

## TDK xDSL transformers IC cross reference

2001.Feb.16 Rev. c

Safety Standard	UL1950 Basic Insulation , 120V working voltage EN60950 Supplementary Insulation , 250V working voltage	
	CO side	CP side
<b>STMicroelectronics</b> ST70135A, ST70134 (CPE)		TRTEPC19-U016B (540uH) ( TRTEPC19-U016A will be discontinued) TRTEP13S-U027A015 (same function with EPC19) TRTEP13-0414D (with new line interface)

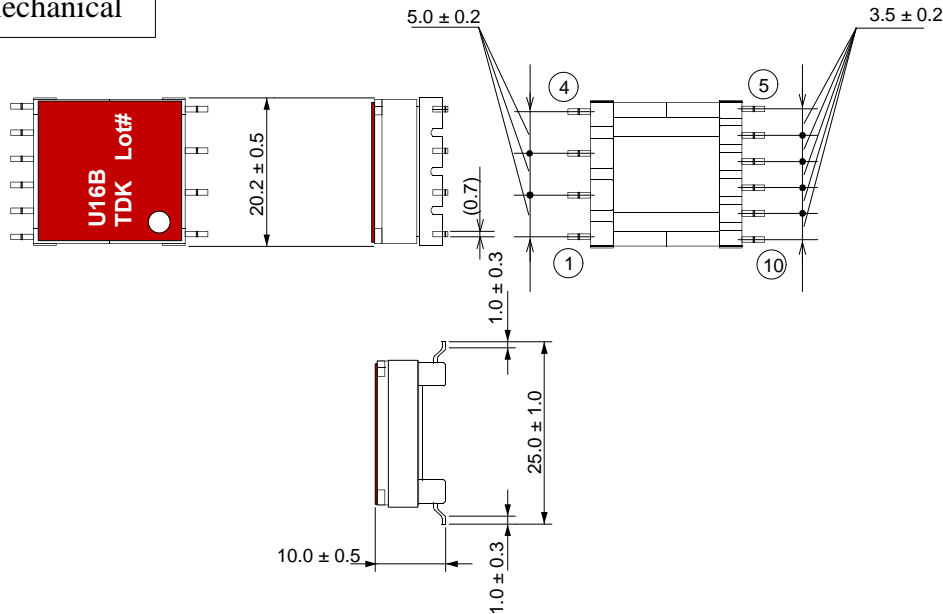
# TDK ADSL transformers

## STmicroelectronics ST70135A & ST70134 CPE Side

### TRTEPC19-U016B 540uH

Corresponding to EN60950 Supplementary Insulation for 250V Working Voltage  
and to UL1950 Basic insulation for 120V working voltage.  
1.3mm creepage distance , 2.0mm clearance distance

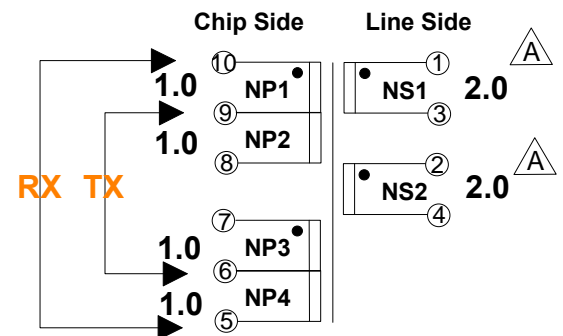
#### Mechanical



#### Electrical Specifications @25degreesC

1. Inductance 1-4(tied 2-3) : 540uH ± 10% at 10KHz , 0.1V
2. Leakage Inductance : 10.0 uH max at 100KHz , 0.1V
3. DCR
  - 1-4 (ties2-3) : 1.10 Ω ± 15%
  - 9-6 (tied8-7) : 610 mΩ ± 15%
  - 10-5 (tied8-7) : 1.10 Ω ± 15%
4. Dielectric Withstanding : AC1,500Vrms 1minute
5. Total Harmonic Distortion : -65dB min. at 30KHz , 1Vrms

#### Schematics



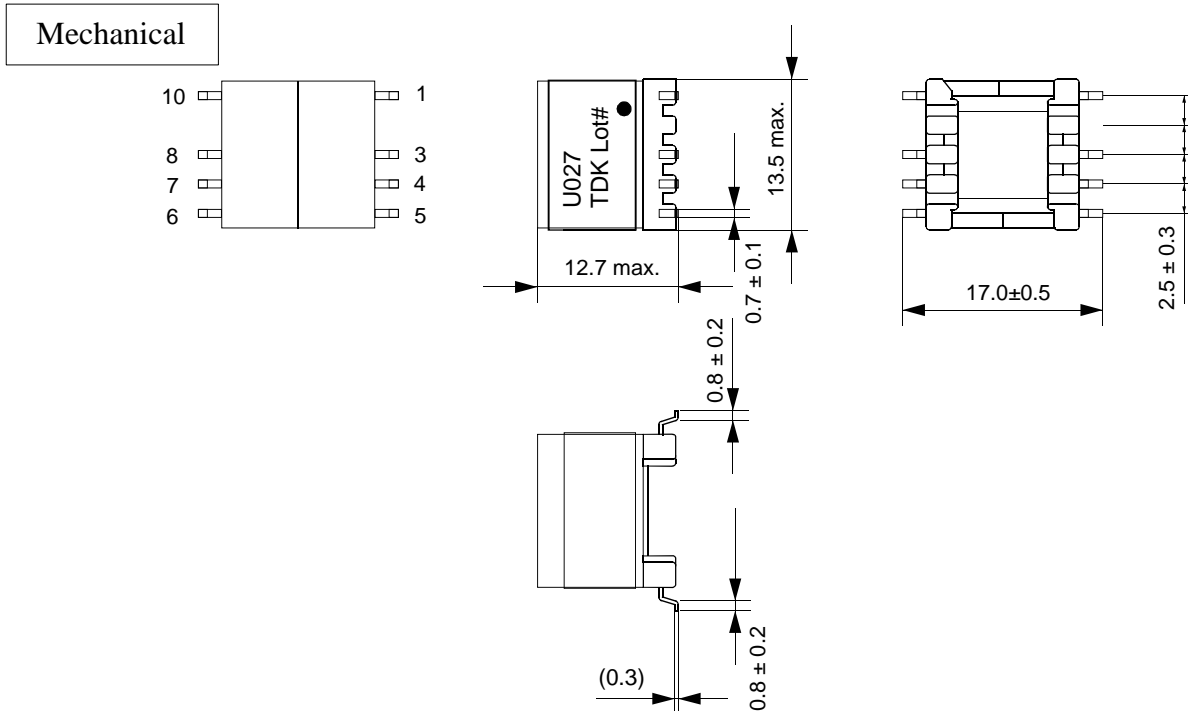
# TDK ADSL transformers

## STmicroelectronics CPE Side

### TRTEP13S-U027A015

Corresponding to EN60950 Supplementary Insulation for 250V Working Voltage and to UL1950 Basic insulation for 120V working voltage.

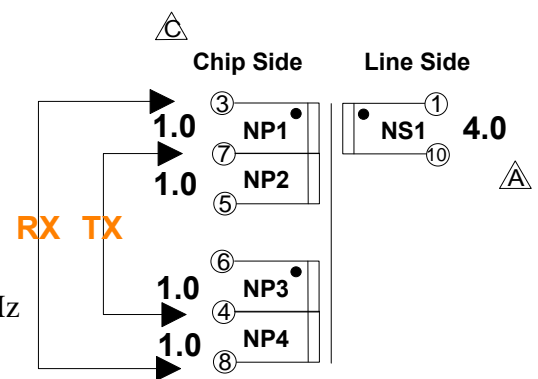
1.3mm creepage distance , 2.0mm clearance distance



#### Electrical Specifications @25degreesC

1. Inductance 1-10 : 470uH ± 10% at 10KHz , 0.1V
2. Leakage Inductance : 2.50 uH max at 100KHz , 0.1V
3. DCR
  - 1-10 : 1.05 Ω ± 15%
  - 7-4(tied 5-6) : 540 mΩ ± 15%
  - 3-8(tied 5-6) : 1.10 Ω ± 15%
4. Dielectric Withstanding : AC1,500Vrms 1minute
5. Total Harmonic Distortion : -70dB min. at 100KHz , 1Vrms
6. Return Loss : 20.0 dB min. at 276KHz to 1.1MHz
7. Insertion Loss : 0.20 dB max. at 276KHz
8. Frequency Response : 0.20 dB at 1.1MHz (ref 276KHz)
9. Longitudinal Conversion Loss : -45dB min. at 1.1MHz

#### Schematics



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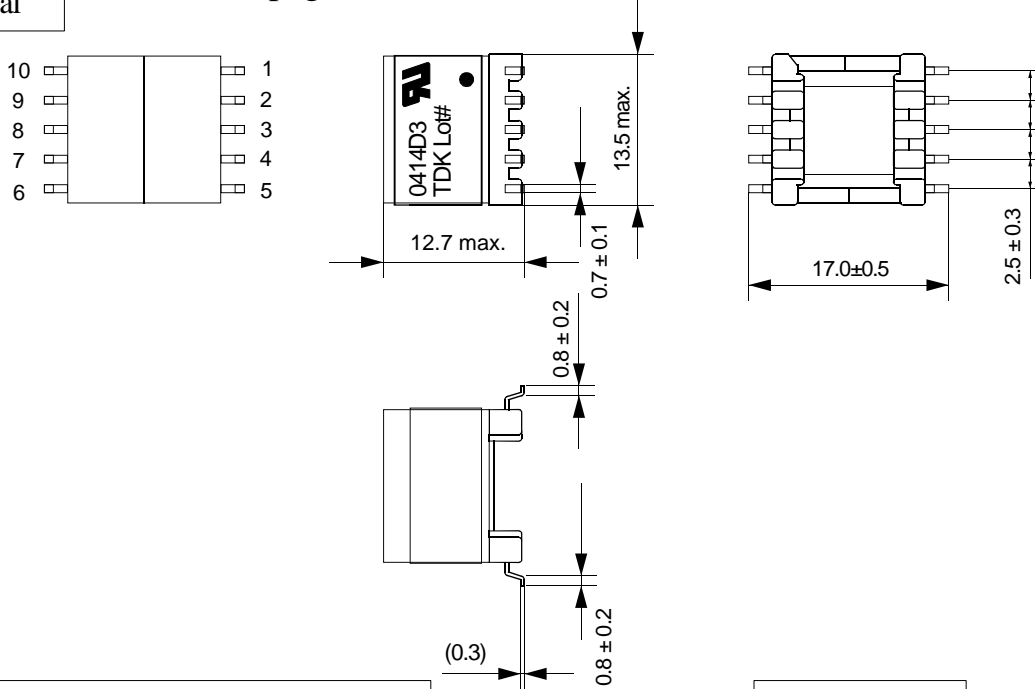
## TRTEP13-0414D Rev3

### (changed pin numbering)

Corresponding to EN60950 Supplementary Insulation for 250V Working Voltage and to UL1950 Basic insulation for 120V working voltage.

1.3mm creepage distance , 2.0mm clearance distance

**Mechanical**

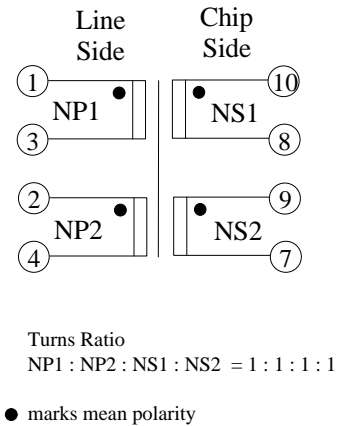


**Electrical Specifications @25degreesC**

**Schematics**

1. Inductance 1-4 (tied 2-3) : 480uH +/- 10% at 10KHz,0.1Vrms,LS
2. Leakage Inductance 1-4 (tied 2-3 , 10-8-9-7) : 7.5 uH max at 100KHz,0.1Vrms,LS
3. DC Resistance
 

1-3	: 300 mΩ +/- 15%
2-4	: 300 mΩ +/- 15%
10-8	: 240 mΩ +/- 15%
9-7	: 240 mΩ +/- 15%
4. Dielectric Withstanding : AC 1.50KVrms 1minute



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