

# Current Sense Transformers

~ EP7 Platform small SMD packages

- The max. primary current rating of 20A
- Typical operating frequency 50~250KHz.
- Basic insulation for a working voltage up to 500Vrms,  
Compliance with IEC60664 and IEC61558-2-16

## ELECTRICAL SPECIFICATIONS @25°C

| Model No. | Inductance(4-5)<br>Min. (mH) | Primary Peak<br>Sense Current<br>(Amps) | DCR max<br>(mΩ/Ω) |       | ET Max. @120°C<br>(V-usec Max.) | Cw/w<br>(pF Max.) | Turns ratio | Hi-POT<br>(Vac) |
|-----------|------------------------------|-----------------------------------------|-------------------|-------|---------------------------------|-------------------|-------------|-----------------|
|           |                              |                                         | (1-2)             | (4-5) |                                 |                   | (1-2):(5-4) |                 |
| UT33031S  | 1.7                          | 20                                      | 1.9               | 2.1   | 130                             | 4                 | 1:50        | 2400            |
| UT33032S  | 3.0                          | 20                                      | 1.9               | 2.9   | 190                             | 4                 | 1:70        |                 |
| UT33033S  | 7.0                          | 20                                      | 1.9               | 5.0   | 270                             | 4                 | 1:100       |                 |
| UT33034S  | 11.0                         | 20                                      | 1.9               | 5.3   | 340                             | 4                 | 1:125       |                 |
| UT33040S  | 16.0                         | 20                                      | 1.9               | 7.5   | 400                             | 4                 | 1:150       |                 |

Notes:

1. Inductance is measured at 20kHz, 10m Vrms, Cw/w is measured at 100kHz, 0.1 Vrms .
2. To calculate the value of the terminating resistor (Rt) use the following formula:  $R_t (\Omega) = V_{ref} * N / (I_{peak\_primary})$
3. The peak flux density of the device must remain below 2000Gauss. To calculate the peak flux density for uni-polar current use following formula:  $B_{pk} = 9.38 * V_{ref} * (Duty\_Cycle\_Max) * 10^5 / (N * Freq\_kHz)$
4. Approved by UL1446 Class F(155°C) electrical insulation systems per UL File No. E149484 with GH-155.
5. Operating Temperature : -40 to +150°C

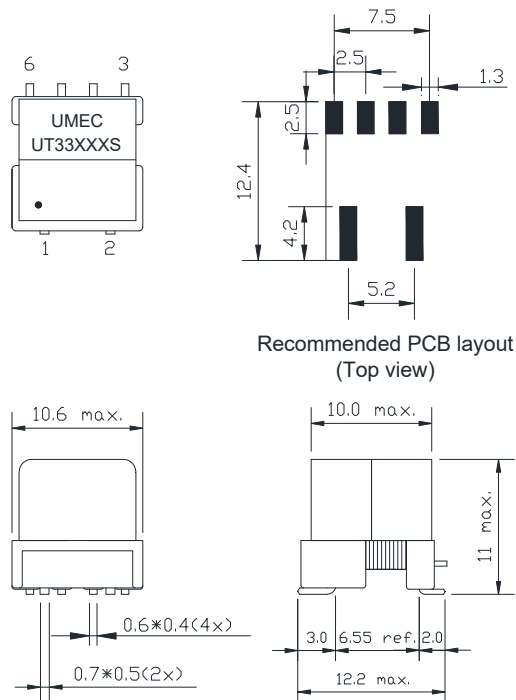
For RoHS compliant products:

- a.) Ordering code (Manufacturer Part Number): EX. TG-UT33031S
- b.) Solder: Sn/Ag/Cu
- c.) Date Code suffix to "G" .

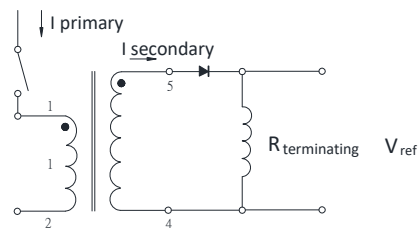
For RoHS and AEC-Q200 compliant products (To be tested):

- a.) Ordering code (Manufacturer Part Number): EX. TG-UT33031S-Q
- b.) Date Code suffix to "GQ"

## MECHANICAL & SCHEMATIC:



Application circuit and pinning



\*Specifications are subject to change without prior notice

DATA SHEET 04-33 OCT./19  
1 OF 1



UNIVERSAL MICROELECTRONICS CO.,LTD.  
TEL:886-4-23590096 FAX:886-4-23590129

3,27TH RD.,TAICHUNG INDUSTRIAL PARK,  
TAICHUNG,TAIWAN,R.O.C



ES France - Département Composants & Modules  
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89  
Fax. 01 47 01 16 22



e-mail : comp@es-france.com  
Site Web : www.es-france.com