T-75-37-05

HI-8182

PRELIMINARY

ARINC 429 TRANSMITTER WITH DRIVERS AND DUAL RECEIVER

General Description

The HI-8182 is identical to the HI-8282 except the DO and $\overline{DO}$ pins are internally bonded to ARINC 429 voltage level drivers and a V_{EE} pin is provided for the −12V supply level. For a full description of the HI-8182, excluding the bonding options, refer to the HI-8282 data sheet.

Functional Description

The output circuit of the HI-8182 is shown in Figure 1. A recommended interface circuit is shown in Figure 2. The logic signals, ONE, ZERO, and NULL are first translated from the V_{DD} to V_{SS} rails to the V_{DD} to V_{EE} rails. The following buffers provide the final translation to the ARINC 429 bus levels. An internal regulator provides the negative ARINC voltage level.

The maximum voltages at the output pins are 3.5 volts above V_{DD} and −10V with respect to V_{SS} for both the HI-8182 and HI-8282.

All configurations are available with the oscillator intenally disabled and not available at the package pins.

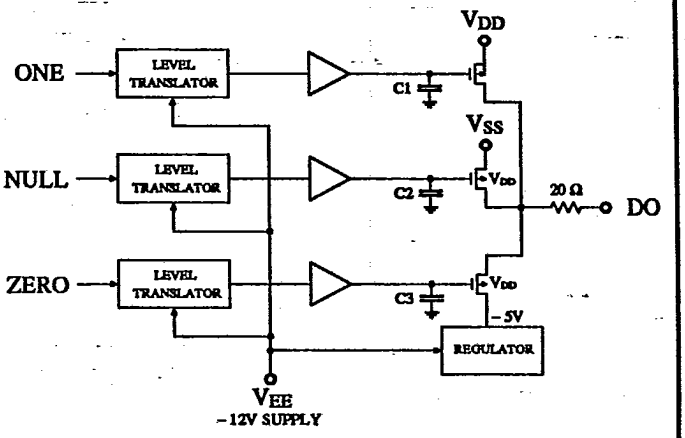

FIGURE 1. ARINC VOLTAGE OUTPUT

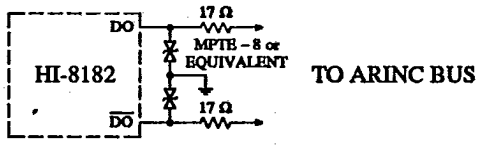

FIGURE 2. RECOMMENDED ARINC INTERFACE

Absolute Maximum Ratings

(Voltages referenced to V_{SS})

Supply Voltage V_{EE} .....+0.3V to −15V	Maximum Current I_{DD} 150mA
Voltage at DO and $\overline{DO}$ ..... V_{DD} +3.5V, V_{SS} −10V	I_{EE} 150mA

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only. Functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

DC Electrical Characteristics

V_{DD} = 5V ± 5%, V_{SS} = 0V, V_{EE} = −12V ± 5%, T_A = Operating Temperature Range (Unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
V_{EE} Supply Currents	V_{EE}	No Load			1.0	mA
DO & $\overline{DO}$ Outputs						
ONE Voltage	V_{OUT1}	No Load	4.75		5.25	V
NULL Voltage	V_{OUTN}	No Load	−0.1		0.1	V
ZERO Voltage	V_{OUT0}	No Load	−5.25		−4.75	V
Short Circuit Current						
"ONE" I source	I_{OUT1}	VO = 0V	−80	−125		mA
"ZERO" I sink	I_{OUT0}	VO = 0V	80	125		mA

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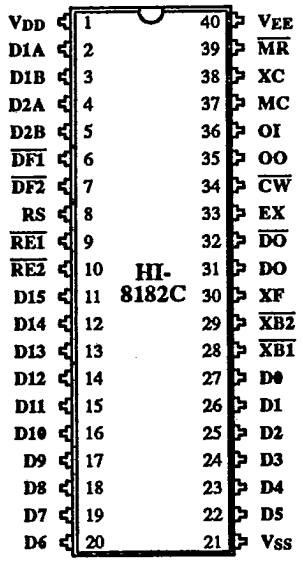
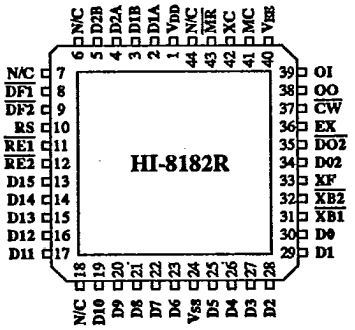
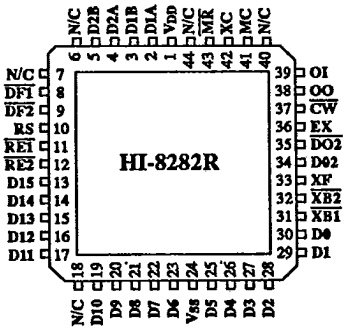
Pin Configuration

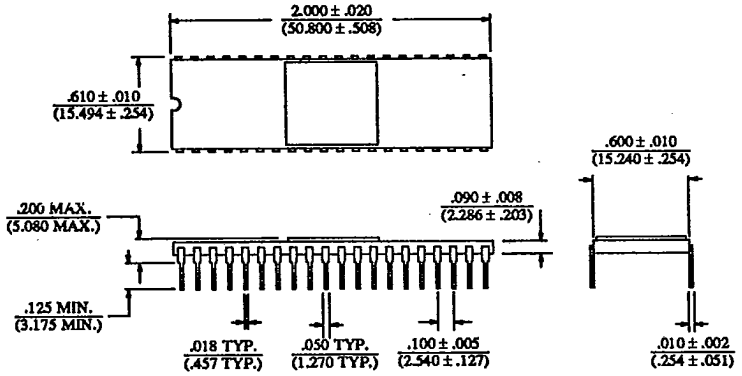




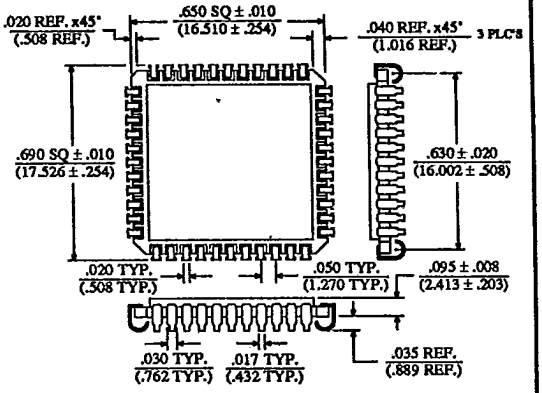


Standard Packaging

CERAMIC SIDE BRAZED DIP, 40 PINS



CERAMIC J - LEAD, 44 PIN



Ordering Information

HI-8182C	– Ceramic DIP, 40 pins, Commercial	**HI-8182CM**	– Ceramic DIP, 40 pins, Military
HI-8182R	– Ceramic J-Lead, 44 pins, Commercial	**HI-8182RM**	– Ceramic J-Lead, 44 pins, Military
HI-8282R	– Ceramic J-Lead, 44 pins, Commercial	**HI-8282RM**	– Ceramic J-Lead, 44 pins, Military

In addition to the above, other packaging and screening options are available upon request.

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Holt Integrated Circuits, Inc. / 9351 Jeronimo Road, Irvine, CA 92718 / (714) 859-8800 or (800) 222-HOLT