

# **Quad EIA-485 Line Receivers**

The Motorola SN75173/175 are monolithic quad differential line receivers with three–state outputs. They are designed specifically to meet the requirements of EIA–485, EIA–422A/23A Standards and CCITT recommendations.

The devices are optimized for balanced multipoint bus transmission at rates up to 10 megabits per second. They also feature high input impedance, input hysteresis for increased noise immunity, and input sensitivity of  $\pm\,200\,$  mV over a common mode input voltage range of -12 V to 12 V. The SN75173/175 are designed for optimum performance when used with the SN75172 or SN75174 quad differential line drivers.

- Meets EIA Standards EIA-422A and EIA-423A, EIA-485
- Meets CCITT Recommendations V.10, V.11, X.26, and X.27
- Designed for Multipoint Transmission on Long Bus Lines in Noisy Environments
- 3-State Outputs
- Common–Mode Input Voltage Range . . . −12 V to 12 V
- Input Sensitivity . . . ±200 mV
- Input Hysteresis . . . 50 mV Typ
- High Input Impedance . . . 1 EIA-485 Unit Load
- Operates from Single 5.0 V Supply
- Lower Power Requirements
- Plug-In Replacement for MC3486 (SN75175) AM26LS32 (SN75173)

## SN75173 SN75175

## QUAD EIA-485 LINE RECEIVERS WITH THREE-STATE OUTPUTS

SEMICONDUCTOR TECHNICAL DATA

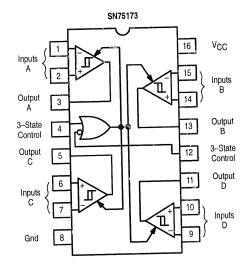
**D SUFFIX**PLASTIC PACKAGE
CASE 751B
(SO-16)





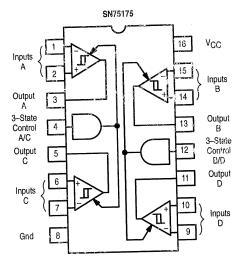
N SUFFIX PLASTIC PACKAGE CASE 648

### PIN CONNECTIONS



#### **ORDERING INFORMATION**

Device	Operating Temperature Range	Package	
SN75173N	T <sub>A</sub> = 0 to +70°C	Plastic DIP	



## ORDERING INFORMATION

Device	Operating Temperature Range	Package
SN75175N	7000	Plastic DIP
SN75175D	$T_A = 0 \text{ to } +70^{\circ}\text{C}$	SO-16

### SN75173 SN75175

#### TYPICAL CHARACTERISTICS (continued)

Figure 4. Output Voltage versus 3–State Control Voltage

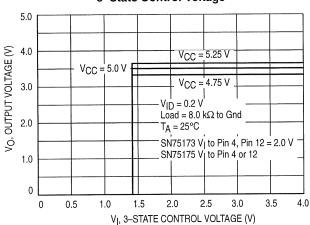


Figure 5. Output Voltage versus (Inverted) 3-State Control Voltage - SN75173

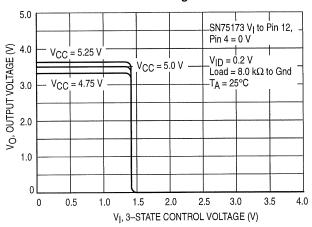


Figure 6. High Level Output Voltage versus Output Current

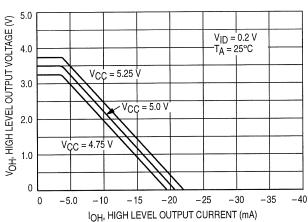


Figure 7. Low Level Output Voltage versus Output Current

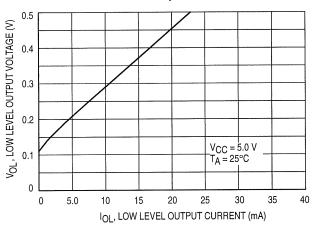


Figure 8. High Level Output Voltage versus Temperature

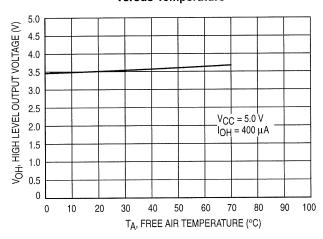
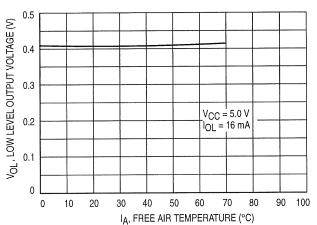
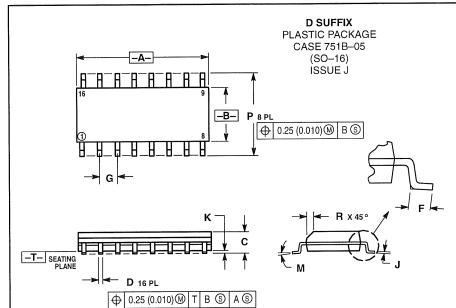


Figure 9. Low Level Output Voltage versus Temperature



#### SN75173 SN75175

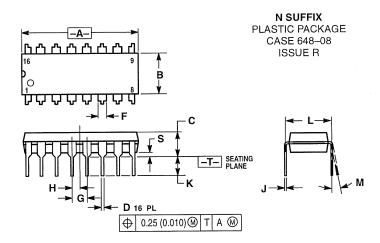
#### **OUTLINE DIMENSIONS**



#### NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ANSI
  - CONTROLLING DIMENSION: MILLIMETER.
  - DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
- MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
- PER SIDE.
  DIMENSION D DOES NOT INCLUDE DAMBAR
  PROTRUSION. ALLOWABLE DAMBAR
  PROTRUSION SHALL BE 0.127 (0.005) TOTAL
  IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
Α	9.80	10.00	0.386	0.393
В	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC		0.050 BSC	
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
М	0 0	7°	0°	7°
Р	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019



#### NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982
- CONTROLLING DIMENSION: INCH.
  DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
- DIMENSION B DOES NOT INCLUDE MOLD FLASH.
  ROUNDED CORNERS OPTIONAL.

	INCHES		MILLIN	IETERS
DIM	MIN	MAX	MIN	MAX
Α	0.740	0.770	18.80	19.55
В	0.250	0.270	6.35	6.85
C	0.145	0.175	3.69	4.44
D	0.015	0.021	0.39	0.53
F	0.040	0.70	1.02	1.77
G	0.100 BSC		2.54 BSC	
Н	0.050 BSC		1.27 BSC	
J	0.008	0.015	0.21	0.38
K	0.110	0.130	2.80	3.30
L	0.295	0.305	7.50	7.74
М	. 0°	10°	0°	10 °
S	0.020	0.040	0.51	1.01

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