M6MGD137W33TP

134,217,728-BIT (8,388,608-WORD BY 16-BIT) CMOS FLASH MEMORY   &
33,554,432-BIT (2,097,152-WORD BY 16-BIT) CMOS Mobile RAM

Stacked- μMCP (micro Multi Chip Package)

DESCRIPTION

The M6MGD137W33TP is a Stacked micro Multi Chip Package (S- μMCP) that contents 128M-bit Flash memory and 32M-bit Mobile RAM in a 52-pin TSOP.

128M-bit Flash memory is a 8,388,608 words, single power supply and high performance non-volatile memory fabricated by CMOS technology for the peripheral circuit and DINOR IV (Divided bit-line NOR IV) architecture for the memory cell. All memory blocks are locked and can not be programmed or erased, when F-WP# is Low. Using Software Lock Release function, program or erase operation can be executed.

32M-bit Mobile RAM is a 2,097,152 words high density RAM fabricated by CMOS technology for the peripheral circuit and DRAM cell for the memory array. The interface is compatible to an asynchronous SRAM.

The cells are automatically refreshed and the refresh control is not required for system. The device also has the partial block refresh scheme and the power down mode by writing the command.
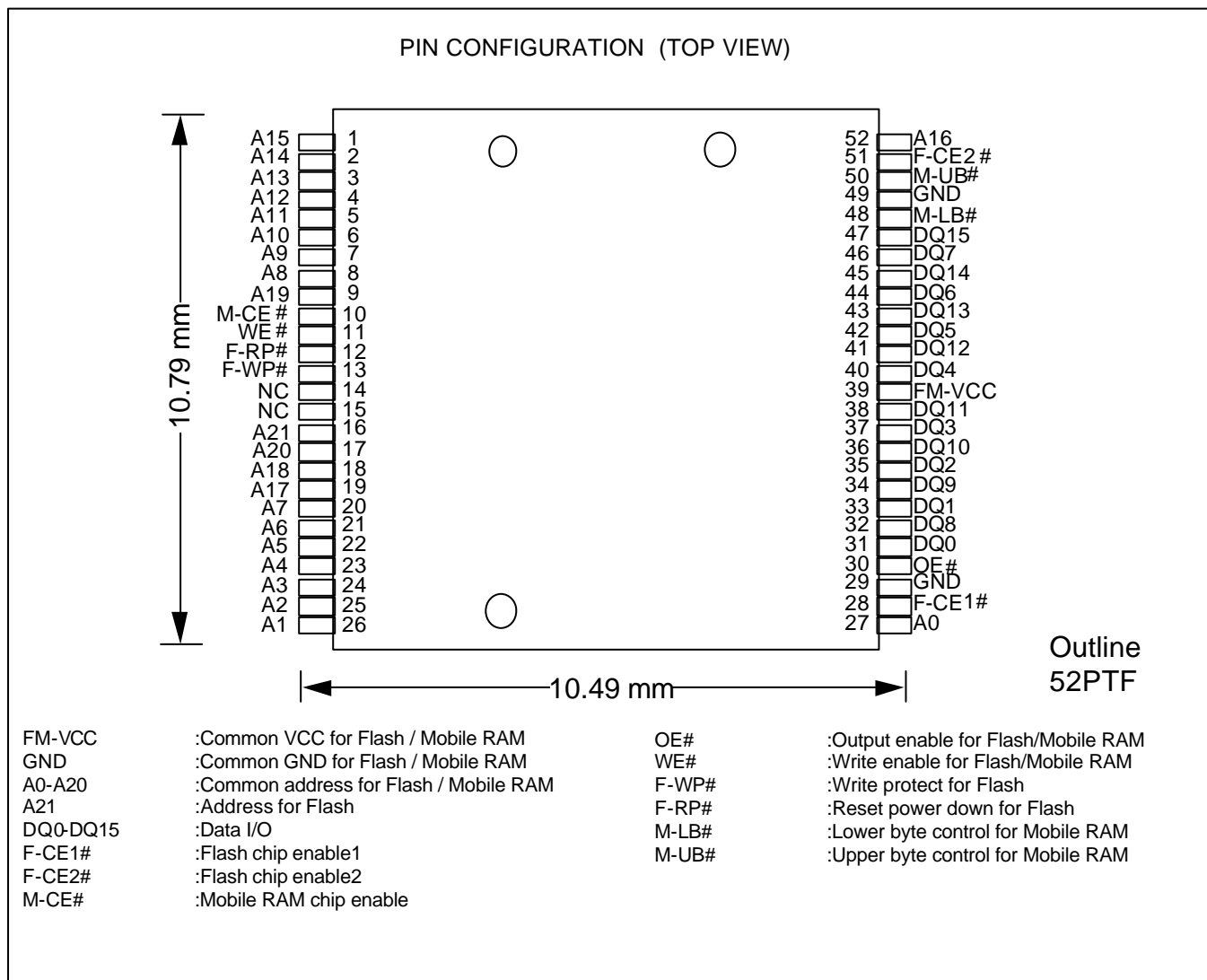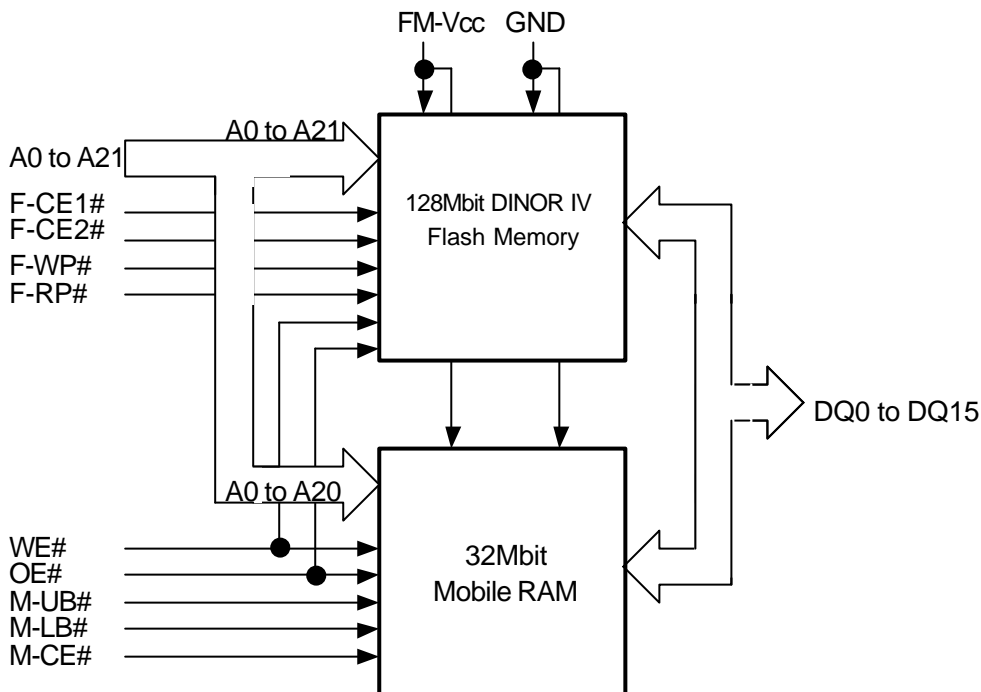
The M6MGD137W33TP is suitable for a high performance cellular phone and a mobile PC that are required to be small mounting area, weight and small power dissipation.

FEATURES

Access time	Flash	85ns (Max.)
	Mobile RAM	85ns (Max.)
Supply voltage		FM-VCC = 2.7 ~ 3.0V
Ambient temperature		Ta=-40 ~ 85 ℃
Package	52pin TSOP(Type-II), Lead pitch 0.4mm	

APPLICATION

Mobile communication products

PIN CONFIGURATION (TOP VIEW)

Pin		Pin	
A15	1	52	A16
A14	2	51	F-CE2#
A13	3	50	M-UB#
A12	4	49	GND
A11	5	48	M-LB#
A10	6	47	DQ15
A9	7	46	DQ7
A8	8	45	DQ14
A19	9	44	DQ6
M-CE #	10	43	DQ13
WE #	11	42	DQ5
F-RP#	12	41	DQ12
F-WP#	13	40	DQ4
NC	14	39	FM-VCC
NC	15	38	DQ11
A21	16	37	DQ3
A20	17	36	DQ10
A18	18	35	DQ2
A17	19	34	DQ9
A7	20	33	DQ1
A6	21	32	DQ8
A5	22	31	DQ0
A4	23	30	OE#
A3	24	29	GND
A2	25	28	F-CE1#
A1	26	27	A0

10.79 mm

10.49 mm

Outline
52PTF

FM-VCC	:Common VCC for Flash / Mobile RAM		OE#	:Output enable for Flash/Mobile RAM
GND	:Common GND for Flash / Mobile RAM		WE#	:Write enable for Flash/Mobile RAM
A0-A20	:Common address for Flash / Mobile RAM		F-WP#	:Write protect for Flash
A21	:Address for Flash		F-RP#	:Reset power down for Flash
DQ0-DQ15	:Data I/O		M-LB#	:Lower byte control for Mobile RAM
F-CE1#	:Flash chip enable1		M-UB#	:Upper byte control for Mobile RAM
F-CE2#	:Flash chip enable2			
M-CE#	:Mobile RAM chip enable			

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MCP Block Diagram

Note: In the data sheet there are "VCC"s which mean "FM-VCC" (Common Vcc for Flash / Mobile RAM).

Capacitance

Symbol	Parameter		Conditions	Limits			Unit
				Min.	Typ.	Max.	
CIN	Input capacitance	A21-A0, OE#, WE#, F-WP#, F-RP#, M-CE#, M-LB#, M-UB#, F-CE1#, F-CE2#	Ta=25°C, f=1MHz, Vin=Vout=0V			26	pF
							pF
							pF
							pF
COUT	Output Capacitance	DQ15-DQ0				34	pF

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