

# MILITARY Brief



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## Low Voltage Solutions

### How Low Can You Go?

#### Change is Inevitable: Move to 3.3-V BiCMOS LVT

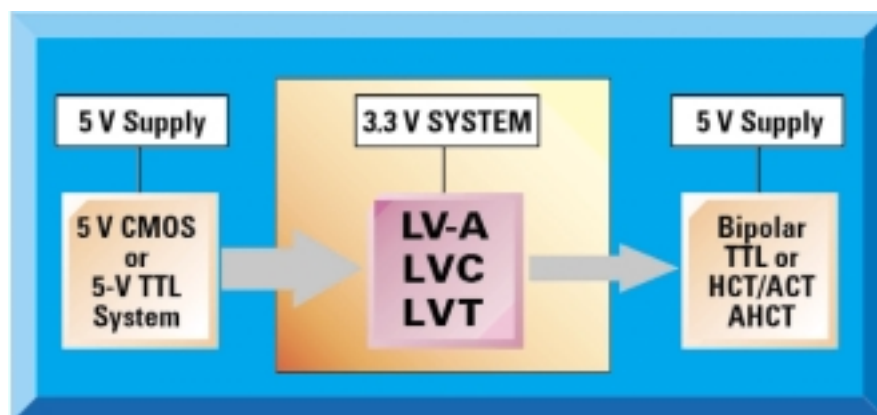
Low Voltage BiCMOS Technology is an excellent migration path from ABT, using 0.72- $\mu$  BiCMOS process. Performance characteristics and features are as follows:

- 3.3-V operation with 5-V tolerant I/Os - Permits use in mixed-voltage environment.
- Speed - Provides high-performance with maximum propagation delays of 4.2 ns at 3.3 V for buffers.
- Drive - Provides up to 40 mA of drive at 3.3-V  $V_{cc}$ .
- Bus Hold helps solve the problem of floating inputs and eliminates the need for pullup or pulldown resistors by holding the last known state of the input.
- Live insertion - Ioff and power-up 3-state circuitry protects the device.
- Damping resistor option - Reduces overshoot and undershoot, matches line impedance and minimizes ringing.

#### Sometimes Faster is Better: Move from Bipolar to CMOS LVC

Low Voltage CMOS Technology is a high performance version using 0.8- $\mu$  CMOS process. Performance characteristics and features are as follows:

- 3.3-V Operation with 5-V Tolerant I/Os - Permits use in mixed-voltage environment.
- Speed - Provides high-performance with maximum propagation delays of 7.5 ns for driver operations.
- Balanced drive of -24/24 mA.
- Ultra-low Power Consumption. (10  $\mu$ A at 3.6-V  $V_{cc}$ ).
- High Output impedance during  $V_{cc} = 0$  V.
- Partial Power Down.
- Bus Hold helps solve the problem of floating inputs and eliminates the need for pullup or pulldown resistors by holding the last known state of the input.
- Damping Resistor Option - Reduces overshoot and undershoot, matches line impedance and minimize ringing.
- Performance Similar to AC/ACT and 54F.



## Breaking New Ground with LV-A

To further add to our vast product portfolio, TI now offers the new LV-A (Low Voltage CMOS Technology) product line, LV00A, LV02A, etc. which provides:

- Better Flexibility in Your 3.3-V to 5-V System.
- Input Voltages to 5-V Vcc
- Support for Mixed-Mode Voltage Operations on All Ports.
- Faster with Propagation Delays in the 10.5-ns Range at 3.3-V.
- Ioff for Partial Power Down Making It a Superior Migration Path From HC.
- Static Current Consumption of only 20-uA for Both Bus-Interface and Gate Functions.
- Current Drive of 6-mA.
- Package Options which include Ceramic Metal Chip Carrier (FK), Ceramic Glass In-Line (J), Ceramic Glass Flatpack (W), 68-Pin Ceramic Quad Flatpack Using 25-mil Center-to-Center Spacings (HV) and 380-mil Fine Pitch Ceramic Flatpack Using 25-mil Center-to Center Spacings (WD)

## Current Low Voltage Offerings

The following chart displays our current low-voltage offerings with more to come.

LVC Devices	
SNJ54LVC00A	5962-9753301QXA
SNJ54LVC02A	5962-9760401QXA
SNJ54LVC04A	5962-9760501QXA
SNJ54LVC08A	5962-9753401QXA
SNJ54LVC14A	5962-9761501QXA
SNJ54LVC32A	5962-9761801QXA
SNJ54LVC74A	5962-9761601QXA
SNJ54LVC86A	5962-9761901QXA
SNJ54LVC138A	5962-9752601QXA
SNJ54LVC157A	5962-0050601QXA
SNJ54LVCH244A	5962-9754201QXA
SNJ54LVCH245A	5962-9754301QXA
SNJ54LVC257A	5962-0050901QXA
SNJ54LVC373A	5962-9757301QXA
SNJ54LVC374A	5962-9757401QXA
SNJ54LVC540A	5962-9759401QXA
SNJ54LVC541A	5962-9759501QXA
SNJ54LVC573A	5962-9757501QXA
SNJ54LVC574A	5962-9757601QXA
SNJ54LVC646A	5962-9762601QXA
SNJ54LVC652A	5962-9762701QXA

LVT Devices	
SNJ54LVTH240	5962-9950801QXA
SNJ54LVTH244	5962-9584401QXA
SNJ54LVTH245	5962-9584401QXA
SNJ54LVTH373	5962-9950901QXA
SNJ54LVTH374	5962-9951001QXA
SNJ54LVTH573	5962-9583101QXA
SNJ54LVTH574	5962-9583201QXA
SNJ54LVTH16244A	5962-9668501QXA
SNJ54LVTH16245A	5962-9668601QXA
SNJ54LVTH16373	5962-9681001QXA
SNJ54LVTH16374	5962-9564701QXA
SNJ54LVTH16952	5962-9684901QXA
SNJ54LVTH162244	5962-9680901QXA
SNJ54LVTH162245	5962-9678001QXA
SNJ54LVTH162373	5962-9763801QXA
SNJ54LVTH162374	5962-9854201QXA
SNJ54LVTH18502A	5962-9681101QXA

For more information on LV-A product offerings or other product families, please visit <http://www.ti.com/sc/docs/products/military/logic/index.htm>

If you are interested in a function not listed in the above chart, please contact the Product Information Center to discuss adding your function to our 2001 New Products Roadmap.

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### Product Information Center

#### North America

Telephone: 972-644-5580 (English)

Fax: 972-480-7800

PIC: <http://www.ti.com/sc/docs/pic/americas.htm>

PIC E-mail: [sc-infomaster@ti.com](mailto:sc-infomaster@ti.com)

Military Products: <http://www.ti.com/sc/docs/military/welcome.htm>

Distributor Listing: <http://www.ti.com/sc/docs/distmenu.htm>

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