signetics

QUAD DIFFERENTIAL LINE RECEIVER
QUAD ECL TO TTL TRANSLATOR

10125

10125, B, F: -30 to +85°C

ADVANCED INFORMATION

DIGITAL 10,000 SERIES ECL

DESCRIPTION

The 10125 is a quad differential translator. It can be used as a quad differential line receiver in a TTL system and also as a quad ECL to TTL translator. The 10125 incorporates differential inputs and Schottky-clamped TTL totem pole outputs. Differential inputs allow for use as an inverting/non-inverting translator or as a differential line receiver.

FEATURES

- FAST PROPAGATION DELAY = 5.0ns TYP.
- POWER DISSIPATION = 360mW/PACKAGE TYPICAL
- DIFFERENTIAL INPUTS, ECL COMPATIBLE
- ECL 10,000 LEVEL V_{BB} AVAILABLE
- INVERTING OR NON-INVERTING FUNCTION
- SCHOTTKY TTL TOTEM POLE OUTPUTS
- RECOMMENDED POWER SUPPLIES:
  V_{CC} = +5.0V DC ±5%
  V_{EE} = -5.2V DC ±5%
- FOUR TRANSLATORS PER PACKAGE
- OUTPUT LEVELS SPECIFIED FOR INPUT VOLTAGE RANGE +0.2V to -2.2V

ELECTRICAL CHARACTERISTICS

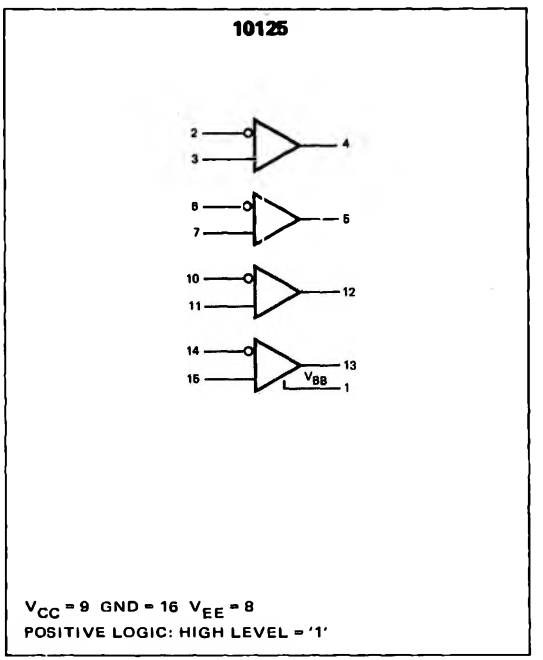
Conditions: T_A = 25°C, V_{EE} = -5.2V ±1%
V_{CC} = +5.0V ±1%

1. I_{EE} = 40mA max.
   I_{CCH} = 54mA max.
   I_{CCL} = 45mA max.
2. I_{inH} = 110μA max.
3. V_{BB} = -1.35V min.
   = -1.23V max.
4. t_{pd} = 5.0ns typ. (C_L = 15pF, R_L = 280Ω)
   = 7.0ns typ. (C_L = 50pF, R_L = 280Ω)

Conditions: T_A = 25°C, V_{EE} = -5.2V ±1%
V_{CC} = +5.0V ±5% ΔV_{in} = 200mV

5. V_{OL} = 0.5 max. (I_{OL} = 20mA)
6. V_{OH} = +2.7V min. (I_{OL} = -1mA)

LOGIC DIAGRAM



V_{CC} = 9 GND = 16 V_{EE} = 8
POSITIVE LOGIC: HIGH LEVEL = '1'

APPLICATIONS

- QUAD DIFFERENTIAL LINE RECEIVER
- QUAD ECL TO TTL TRANSLATOR
- QUAD MOS TO TTL SENSE AMP
- QUAD LEVEL DETECTOR

TEMPERATURE RANGE

- -30 to +85°C Operating Ambient

RECOMMENDED OPERATING VOLTAGE

- V_{CC} = +5.0V ±5%, V_{EE} = -5.2V ±5%

PACKAGE TYPE

- B: 16-Pin Silicone DIP
- F: 16-Pin CERDIP