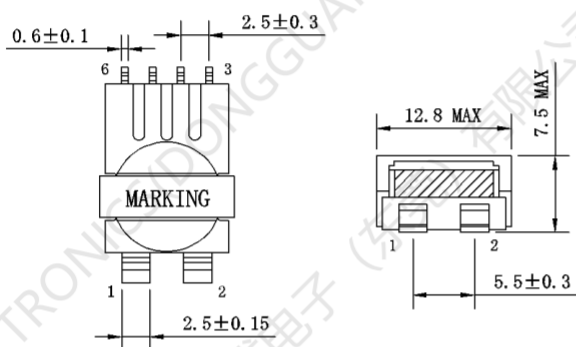


FC-SCT2108-Series Current Sense Transformers

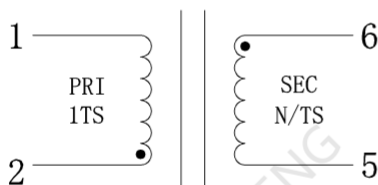
Features:

1. Current Rating: up to 50A
2. Footprint: 12.8mm x 20.5mm x 7.5mm Max
3. Frequency Range: 20kHz to 1MHz
4. Insulation: Reinforced, 10mm creepage and clearance
5. Hipot Isolation: 5000 Vdc, 6 sec
6. Voltage Rating: Up to 1000 Vpk
7. Operating temperature: -40°C to $+130^{\circ}\text{C}$

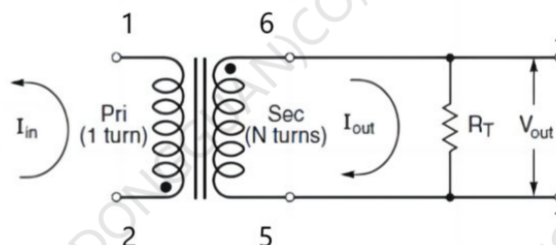
1. Dimensions: [mm]



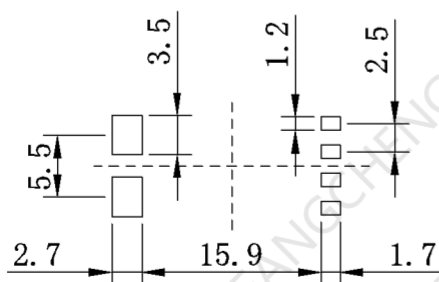
2. Schematic:



3. Typical Circuit (DC Current Sense Transformers)



4. Recommended Land Pattern: mm



FC-SCT2108-Series Current Sense Transformers

5. ELECTRIC CHARACTERISTICS

Part Number	Turns Ration	Secondary Inductance min.(mH)	Hipot (Vdc)	DCR (MAX)		Current ² Rating
				Primary mΩ	Secondary Ω	
FC-SCT2108-30T	1:30	0.3	5000	0.5	0.24	50
FC-SCT2108-50T	1:50	1.1	5000	0.5	0.6	50
FC-SCT2108-100T	1:100	4.5	5000	0.5	2.6	50
FC-SCT2108-125T	1:125	7.0	5000	0.5	4.2	50
FC-SCT2108-150T	1:150	10.0	5000	0.5	6.0	50
FC-SCT2108-200T	1:200	17.5	5000	0.5	12.0	50

Remark:

<1>Inductance: 100KHz/0.1V Test condition: Ta= 25°C

Electrical Specifications @ 25°C - Operating Temperature-40°C to +130°C

- 1.The temperature of component (ambient temperature plus temperature rise) must be within the specified operating temperature range.
2. The maximum current rating is based upon temperature rise of the component and represents the DC current which will cause a typical temperature rise of 40°C with no airflow.
3. To calculate value of terminating resistor (Rt) use the following formula:

$$R_t (W) = V_{ref} * N / (I_{peak_primary})$$
4. The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use following formula: $B_{pk} = 18.2 * V_{ref} * (Duty_Cycle_Max) * 105 / (N * Freq_kHz)$ for bi-polar current applications divide Bpk (as calculated above) by 2
5. Creepage & Clearance is in accordance with IEC 61558-1 for reinforced insulation to a working voltage of 300Vms (for basic insulation to a working voltage of 1000Vms) based on material group III, pollution degree 2, OVC II and 5000M altitude.
6. Rated voltage is based on a positive partial discharge test (discharge < 10pC) during the design phase (not production tested), in accordance with IEC 60664 for basic insulation. In an application which requires a reinforced insulation barrier, a rated voltage of the equivalent peak voltage of the 300Vrms (sinusoidal) working voltage, 424Vpk, is defined and confirmed by partial discharge testing.