

SINGLE-CHIP 8-BIT MICROCOMPUTER  
FOR CONTROL-ORIENTED APPLICATIONS

3025B(LM8802,8804)

**General Description**

The LM8800 series are single-chip 8-bit microcomputers fabricated using NMOS process technology. They are intended for high-speed, high-function control of consumer equipment and control of office automation equipment. They adopt an architecture suited for control-oriented applications, perform 6-factor 4 level multi-interrupt function, and contain two 8-bit multifunction timers, a serial I/O port, I/O ports (max. 57 pins). The instruction set with 101 instructions is easy to use for control-oriented applications and powerful.

**Architecture Features**

- Abundant memory: ROM=4k bytes max., RAM=256 bytes max.
- I/O ports (max. 57 pins): LM8854, 8852
- Two 8-bit multifunction timers (interval timer, event counter) and 10-bit prescaler.
- 8-bit PWM type DA converter: Also used for timer 1.
- Square wave output: Also used for timer 1.
- Serial I/O port: Synchronous=8 bits or asynchronous=10 bits, half-duplex 11-bit communication.
- Direct connectable with general-purpose master CPU to transmit/receive 8-bit parallel data.
- 6-factor 4-level multi-interrupt: External=2 factors, timer=2 factors, serial I/O, 8-bit bus.
- 16-level stack
- Instruction set with 101 instructions
  - Single-bit processing, single-bit decision of RAM, I/O port
  - Direct/indirect addressing of RAM, I/O port

**Hardware Features (\*: Average current value)**

- High-speed operation: Instruction cycle time 1usec. min. (target)
- 15V breakdown voltage I/O port and 30mA\*output driver (8 pcs.), 18mA\*output driver (max 38 pcs.)
- Single 5V supply, RAM backup capability
- On-chip OSC: Ceramic, crystal, CR oscillation
- TTL/CMOS input level selectable, pull-up/open drain output selectable.
- Output mode selectable at the time of reset
- AC wave zero-cross detector selectable

**LM8800 Series Lineup**

Type No.	ROM	RAM	Input/output	Input	Output	Package	Remarks
LM8854	4k x 8	256 x 8	4 x 8	11	14	DIP64S	
LM8804	4k	256	4 x 8	3	14	DIP42, 42S	
LM8852	2k	128	4 x 8	11	14	DIP64S	
LM8802	2k	128	4 x 8	3	—	DIP42, 42S	
LM8899	External, 8k	256 x 8	4 x 8	11	14	PGA100	Evaluation chip
LM88PG99	External, 8k	256 x 8	4 x 8	11	14	DIP64S	Piggyback