



## DS78C120/DS88C120 Dual CMOS Compatible Differential Line Receiver

### General Description

The DS78C120 and DS88C120 are high performance, dual differential, CMOS compatible line receivers for both balanced and unbalanced digital data transmission. The inputs are compatible with EIA, Federal and MIL standards.

Input specifications meet or exceed those of the popular DS7820/DS8820 line receiver.

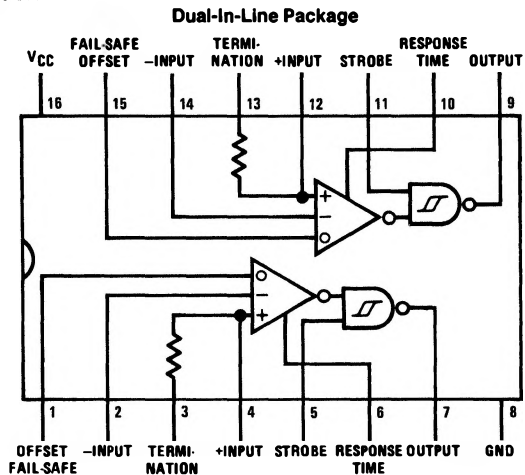
The line receiver will discriminate a  $\pm 200$  mV input signal over a common-mode range of  $\pm 10$  V and a  $\pm 300$  mV signal over a range of  $\pm 15$  V.

Circuit features include hysteresis and response control for applications where controlled rise and fall times and/or high frequency noise rejection are desirable. Threshold offset control is provided for fail-safe detection, should the input be open or short. Each receiver includes a  $180\Omega$  terminating resistor and the output gate contains a logic strobe for time discrimination. The DS78C120 is specified over a  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$  temperature range and the DS88C120 from  $0^\circ\text{C}$  to  $+70^\circ\text{C}$ .

### Features

- Full compatibility with EIA Standards RS232-C, RS422 and RS423, Federal Standards 1020, 1030 and MIL-188-114
- Input voltage range of  $\pm 15$  V (differential or common-mode)
- Separate strobe input for each receiver
- $1/2 V_{CC}$  strobe threshold for CMOS compatibility
- 5k typical input impedance
- 50 mV input hysteresis
- 200 mV input threshold
- Operation voltage range = 4.5V to 15V
- Separate fail-safe mode

### Connection Diagram



TL/F/5801-1

Order Number DS78C120J, DS88C120J or DS88C120N  
See NS Package Number J16A or N16A