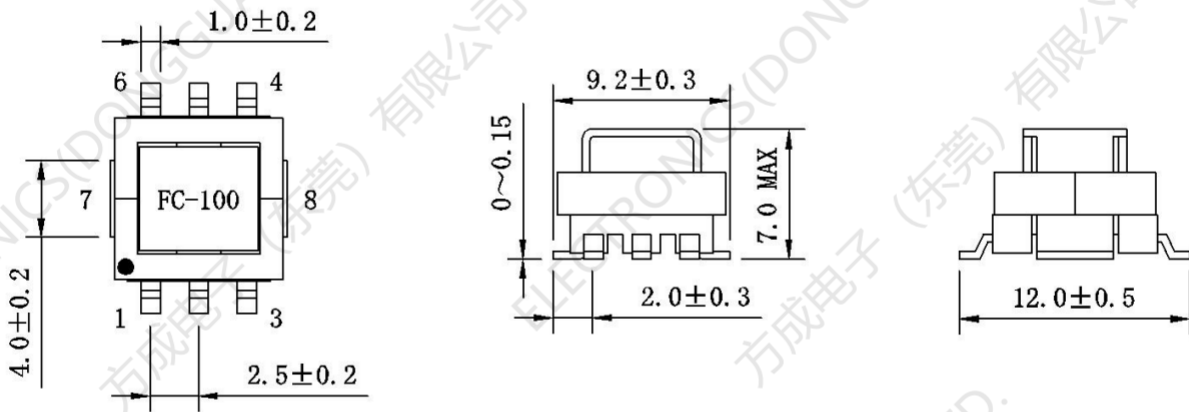


FC-SCT8.3 –30A-Series Current Sense Transformers

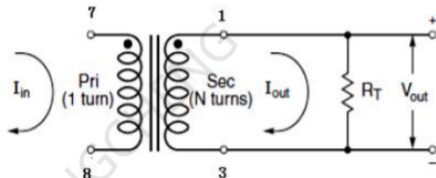
Height: 7.0mm Max
 Current Rating: up to 30A
 Frequency Range: 100 kHz, 0.1 Vrms
 Low Primary DCR version
 Ambient temperature -40°C to $+85^{\circ}\text{C}$
 Storage temperature Component: -40°C to $+125^{\circ}\text{C}$



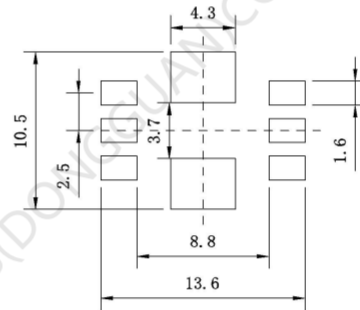
1. Dimensions:mm



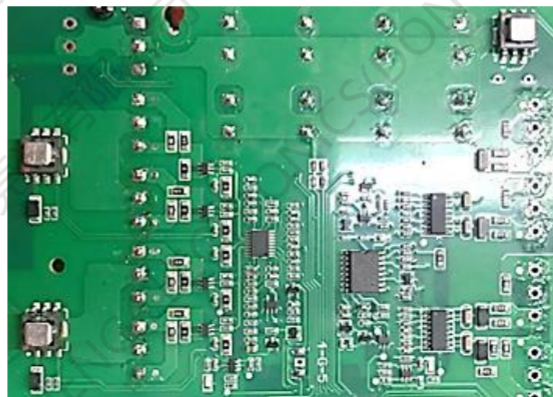
2.Schematic:



3.LAYOUT RECOMMENDATION



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

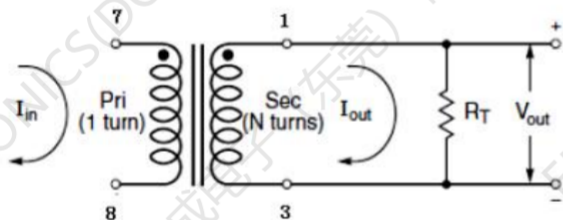


5. ELECTRIC CHARACTERICS)

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
- δ_{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 m²
- Typical B_{max}: 200 m

With:2

- R_T Resistance of burden resistor
- V_{sense,max} Maximum output voltage of the measurement signal
- n_s Number of turns on the secondary side of the CT
- I_{prim,max} Maximum primary current (peak current)