

Fact Sheet

Military Semiconductor Products

TLV5618AM / 5962-9955701QxA

SGYV073, October 1999

TLV5618AM, 2.7-V TO 5.5-V LOW POWER DUAL 12-BIT DC WITH POWER DOWN

HIGHLIGHTS

The TLV5618AM is a dual 12-bit voltage output DAC with a flexible 3-wire serial interface. The serial interface is compatible with SMJ320 DSPs, SPI™, QSPI™, and Microwire™ serial ports. It is programmed with a 16-bit serial string containing 4 control and 12 data bits.

The resistor string output voltage is buffered by an x2 gain rail-to-rail output buffer. The buffer features a Class-AB output stage to improve stability and reduce settling time. The programmable settling time of the DAC allows the designer to optimize speed versus power dissipation.

Implemented with a CMOS process, the device is designed for single supply operation from 2.7 V to 5.5 V. The TLV5618AM is characterized for operation from -55°C to 125°C.

KEY FEATURES/BENEFITS

- Programmable Settling Time to 0.5 LSB
2.5 us or 12.5 us Typ
- Simultaneous Updates for DAC A and DAC B
- Single Supply Operation
- 3-Wire Serial Interface
- Output Voltage Range ... 2 Times the Reference Input Voltage
- Software Powerdown Mode
- Internal Power-On Reset
- SMJ320 DSP and SPI™ Compatible
- Low Power Consumption:
3 mW Typ in Slow Mode,
8 mW Typ in Fast Mode
- Input Data Update Rate of 1.21 MHz

DIE SIZE

The current die (BDLE5618AIN) has a size of: 60 x 68 mils

TECHNOLOGY

- 0.8-μm LinEPIC-1ZS™ CMOS Process
- Class 2 ESD rating per MIL-STD-883, Method 30

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PACKAGING

Package Option: 8-pin Ceramic Dual in Line Package (JG)
20-pin Leadless Ceramic Chip Carrier (FK)

POWER DISSIPATION

The table below shows modeled data. This data can be used for approximating system thermal characteristics:

Package Thermal Data

Package	R _{qJA}	R _{qJC}
8-Pin DIP	119° C/W	15° C/W
20-Pin LCC	91° C/W	6° C/W

Note: much better thermal impedances can be achieved by using air flow, or by increasing metal backplane thickness or trace area in the Printed Circuit Board (PCB) that is used.

PROCESS/PERFORMANCE OPTIONS

The TLV5618AM is processed to the military temperature range at the SN-level, or at the SNJ-level for programs requiring devices processed to MIL-PRF-38535. The DSCC Standard Microcircuit Drawings (SMD) for these device are given below.

MILITARY TLV5618AM FAMILY:

The following table details the military TLV5618AM products currently offered by TI:

Device	# Of Pins	DSCC Number
TLV5618AMJGB	8	5962-9955701QPA
TLV5618AMFKB	20	5962-9955701Q2A
TLV5618AMJG	8	-----

SUPPORT

Additional information regarding this product is available by calling the Texas Instruments Product Information Center (PIC) at (972) 644-5580 during normal business hours (CST/CDT) . Online information is available at: <http://www.ti.com/sc/docs/pic/americas.htm>

SUPPORT LITERATURE

You can access data sheets via TI's home page on the internet (<http://www.ti.com>) or reference the literature number SLAS230b when contacting the PIC. Our military products internet site is available at: <http://www.ti.com/sc/docs/military/welcome.htm>

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