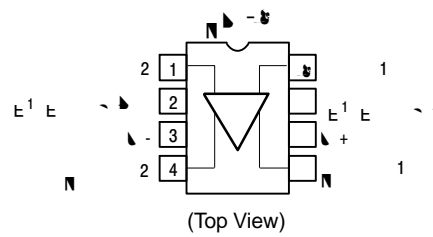
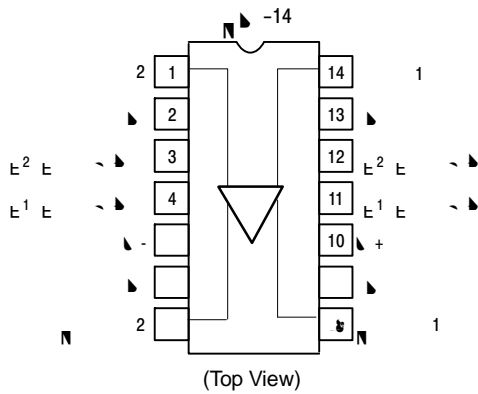




# NE592

## PIN CONNECTIONS



### MAXIMUM RATINGS ( $T_A = +25^\circ\text{C}$ , unless otherwise noted.)

Rating	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	$\pm 8.0$	V
Differential Input Voltage	$V_{IN}$	$\pm 5.0$	V
Common-Mode Input Voltage	$V_{CM}$	$\pm 6.0$	V
Output Current	$I_{OUT}$	10	mA
Operating Ambient Temperature Range	$T_A$	0 to +70	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	65 to +150	$^\circ\text{C}$
Maximum Power Dissipation, $T_A = 25^\circ\text{C}$ (Still Air) (Note 1) SOIC-14 Package SOIC-8 Package	$P_{D\ MAX}$	0.98 0.79	W
Thermal Resistance, Junction-to-Ambient SOIC-14 Package SOIC-8 Package	$R_{\theta JA}$	145 182	$^\circ\text{C/W}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- Derate above  $25^\circ\text{C}$  at the following rates:  
SOIC-14 package at  $6.9\ \text{mW}/^\circ\text{C}$   
SOIC-8 package at  $5.5\ \text{mW}/^\circ\text{C}$

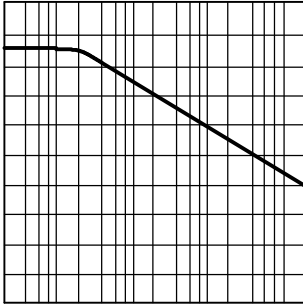
## NE592

**DC ELECTRICAL CHARACTERISTICS** ( $V_{SS} = \pm 6.0\text{ V}$ ,  $V_{CM} = 0$ , typicals at  $T_A = +25^\circ\text{C}$ , min and max at  $0^\circ\text{C} \leq T_A \leq 70^\circ\text{C}$ , unless otherwise noted. Recommended operating supply voltages  $V_S = \pm 6.0\text{ V}$ .)

Characteristic	Test Conditions	Symbol	Min	Typ	Max	Unit
Differential Voltage Gain Gain 1 (Note 2) Gain 2 (Notes 3 and 4)	$R_L = 2.0\text{ k}\Omega$ , $V_{OUT} = 3.0\text{ V}_{P-P}$	$A_{VOL}$	250 80	400 100	600 120	V/V
Input Resistance Gain 1 (Note 2) Gain 2 (Notes 3 and 4)	– $T_A = 25^\circ\text{C}$ $0^\circ\text{C} \leq T_A \leq 70^\circ\text{C}$	$R_{IN}$	– 10 8.0	4.0 30 –	– – –	k $\Omega$
Input Capacitance	Gain 2 (Note 4)	$C_{IN}$	–	2.0	–	pF
Input Offset Current	$T_A = 25^\circ\text{C}$ $0^\circ\text{C} \leq T_A \leq 70^\circ\text{C}$	$I_{OS}$	– –	– –	– –	–

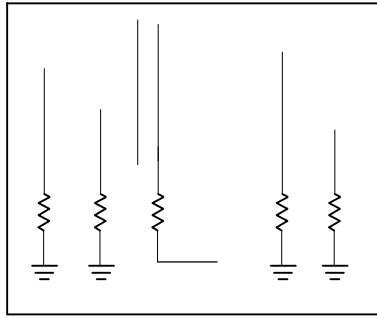
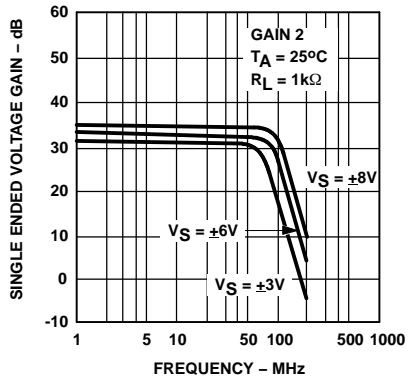
# NE592

## TYPICAL PERFORMANCE CHARACTERISTICS



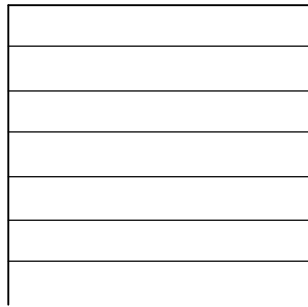
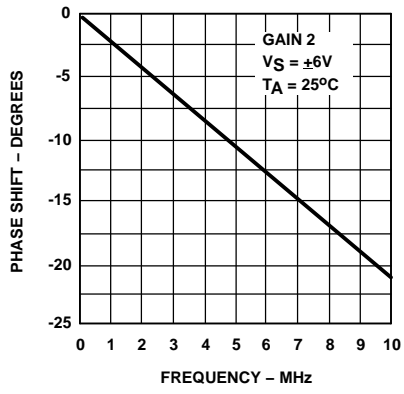
# NE592

## TYPICAL PERFORMANCE CHARACTERISTICS

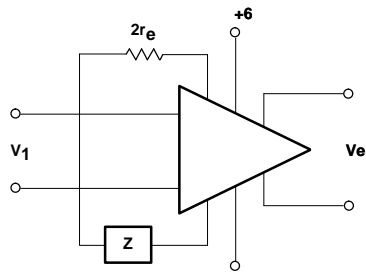


# NE592

## TYPICAL PERFORMANCE CHARACTERISTICS



# NE592



NOTE:

Basic Configuration

NOTE:

For frequency  $F_1 \ll 1/2 \pi (32) C$

$$V_O \approx 1.4 \times 10^4 C \frac{dV_i}{dT}$$

Disc/Tape Phase-Modulated Readback Systems

Differentiation with High  
Common-Mode Noise Rejection

# NE592

## ORDERING INFORMATION

Device	Temperature Range	Package	Shipping†
NE592D8R2G	0 to +70°C	SOIC-8 (Pb-Free)	2500 / Tape & Reel
NE592D14R2G		SOIC-14 (Pb-Free)	2500 / Tape & Reel

## DISCONTINUED (Note 6)

NE592D8G	0 to +70°C	SOIC-8 (Pb-Free)	98 Units/Rail
NE592D14G		SOIC-14 (Pb-Free)	55 Units/Rail

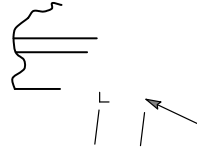
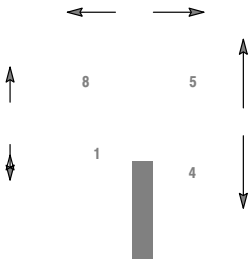
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](#).

6. **DISCONTINUED:** These devices are not recommended for new design. Please contact your **onsemi** representative for information. The most current information on these devices may be available on [www.onsemi.com](http://www.onsemi.com).



**SOIC 8 NB**  
CASE 751-07  
ISSUE AK

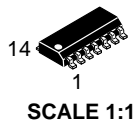
DATE 16 FEB 2011



SEATING  
PLANE

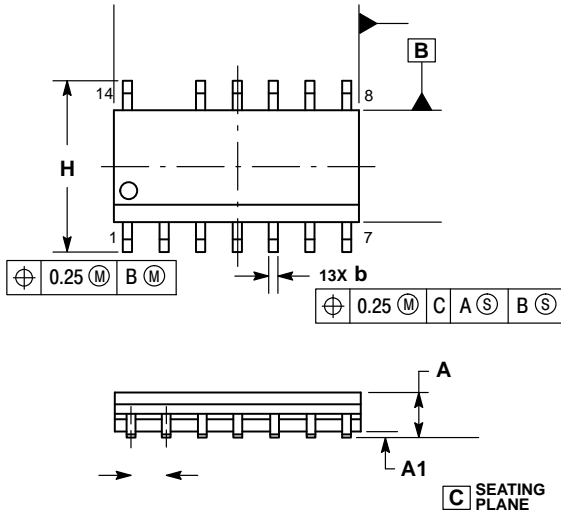






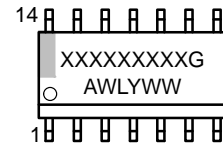
**SOIC 14 NB**  
CASE 751A-03  
ISSUE L

DATE 03 FEB 2016



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
  2. CONTROLLING DIMENSION: MILLIMETERS.
  3. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE PROTRUSION SHALL BE 0.13 TOTAL IN EXCESS OF AT MAXIMUM MATERIAL CONDITION.
  4. DIMENSIONS D AND E DO NOT INCLUDE MOLD PROTRUSIONS.
  5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.

**GENERIC MARKING DIAGRAM\***



- XXXXXX = Specific Device Code
- A = Assembly Location
- WL = Wafer Lot
- Y = Year
- WW = Work Week
- G = Pb-Free Package

STYLES ON PAGE 2

**SOIC 14**  
CASE 751A-03  
ISSUE L

DATE 03 FEB 2016

STYLE 7:  
PIN 1. ANODE/CATHODE  
2. COMMON ANODE  
3. COMMON CATHODE  
4. ANODE/CATHODE  
5. ANODE/CATHODE

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