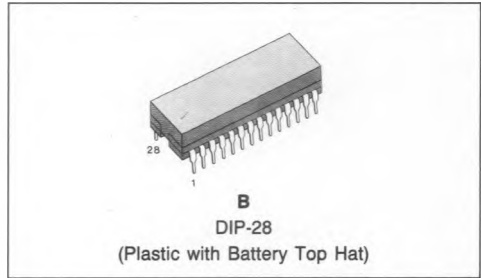# SGS-THOMSON MICROELECTRONICS

MK48Z30 (B)-10/12/15

32K X 8 ZEROPOWER RAM

ADVANCED DATA

- DATA RETENTION IN THE ABSENCE OF V_{CC}
- DATA IS AUTOMATICALLY PROTECTED DURING POWER LOSS
- DIRECTLY REPLACES 32K × 8 VOLATILE STATIC RAM OR EEPROM
- UNLIMITED WRITE CYCLES
- CMOS - LOW POWER OPERATION
- STANDARD 28-PIN JEDEC PINOUT
- READ CYCLE TIME EQUALS WRITE CYCLE TIME
- FULL 10% OPERATING RANGE
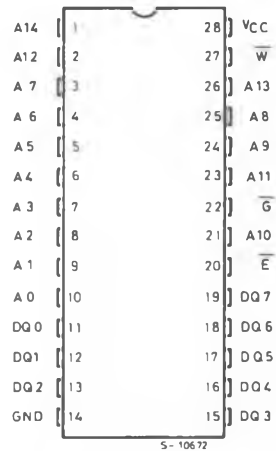- LITHIUM ENERGY SOURCE IS ELECTRICALLY DISCONNECTED TO RETAIN FRESHNESS UNTIL POWER IS APPLIED THE FIRST TIME

B
DIP-28
(Plastic with Battery Top Hat)

PIN CONNECTIONS

A 14	1		28	V_{CC}
A 12	2		27	$\overline{W}$
A 7	3		26	A 13
A 6	4		25	A 8
A 5	5		24	A 9
A 4	6		23	A 11
A 3	7		22	$\overline{G}$
A 2	8		21	A 10
A 1	9		20	$\overline{E}$
A 0	10		19	DQ 7
DQ 0	11		18	DQ 6
DQ 1	12		17	DQ 5
DQ 2	13		16	DQ 4
GND	14		15	DQ 3

S - 10672

TRUTH TABLE MK48Z30

V_{CC}	$\overline{E}$	$\overline{G}$	$\overline{W}$	MODE	DQ	POWER
	V_{IH}	X	X	Deselect	High-Z	Standby
$< V_{CC}$ (max)	V_{IL}	X	V_{IL}	Write	D_{IN}	Active
V_{CC} (min)	V_{IL}	V_{IL}	V_{IH}	Read	D_{OUT}	Active
	V_{IL}	V_{IH}	V_{IH}	Read	High-Z	Active
$< V_{PFD}$ (min) $> V_{SO}$	X	X	X	Deselect	High-Z	CMOS Standby
$\leq V_{SO}$	X	X	X	Deselect	High-Z	Battery Back-up

DESCRIPTION

The MK48Z30 is a 262,144-bit, fully static, nonvolatile static RAM organized as 32,768 words by 8 bits. The nonvolatile memory has a self-contained lithium energy source and control circuitry which Constantly monitors V_{CC} for an out of tolerance condition. When such a condition occurs, the lithium energy source is automatically switched on and write protection is unconditionally enabled to prevent garbled data. The nonvolatile static RAM can be used in place of 32K X 8 static RAM directly conforming to the popular BYTEWIDE 28 pin DIP standard. There is no limit on the number of write cycles which can be executed and no additional support circuitry is required for microprocessor interface.

June 1988 1/1

This is advance information on a new product now in development or undergoing evaluation. Details are subject to change without notice.