ACS244MS

March 1998

Radiation Hardened Non-Inverting, Octal, Three-State Buffer/Line Driver

Features

- **QML Qualified Per MIL-PRF-38535 Requirements**
- **1.25Micron Radiation Hardened SOS CMOS**
- **Radiation Environment**
  - **Latch-up Free Under any Conditions**
  - **Total Dose . . . . . 3 x 10^5 RAD(Si)**
  - **SEU Immunity . . . . . <1 x 10^{-10} Errors/Bit/Day**
  - **SEU LET Threshold . . . . . >100MeV/(mg/cm^2)**
- **Input Logic Levels . V_{IL} = (0.3V)(V_{CC}), V_{IH} = (0.7V)(V_{CC})**
- **Output Current . . . . . ±16mA**
- **Quiescent Supply Current. 20μA**
- **Propagation Delay 9.0ns**

Applications

- **Databus Driving**
- **Data Routing**
- **Redundant Data Control Circuitry**

Description

The Radiation Hardened ACS244MS is a Non-Inverting, Octal, Three-State Buffer/Line Driver with two active-LOW Enable inputs ($\overline{AE}$ and $\overline{BE}$). Each Enable input controls four outputs. When an Enable input is LOW, the corresponding outputs are active. A HIGH on an Enable input causes the corresponding outputs to be high impedance, regardless of the input levels.

The ACS244MS is fabricated on a CMOS Silicon on Sapphire (SOS) process, which provides an immunity to Single Event Latch-up and the capability of highly reliable performance in any radiation environment. These devices offer significant power reduction and faster performance when compared to ALSTTL types.

Specifications for Rad Hard QML devices are controlled by the Defense Supply Center in Columbus (DSCC). The SMD numbers listed below must be used when ordering.

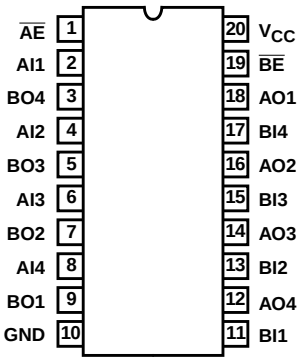
Detailed Electrical Specifications for the ACS244 are contained in SMD 5962-98541. A "hot-link" is provided on our homepage with instructions for downloading. http://www.intersil.com/data/sm/index.htm

Ordering Information

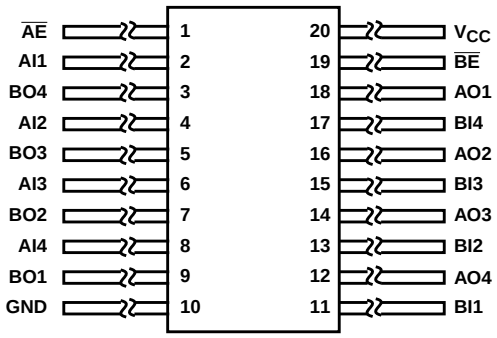
SMD PART NUMBER	INTERSIL PART NUMBER	TEMP. RANGE (^oC)	PACKAGE	CASE OUTLINE
5962F9854101VRC	ACS244DMSR-02	-55 to 125	20 Ld SBDIP	CDIP2-T20
N/A	ACS244D/Sample-02	25	20 Ld SBDIP	CDIP2-T20
5962F9854101VXC	ACS244KMSR-02	-55 to 125	20 Ld Flatpack	CDFP4-F20
N/A	ACS244K/Sample-02	25	20 Ld Flatpack	CDFP4-F20
N/A	ACS244HMSR-02	25	Die	N/A

Pinouts

ACS244 (SBDIP)
TOP VIEW



ACS244 (FLATPACK)
TOP VIEW



CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures.

1-888-INTERSIL or 321-724-7143 | Copyright © Intersil Corporation 1999

File Number **4479**

Die Characteristics

DIE DIMENSIONS:

Size: 2540µm x 2540µm (100 mils x 100mils)
Thickness: 525µm ±25µm (20.6 mils ±1 mil)
Bond Pad: 110µm x 110µm (4.3 x 4.3 mils)

METALLIZATION: Al
Metal 1 Thickness: 0.7µm ±0.1µm
Metal 2 Thickness: 1.0µm ±0.1µm

SUBSTRATE POTENTIAL:

Unbiased Insulator

PASSIVATION

Type: Phosphorous Silicon Glass (PSG)
Thickness: 1.30µm ±0.15µm

SPECIAL INSTRUCTIONS:

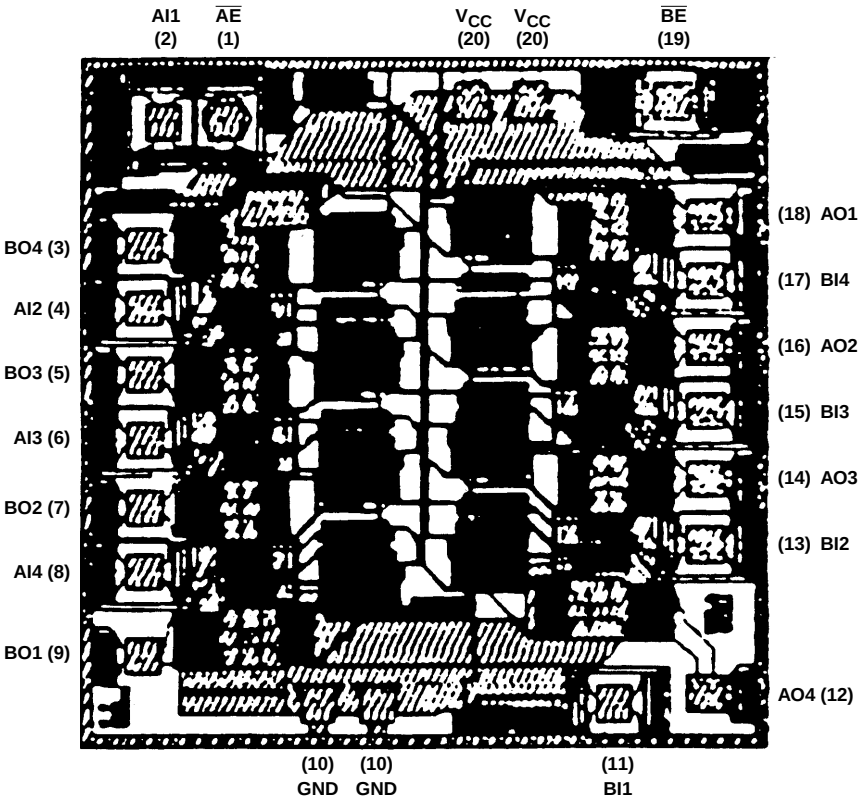
Bond V_{CC} First

ADDITIONAL INFORMATION:

Worst Case Density: $<2.0 \times 10^5$ A/cm^2
Transistor Count: 214

Metallization Mask Layout

ACS244MS



All Intersil semiconductor products are manufactured, assembled and tested under **ISO9000** quality systems certification.

Intersil products are sold by description only. Intersil Corporation reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.

For information regarding Intersil Corporation and its products, see web site **http://www.intersil.com**

Sales Office Headquarters

NORTH AMERICA
Intersil Corporation
P. O. Box 883, Mail Stop 53-204
Melbourne, FL 32902
TEL: (321) 724-7000
FAX: (321) 724-7240

EUROPE
Intersil SA
Mercure Center
100, Rue de la Fusee
1130 Brussels, Belgium
TEL: (32) 2.724.2111
FAX: (32) 2.724.22.05

ASIA
Intersil (Taiwan) Ltd.
Taiwan Limited
7F-6, No. 101 Fu Hsing North Road
Taipei, Taiwan
Republic of China
TEL: (886) 2 2716 9310
FAX: (886) 2 2715 3029