

32 MBIT (4 M × 8 BITS) CMOS NAND E²PROM

TENTATIVE DATA

DESCRIPTION

The TC5832FT device is a single 5.0-volt 33 M (34,603,008) bit NAND Electrically Erasable and Programmable Read Only Memory (NAND EEPROM) organized as 528 byte × 16 pages × 512 blocks. The device has a 528-byte, static register which allows the program and read data to be transferred between the register and the memory cell array in 528-byte increments. The Erase operation is implemented in a single block unit (8 kbytes + 256 bytes: 528 bytes × 16 pages).

The TC5832FT is a serial type of memory device which utilizes the I/O pins for both address and data input/output as well as command inputs. The Erase and Program operations are automatically executed, making the device most suitable for applications such as solid state file storage, voice recording, image file memory for still cameras and other systems which require high-density, and non-volatile memory data storage.

FEATURES

- Organization: Memory cell array: 528 × 8 k × 8
Register : 528 × 8
Page size : 528 byte
Block size : (8 k + 256) byte
- Mode : Read, Reset, Auto Page Program
Auto Block Erase, Suspend/Resume
Status Read
- Mode control: Serial input/output
Command control
- Package : 400 mil TSOP Type II
TC5832FT: TSOP44-P-400B (Weight: 0.48 g typ)
- Power supply : V_{CC} = 5.0 V ± 0.5 V
- Access time
Cell array-Register: 10 μs max
Serial Read Cycle : 50 ns min
- Operating current
Read (50 ns cycle) : 15 mA typ
Program (ave.) : 40 mA typ
Erase (ave.) : 20 mA typ
Standby : 100 μA

PIN ASSIGNMENT (TOP VIEW)

TC5832FT

V _{SS}	1	44	V _{CC}
CLE	2	43	CE
ALE	3	42	RE
WE	4	41	R/B
WP	5	40	OP
NC	6	39	NC
NC	7	38	NC
NC	8	37	NC
NC	9	36	NC
NC	10	35	NC
	11	34	
	12	33	
NC	13	32	NC
NC	14	31	NC
NC	15	30	NC
NC	16	29	NC
NC	17	28	NC
I/O 1	18	27	I/O 8
I/O 2	19	26	I/O 7
I/O 3	20	25	I/O 6
I/O 4	21	24	I/O 5
V _{SS}	22	23	V _{CC}

PIN NAMES

I/O ₁ to 8	I/O Port
CE	Chip Enable
WE	Write Enable
RE	Read Enable
CLE	Command Latch Enable
ALE	Address Latch Enable
WP	Write Protect
R/B	Ready/Busy
OP	Option Pin
V _{CC}	Power Supply
V _{SS}	Ground

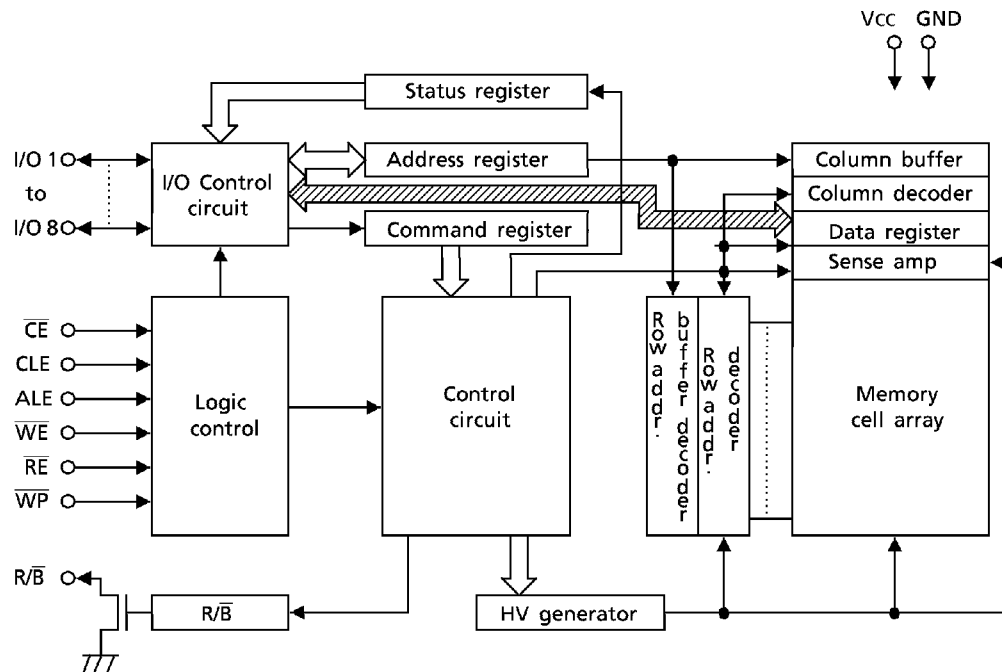
OP: GND Input: 528 Byte/Page Operation
V_{CC} Input : 512 Byte/Page Operation

© The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.

© These TOSHIBA products are intended for use in general commercial applications (office equipment, communication equipment, measuring equipment, domestic appliances, etc.). please make sure that you consult with us before you use these TOSHIBA products in equipment which requires extraordinarily high quality and/or reliability, and in equipment which may involve life threatening or critical application, including but not limited to such uses as atomic energy control, airplane or spaceship instrumentation, traffic signals, medical instrumentation, combustion control, all types of safety devices, etc. TOSHIBA cannot accept and hereby disclaims liability for any damage which may occur in case the TOSHIBA products are used in such equipment or applications without prior consultation with TOSHIBA.

© The products described in this document are strategic products subject to COCOM regulations.
They should not be exported without authorization from the appropriate governmental authorities (as of 199)

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

SYMBOL	RATING	VALUE	UNIT
V_{CC}	Power Supply	- 0.6 to 7.0	V
V_{IN}	Input Voltage	- 0.6 to 7.0	V
V_{IO}	Input/Output Voltage	- 0.6 V to $V_{CC} + 0.5 V (\leq 7.0 V)$	V
P_D	Power Dissipation	0.5	W
T_{SOLDER}	Soldering Temperature (10 s)	260	°C
T_{STG}	Storage Temperature	- 55 to 150	°C
T_{OPR}	Operating Temperature	0 to 70	°C

CAPACITANCE *($T_a = 25^\circ C, f = 1 \text{ MHz}$)

SYMBOL	PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
C_{IN}	Input	$V_{IN} = 0 V$	-	5	10	pF
C_{OUT}	Output	$V_{OUT} = 0 V$	-	5	10	pF

* This parameter is periodically sampled and is not tested for every component.