SHARP®

Integrated Circuits Group

APPLICATIONS:
Cellular Phone
DVD
Set Top Box
Pager

LH28F800BG 8M (512K × 16) SmartVoltage Flash Memory

FEATURES

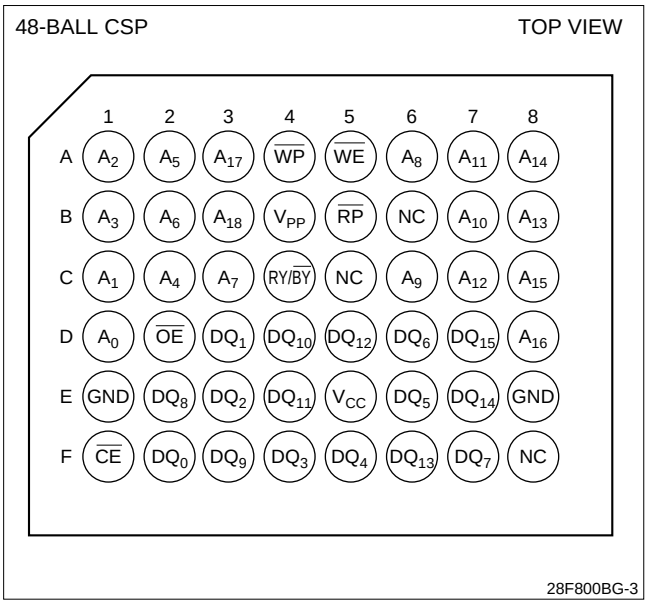
- SmartVoltage technology
  - 2.7 V, 3.3 V or 5 V V_{CC}
  - 2.7 V, 3.3 V, 5 V or 12 V V_{PP}
- High-performance
  - 85 ns (5 V V_{CC}) read access time
  - 120 ns (2.7 V V_{CC}) read access time
- Enhanced automated suspend options
  - Word write suspend to read
  - Block erase suspend to word write
  - Block erase suspend to read
- Absolute hardware-protection
- Industry standard packaging
  - 48-pin TSOP
- Chip size packaging
  - 48-ball CSP
- SRAM-compatible write interface
- Optimized array blocking architecture
  - Two 4K-word boot blocks
  - Six 4K-word parameter blocks
  - Fifteen 32K-word main blocks
  - Top or bottom boot locations
- Extended cycling capability
  - 100,000 block erase cycles
- Low power management
  - Deep power down mode
  - Automatic power savings mode
  - Decreases I_{CC} in static mode
- Automated word write and block erase
  - Command user interface
  - Status register
- ETOX™ V Nonvolatile Flash Technology
- Not designed or rated as radiation hardened

DESCRIPTION

SHARP's LH28F800BG Flash memory with SmartVoltage technology is a high-density, low-cost, nonvolatile, read/write storage solution for a wide range of applications. LH28F800BG-can operate at V_{CC} = 2.7 V and V_{PP} = 2.7 V. Its low voltage operation capability realize longer battery life and suits for cellular phone application. Its Boot, Parameter and Main-blocked architecture, flexible voltage and extended cycling provide for highly flexible component suitable for portable terminals and personal computers. Its enhanced suspend capabilities provide for an ideal solution for code and data storage applications. For secure code storage applications, such as networking, where code is either directly executed out of flash or downloaded to DRAM, the LH28F800BG offers two levels of protection: absolute protection with V_{PP} at GND, selective hardware boot block locking. These alternatives give designers ultimate control of their code security needs.

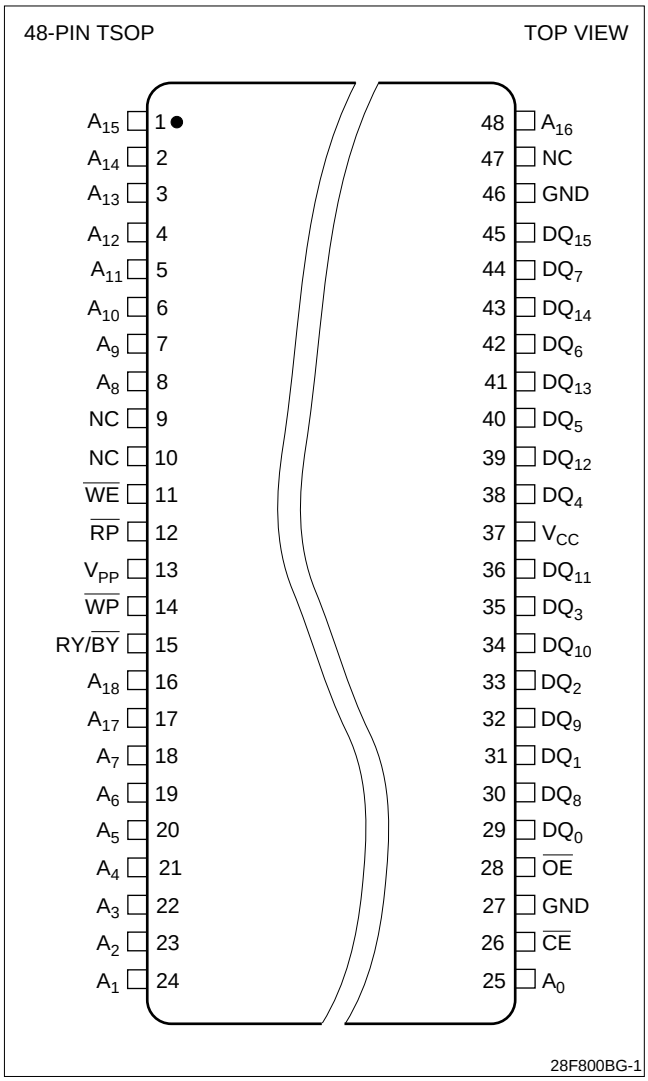
The LH28F800BG is manufactured on SHARP's 0.4 µm ETOX™ V process technology. It comes in industry-standard package: the 48-pin TSOP and chip size package: the 48-ball CSP, ideal for board constrained applications.

48-BALL CSP PINOUT



This Product Information is from LH28F800BG Preliminary Specification; Issue Date: July 9, 1997.

48-PIN TSOP PINOUT



48-BALL CSP PINOUT