

CMOS Quad 2-Input NAND Gate

Intersil's Satellite Applications Flow™ (SAF) devices are fully tested and guaranteed to 100kRAD total dose. These QML Class T devices are processed to a standard flow intended to meet the cost and shorter lead-time needs of large volume satellite manufacturers, while maintaining a high level of reliability.

The CD4011BT, Quad 2-Input NAND gate provides the system designer with direct implementation of the NAND function and supplements the existing family of CMOS gates. All inputs and outputs are buffered.

Specifications

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 CD4011BT are contained in SMD 5962-96621. A "hot-link" is provided from our website for downloading.

www.intersil.com/quality/manuals.asp

Intersil's Quality Management Plan (QM Plan), listing all Class T screening operations, is also available on our website.

www.intersil.com/quality/manuals.asp

Ordering Information

ORDERING NUMBER	PART NUMBER	TEMP. RANGE (°C)
5962R9662101TCC	CD4011BDTR	-55 to 125
5962R9662101TXC	CD4011BKTR	-55 to 125

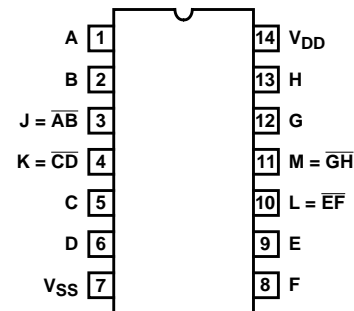
NOTE: **Minimum order quantity for -T is 150 units through distribution, or 450 units direct.**

Features

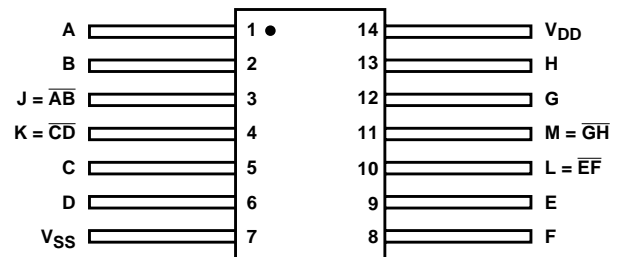
- QML Class T, Per MIL-PRF-38535
- Radiation Performance
 - Gamma Dose (γ) 1×10^5 RAD(Si)
 - SEP Effective LET > 75 MEV/gm/cm²
- Propagation Delay Time = 60ns (typ.) at CL = 50pF, V_{DD} = 10V
- Buffered Inputs and Outputs
- Standardized Symmetrical Output Characteristics
- 100% Tested for Maximum Quiescent Current at 20V
- 5V, 10V and 15V Parametric Ratings

Pinouts

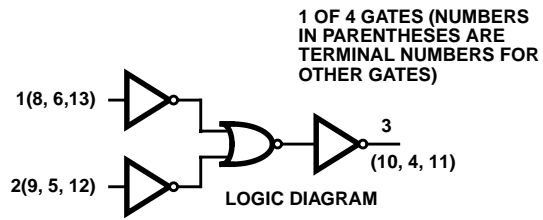
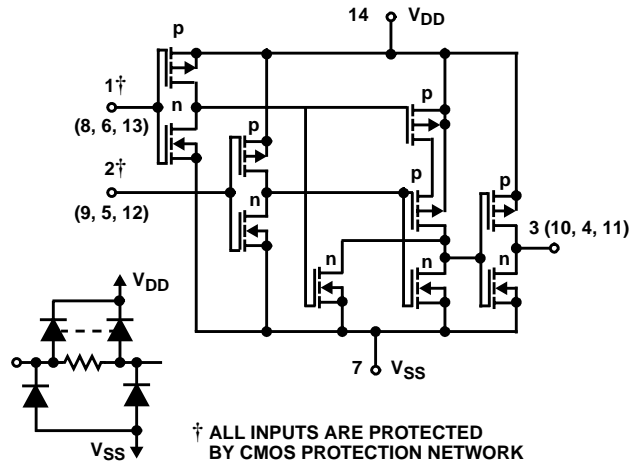
CD4011BT (SBDIP), CDIP2-T14
TOP VIEW



CD4011BT (FLATPACK), CDFP3-F14
TOP VIEW



Schematic and Logic Diagram



Die Characteristics

DIE DIMENSIONS:

(1143μm x 1626μm x 533μm ±25.4μm)
45 x 64 x 21mils ±1mil

METALLIZATION:

Type: Al
Thickness: 12.5kÅ ±1.5kÅ

SUBSTRATE POTENTIAL:

Leave Floating or Tie to V_{DD}
Bond Pad #14 (V_{DD}) First

BACKSIDE FINISH:

Silicon

PASSIVATION:

Type: Phosphorus Doped Silox (SiO₂)
Thickness: 13kÅ ±2.6kÅ

WORST CASE CURRENT DENSITY:

< 2.0e5 A/cm²

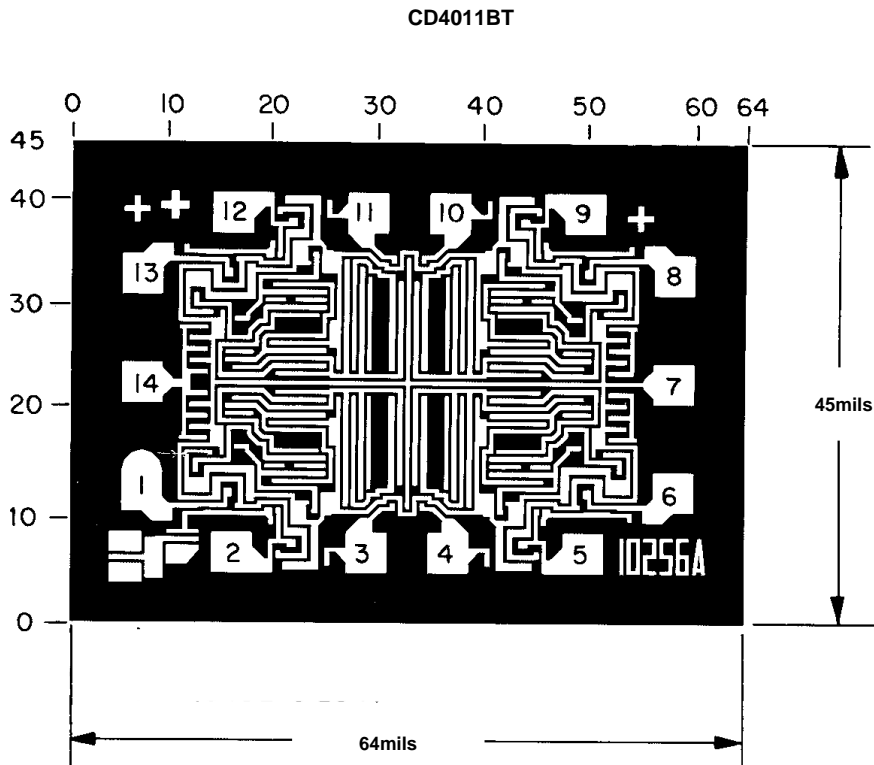
TRANSISTOR COUNT:

10

PROCESS:

Bulk CMOS

Metalization Mask Layout



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

Intersil semiconductor 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: (407) 724-7000
FAX: (407) 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.
7F-6, No. 101 Fu Hsing North Road
Taipei, Taiwan
Republic of China
TEL: (886) 2 2716 9310
FAX: (886) 2 2715 3029