Fact Sheet

M i l i t a r y   S e m i c o n d u c t o r   P r o d u c t s
TLC7705M / 5962-9751301QxA AND TLC7733M / 5962-9750901QxA
SGYV034 -June 1997

Micropower Supply Voltage Supervisors

HIGHLIGHTS

The TLC77xx is an ultra-low power (16 µA max) supply voltage supervisor family designed for 3.3 V (TLC7733M) and 5V (TLC7705M) battery-powered systems. This new CMOS supervisor features a push-pull output stage that eliminates the external pull-up and pull-down resistors on the outputs, saving both cost and board space. The TLC7733 offers designers precision control of 3.3 V microprocessor voltage supplies. The TLC7733 also adds battery-saving micropower operation and static memory backup functionality to the supervisor while reducing board space requirements. Typical applications include test and measurement equipment and other battery-powered systems.

To eliminate undefined states during power-up and power-down, the RESET output is guaranteed asserted when the supply voltage reaches 1 V. Reset delay time is programmable and is set by an external timing capacitor. This family of devices feature functionality for controlling static memory chips with battery backup during power failure. The CONTROL pin, when driven by the memory select pin of a microprocessor, programs the RESET output to drive the chip select (CS) of the memory.

KEY FEATURES/BENEFITS
- Power-On Reset Generator
- Automatic Reset Generation After Voltage Drop
- Precision Voltage Sensor
- Temperature-Compensated Voltage Reference
- Programmable Delay Time By External Capacitor
- Supply Voltage Range ... 2 V to 6 V
- Defined RESET Output from V_{DD} .1 V
- Power-Down Control Support for Static RAM With Battery Backup
- Maximum Supply Current of 16 µA
- Power Saving Totem-Pole Outputs

SUPPORT

For additional information on this and other Mixed Signal/Analog Products visit our Mixed Signal home page at:

http://www.ti.com/sc/docs/military/product/mix_sig/mixsig_1.htm

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

DIE SIZE

The current die has a size of: 69 mils x 57 mils.

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TECHNOLOGY

- 2 μm LinBiCMOS™ Process
- ESD level: 4 kV

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	180º C/W	28º C/W
20 Pin LCC	65º C/W	20º C/W

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

PROCESS/PERFORMANCE OPTIONS

The TLC7705M/33 are 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.

DSCC SMD

TI Parent	DSCC SMD
TLC7705MJGB / FKB	5962-9751301QPA / 2A
TLC7733MJGB / FKB	5962-9750901QPA / 2A

SUPPORT LITERATURE

You can access data sheets via TI's home page on the internet (http://www.ti.com) or reference the literature number SLVS087F when contacting the PIC.

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