


General Information	1
Interchangeability Guide	2
Glossary/Timing Conventions/Data Sheet Structure	3
Dynamic RAMs	4
Dynamic RAM Modules	5
EPROMs/PROMs	6
ROMs	7
Military Products	8
Applications Information	9
Logic Symbols	10
Mechanical Data	11
ESD Guidelines	12



General Information

CONTENTS

GENERAL INFORMATION

Alphanumeric Index to Data Sheets	1-7
Reference and Selection Guides	1-8
DRAMs, EPROMs, ROMs, PROMs Reference Guide	1-8
Dynamic RAM Module Reference Guide	1-9
DRAM Selection Guide	1-10
Dynamic RAM Module Selection Guide	1-11
EPROM Selection Guide	1-13
PROM Selection Guide	1-14
ROM Selection Guide	1-15

INTERCHANGEABILITY GUIDE

Part I — Alternate Vendor Part Numbering (Examples)	2-3
Part II — Alternate Sources	2-9
Dynamic RAMs	2-9
EPROMs	2-10
ROMs	2-12

GLOSSARY/TIMING CONVENTIONS/DATA SHEET STRUCTURE

Part I — General Concepts and Types of Memories	3-3
Part II — Operating Conditions and Characteristics (Including Letter Symbols)	3-5
Part III — Timing Diagrams Conventions	3-10
Part IV — Basic Data Sheet Structure	3-10

DYNAMIC RAMs

TMS4116	16,384-bit	(16K × 1)	4-3
TMS4161	65,536-bit	(64K × 1) Multiport Video RAM	4-17
TMS4164	65,536-bit	(64K × 1)	4-41
TMS41128B	131,072-bit	(128K × 1)	4-61
TMS4256	262,144-bit	(256K × 1) Page Mode	4-75
TMS4257	262,144-bit	(256K × 1) Nibble Mode	4-75
TMS4416	65,536-bit	(16K × 4)	4-99
TMS4464	262,144-bit	(64K × 4)	4-117
TMX4461	262,144-bit	(64K × 4) Multiport Video RAM	4-135
TMX44C256	1,048,576-bit	(256K × 4)	4-137
TMX44C257	1,048,576-bit	(256K × 4)	4-137
TMX44C259	1,048,576-bit	(256K × 4)	4-137
TMX4C1024	1,048,576-bit	(1024K × 1)	4-139
TMX4C1025	1,048,576-bit	(1024K × 1)	4-139
TMX4C1026	1,048,576-bit	(1024K × 1)	4-139
TMX4C1027	1,048,576-bit	(1024K × 1)	4-139
TMX4C1029	1,048,576-bit	(1024K × 1)	4-139

DYNAMIC RAM MODULES

TM4161EP5	327,680-bit	(64K × 5) Multiport Video RAM	5-3
TM4161EV4	262,144-bit	(64K × 4) Multiport Video RAM	5-25
TM4161GW4	262,144-bit	(64K × 4) Multiport Video RAM	5-47
TM4161GY4	262,144-bit	(64K × 4) Multiport Video RAM	5-47
TM4164EC4	262,144-bit	(64K × 4)	5-51
TM4164EL9	589,824-bit	(64K × 9)	5-67
TM4164FM9	589,824-bit	(64K × 9)	5-67
TM4164EQ5	327,680-bit	(64K × 5)	5-81
TM4164FL8	524,288-bit	(64K × 8)	5-99
TM4164FM8	524,288-bit	(64K × 8)	5-99

CONTENTS (CONTINUED)

TM4256EC4	1,048,576-bit	(256K × 4)	5-113
TM4257EC4	1,048,576-bit	(256K × 4)	5-113
TM4256EL9	2,359,296-bit	(256K × 9)	5-137
TM4256GU9	2,359,296-bit	(256K × 9)	5-137
TM4257EL9	2,359,296-bit	(256K × 9)	5-137
TM4257GU9	2,359,296-bit	(256K × 9)	5-137
TM4256EQ5	1,310,720-bit	(256K × 5)	5-157
TM4257EQ5	1,310,720-bit	(256K × 5)	5-157
TM4256FC1	1,048,576-bit	(1024K × 1)	5-181
TM4257FC1	1,048,576-bit	(1024K × 1)	5-181
TM4256FL8	2,097,152-bit	(256K × 8)	5-205
TM4256GU8	2,097,152-bit	(256K × 8)	5-205
TM4257FL8	2,097,152-bit	(256K × 8)	5-205
TM4257GU8	2,097,152-bit	(256K × 8)	5-205
TM4256GP8	2,097,152-bit	(256K × 8)	5-225
TM4256GV8	2,097,152-bit	(256K × 8)	5-225
TM4256GP9	2,359,296-bit	(256K × 9)	5-229
TM4256GV9	2,359,296-bit	(256K × 9)	5-229
TM4256HE4	2,097,152-bit	(512K × 4)	5-233
TM4416KU8	131,072-bit	(16K × 8)	5-237
TM4464LU8	524,288-bit	(64K × 8)	5-247
EPROMs/PROMs			
TMS2732A	32,768-bit	(4K × 8)	6-3
TMS2764	65,536-bit	(8K × 8)	6-11
Erased Programmable Read-Only Memory Enhanced Performance EPROMs - PEP4			
TMS27C64	65,536-bit	(8K × 8)	6-19
TMS27C128	131,072-bit	(16K × 8)	6-21
TMS27C256	262,144-bit	(32K × 8)	6-29
TMX27C512	524,288-bit	(64K × 8)	6-37
TMS27P32A	32,768-bit	(4K × 8)	6-45
TMS27P64	65,536-bit	(8K × 8)	6-47
TMX27PC128	131,072-bit	(16K × 8)	6-53
TMX27PC256	262,144-bit	(32K × 8)	6-61
ROMs			
TMS2332	32,768-bit	(4K × 8)	7-3
TMS2364	65,536-bit	(8K × 8)	7-9
TMS4732	32,768-bit	(4K × 8)	7-15
TMS4764	65,536-bit	(8K × 8)	7-21
TMS47128	131,072-bit	(16K × 8)	7-27
TMS47256	262,144-bit	(32K × 8)	7-33
TMS47C256	262,144-bit	(32K × 8)	7-39
TMS47C512	524,288-bit	(64K × 8)	7-45
TMS47C1024	1,048,576-bit	(128K × 8)	7-51
MILITARY PRODUCTS			
SMJ4161	65,536-bit	(64K × 1) Multiport Video RAM	8-3
SMJ4164	65,536-bit	(64K × 1)	8-29
SMJ4256	262,144-bit	(256K × 1)	8-47
SMJ4416	65,536-bit	(16K × 4)	8-63

CONTENTS (CONCLUDED)

APPLICATIONS INFORMATION

Design Considerations	9-3
TMS4164A and TMS4416 Input Diode Protection	9-5
TMS4164 and TMS4416 Interlock Clock	9-9
Introduction to Surface Mounting	9-13
64K-256K Plastic-Leaded Chip Carrier Compatibility	9-23
High-Performance Memory Access with the TMS4161	9-27
Dual-Port Memory with High-Speed Serial Access	9-31
Topological Structure of the TMS4161 Multiport Video RAM	9-39
An Introduction to the TMS4256 and TMS4257	9-45
TMS4256/TMS4257 Topology	9-55
TMS4464 Topology	9-61
Latchup Immunity of the HVCMOS EPROM Family	9-69
Product Applications	9-71
TTL Drivers for the TMS4416-15	9-73
TM4164EC4 Provides High-Density Memory Array	9-79
Article Reprints	9-87
Joining Text and Graphics Enhances Video Performance	9-89
A 256K DRAM Organized for Applications Solutions	9-97

LOGIC SYMBOLS

Explanation of IEEE/IEC Logic Symbols for Memories	10-3
--	------

MECHANICAL DATA	11-3
----------------------------------	------

ESD GUIDELINES	12-3
---------------------------------	------



General Information

SMJ4161	8-3	TMS2364	7-9
SMJ4164	8-29	TMS2732A	6-3
SMJ4256	8-47	TMS27P32A	6-47
SMJ4416	8-63	TMS2764	6-11
TM4161EP5	5-3	TMS27C64	6-21
TM4161EV4	5-25	TMS27P64	6-53
TM4161GW4	5-47	TMS27C128	6-29
TM4161GY4	5-47	TMS27C256	6-37
TM4164EC4	5-51	TMS4116	4-3
TM4164EL9	5-67	TMS4161	4-17
TM4164EQ5	5-81	TMS4164	4-41
TM4164FL8	5-99	TMS4256	4-75
TM4164FM8	5-99	TMS4257	4-75
TM4164FM9	5-67	TMS4416	4-99
TM4256EC4	5-113	TMS4464	4-117
TM4256EL9	5-137	TMS4732	7-15
TM4256EQ5	5-157	TMS4764	7-21
TM4256FC1	5-181	TMS41128B	4-61
TM4256FL8	5-205	TMS47128	7-27
TM4256GP8	5-225	TMS47256	7-33
TM4256GP9	5-229	TMS47C256	7-39
TM4256GU8	5-205	TMS47C512	7-45
TM4256GU9	5-137	TMS47C1024	7-51
TM4256GV8	5-225	TMX4461	4-135
TM4256GV9	5-229	TMX27PC128	6-61
TM4256HE4	5-233	TMX27PC256	6-63
TM4257EC4	5-113	TMX27C512	6-45
TM4257EL9	5-137	TMX4C1024	4-139
TM4257EQ5	5-157	TMX4C1025	4-139
TM4257FC1	5-181	TMX4C1026	4-139
TM4257FL8	5-205	TMX4C1027	4-139
TM4257GU8	5-205	TMX4C1029	4-139
TM4257GU9	5-137	TMX44C256	4-137
TM4416KU8	5-237	TMX44C257	4-137
TM4464LU8	5-247	TMX44C259	4-137
TMS2332	7-3		

DRAMs, EPROMs, PROMs, ROMs REFERENCE GUIDE

WORDS	BITS PER WORD		
	1	4	8
1K			
2K			
4K			(32K) EPROM TMS2732A PROM TMS27P32A ROMs TMS2332 TMS4732
8K			(64K) EPROMs TMS2764 TMS27C64 PROM TMS27P64 ROMs TMS2364 TMS4764
16K	(16K) DRAM TMS4116	(64K) DRAMs TMS4416 SMJ4416	(128K) EPROM TMS27C128 PROM TMX27PC128 ROM TMS47128
32K			(256K) EPROM TMS27C256 PROM TMX27PC256 ROMs TMS47256 TMS47
64K	(64K) DRAMs TMS4161 TMS4164 SMJ4161 SMJ4164	(256K) DRAMs TMS4464 TMX4461	(512K) EPROM TMX27C512 ROM TMS47C512
128K	(128K) DRAM TMS41128B		
256K	(256K) DRAMs TMS4256 TMS4257 SMJ4256 SMJ4257	(1024K) DRAMs TMX44C256 TMX44C257 TMX44C259	(1024K) ROM TMS47C1024
1024K	(1024K) DRAMs TMX4C1024 TMX4C1025 TMX4C1026 TMX4C1027 TMX4C1029		

Numbers in parentheses indicate overall complexity.

DYNAMIC RAM MODULE REFERENCE GUIDE

1

General Information

WORDS	BITS PER WORD				
	1	4	5	8	9
16K				TM4416KU8	
64K		(256K) TM4164EC4	(320K) TM4164EQ5	(512K) TM4164FL8 TM4164FM8 TM4464LU8	(576K) TM4164EL9 TM4164FM9
64K Multiport Video RAM		(256K) TM4161EV4 TM4161GW4 TM4161GY4	(320K) TM4161EP5		
256K		(1024K) TM4256EC4 TM4257EC4	(1280K) TM4256EQ5 TM4257EQ5	(2048K) TM4256FL8 TM4257FL8 TM4256GU8 TM4257GU8 TM4256GP8 TM4256GV8	(2304K) TM4256EL9 TM4257EL9 TM4256GU9 TM4257GU9 TM4256GP8 TM4256GV9
512K		(2048K) TM4256HE4			
1 Meg	(1024K) TM4256FC1 TM4257FC1				

SELECTION GUIDE

DRAM SELECTION GUIDE

Density	Device Number	Organization	Access Time Max (ns) t _a (R)	Cycle Time Min (ns)	Power Supplies (V)	Power Dissipation Max (mW)		Pins	Package [†]	Page
						Active	Standby			
18K	TMS4116-15	16K X 1	150	375	± 5, 12	462	20	16	N	4-3
	TMS4116-20		200	375						
	TMS4116-25		250	410						
64K	TMS4164-12	64 X 1	120	230	5	264	28	16	N, FP	4-41
	TMS4164-15		150	260		248	28			
	TMS4164-20		200	330		204	28			
64K	TMS4416-12	16K X 4	120	230	5	297	28	18	N, FP	4-99
	TMS4416-15		150	260		264	28			
	TMS4416-20		200	330		231	28			
64K	TMS4161-15	64K X 1, Multiport Video RAM	150	240	5	523	110	20	N, FM	4-17
	TMS4161-20		200	315	5	495	110	20	N, FM	
256K	TMS4256-12	256K X 1, Page Mode	120	230	5	413	25	16	N, FM	4-75
	TMS4256-15		150	260		358	25			
	TMS4256-20		200	330		275	25			
256K	TMS4257-12	256K X 1, Nibble Mode	120	230	5	413	25	16	N, FM	4-75
	TMS4257-15		150	260		358	25			
	TMS4257-20		200	330		275	25			
256K	TMS4464-12	64K X 4	120	230	5	440	28	18	N, FM	4-117
	TMS4464-15		150	260		385	28			
	TMS4464-20		200	330		330	28			
256K	TMX4461-12 [‡]	64K X 4, Multiport Video RAM	120	230	5	TBD	TBD	24	N	4-135
	TMX4461-15 [‡]		150	260		TBD	TBD			
1 MEG	TMX4C102_-10 [‡]	1M X 1	100	200	5	TBD	TBD	18	N, DJ	4-139
	TMX4C102_-12 [‡]		120	230		TBD	TBD			
	TMX4C102_-15 [‡]		150	260		TBD	TBD			
1 MEG	TMX44C25_-10 [‡]	256K X 4	100	200	5	TBD	TBD	20	N, DJ	4-137
	TMX44C25_-12 [‡]		120	230		TBD	TBD			
	TMX44C25_-15 [‡]		150	260		TBD	TBD			

†N = Plastic DIP
 FP = Plastic Chip Carrier
 FM = Plastic Chip Carrier
 DJ = Plastic SOJ Package

[‡]Preliminary Target Specifications for product under development by TI.

DYNAMIC RAM MODULE SELECTION GUIDE

Density	Device Number	Organization	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply (V)	Power Dissipation Max (mW)		Pins	Package	Page
						Active	Standby			
128K	TM4416KU8-12	16K X 8	120	230	5	594	55	30	Socketable	5-237
	TM4416KU8-15		150	230		55				
256K	TM4164EC4-12	64K X 4	120	230	5	594	112	22	Leaded	5-51
	TM4164EC4-15		150	260		992	112			
	TM4164EC4-20		200	330		816	112			
256K	TM4161EV4-15	64K X 4, Multiport Video RAM	150	240	5	2092	440	31	Leaded	5-25
	TM4161EV4-20		200	315		1980	440			
256K	TM4161GW4-15	64K X 4, Multiport Video RAM	150	240	5	2092	440	30	Socketable	5-47
	TM4161GW4-20		200	315		1980	440			
256K	TM4161GY4-15	64K X 4, Multiport Video RAM	150	240	5	2092	440	30	Leaded	5-47
	TM4161GY4-20		200	315		1980	440			
320K	TM4161EP5-15	64K X 5, Multiport Video RAM	150	240	5	2615	550	35	Leaded	5-3
	TM4161EP5-20		200	315		2475	550			
320K	TM4164EQ5-12	64K X 5	120	230	5	1320	140	24	Leaded	5-81
	TM4164EQ5-15		150	260		1240	140			
	TM4164EQ5-20		200	330		1020	140			
512K	TM4164FL8-12	64K X 8	120	230	5	2112	224	30	Leaded	5-99
	TM4164FL8-15		150	260		1984	224			
	TM4164FL8-20		200	330		1632	224			
512K	TM4164FM8-12	64K X 8	120	230	5	2112	224	30	Socketable	5-99
	TM4164FM8-15		150	260		1984	224			
	TM4164FM8-20		200	330		1632	224			
512K	TM4464LUB-12	64K X 8	120	230	5	880	55	30	Socketable	5-247
	TM4464LUB-15		150	260		770	55			
576K	TM4164EL9-12	64K X 9	120	230	5	2376	252	30	Leaded	5-67
	TM4164EL9-15		150	260		2232	252			
	TM4164EL9-20		200	330		1836	252			
576K	TM4164FM9-12	64K X 9	120	230	5	2376	252	30	Socketable	5-67
	TM4164FM9-15		150	260		2232	252			
	TM4164FM9-20		200	330		1836	252			
1024K	TM4256FC1-12†	1M X 1	120	230	5	429	99	22	Leaded	5-181
	TM4256FC1-15†		150	260		374	99			
	TM4256FC1-20†		200	330		319	99			
1024K	TM4256EC4-12†	256K X 4	120	230	5	1716	99	22	Leaded	5-111
	TM4256EC4-15†		150	260		1496	99			
	TM4256EC4-20†		200	330		1276	99			

Continued next page.

†All 256K DRAM SIPs available with page-mode access (TM4256___) or nibble-mode access (TM4257___).

SELECTION GUIDE

DYNAMIC RAM MODULE SELECTION GUIDE (CONCLUDED)

Density	Device Number	Organization	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply (V)	Power Dissipation Max (mW)		Pins	Package	Page
						Active	Standby			
1280K	TM4256EQ5-12†	256K X 5	120	230	5	2145	124	22	Leaded	5-157
	TM4256EQ5-15†		150	260		1870	124			
	TM4256EQ5-20†		200	330		1595	124			
2048K	TM4256FL8-12†	256K X 8	120	230	5	3432	201	30	Leaded	5-205
	TM4256FL8-15†		150	260		2992	201			
	TM4256FL8-20†		200	330		2552	201			
2048K	TM4256GU8-12†	256K X 8	120	230	5	3432	201	30	Socketable	5-205
	TM4256GU8-15†		150	260		2992	201			
	TM4256GU8-20†		200	330		2552	201			
2048K	TM4256GP8-12†	256K X 8	120	230	5	3432	201	30	Low Profile, Socketable with Presence Detect	5-225
	TM4256GP8-15†		150	260		2992	201			
	TM4256GP8-20†		200	330		2552	201			
2048K	TM4256GV8-12†	256K X 8	120	230	5	3432	201	30	Low Profile, Leaded with Presence Detect	5-225
	TM4256GV8-15†		150	260		2992	201			
	TM4256GV8-20†		200	330		2552	201			
2048K	TM4256HE4-12†	512K X 4	120	230	5	1716	99	24	Leaded	5-233
	TM4256HE4-15†		150	260		1496	99			
	TM4256HE4-20†		200	330		1276	99			
2304K	TM4256EL9-12†	256K X 9	120	230	5	3861	226	30	Leaded	5-137
	TM4256EL9-15†		150	260		3366	226			
	TM4256EL9-20†		200	330		2871	226			
2304K	TM4256GU9-12†	256K X 9	120	230	5	3861	226	30	Socketable with Presence Detect	5-137
	TM4256GU9-15†		150	260		3366	226			
	TM4256GU9-20†		200	330		2871	226			
2304K	TM4256GP9-12†	256K X 9	120	230	5	3861	226	30	Low Profile, Socketable with Presence Detect	5-229
	TM4256GP9-15†		150	260		3366	226			
	TM4256GP9-20†		200	330		2871	226			
2304K	TM4256GV9-12†	256K X 9	120	230	5	3861	226	30	Low Profile, Leaded with Presence Detect	5-229
	TM4256GV9-15†		150	260		3366	226			
	TM4256GV9-20†		200	330		2871	226			

† All 256K DRAM SIPs available with page-mode access (TM4256_...) or nibble-mode access (TM4257_...).

EPROM SELECTION GUIDE

Density	Device Number	Organization	Process	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply/ Tolerance (V)	Power Dissipation Max (mW)		Pins	Package †	Page
							Active	Standby			
32K	TMS2732A-17	4K X 8	NMOS	170	170	5 ± 5%	657	158	24	J	6-3
	TMS2732A-20			200	200						
	TMS2732A-25			250	250						
	TMS2732A-45			450	450						
64K	TMS2764-17	8K X 8	NMOS	170	170	5 ± 5%	788	184	28	J	6-11
	TMS2764-20			200	200						
	TMS2764-25			250	250						
	TMS2764-45			450	450						
64K	TMS27C64-1 ‡	8K X 8	CMOS	150	150	5 ± 5%	210	1.4	28	J	6-21
	TMS27C64-15 ‡			150	150	5 ± 10%	220				
	TMS27C64-2 ‡			200	200	5 ± 5%	210				
	TMS27C64-20 ‡			200	200	5 ± 10%	220				
	TMS27C64 ‡			250	250	5 ± 5%	210				
	TMS27C64-25 ‡			250	250	5 ± 10%	220				
	TMS27C64-3 ‡			300	300	5 ± 5%	210				
	TMS27C64-30 ‡			300	300	5 ± 10%	220				
	TMS27C64-4 ‡			450	450	5 ± 5%	210				
TMS27C64-45 ‡	450	450	5 ± 10%	220							
128K	TMS27C128-1	16K X 8	CMOS	150	150	5 ± 5%	210	1.4	28	J	6-29
	TMS27C128-15			150	150	5 ± 10%	220				
	TMS27C128-2			200	200	5 ± 5%	210				
	TMS27C128-20			200	200	5 ± 10%	220				
	TMS27C128			250	250	5 ± 5%	210				
	TMS27C128-25			250	250	5 ± 10%	220				
	TMS27C128-3			300	300	5 ± 5%	210				
	TMS27C128-30			300	300	5 ± 10%	220				
	TMS27C128-4			450	450	5 ± 5%	210				
TMS27C128-45	450	450	5 ± 10%	220							
256K	TMS27C256-1	32K X 8	CMOS	170	170	5 ± 5%	210	1.4	28	J	6-37
	TMS27C256-17			170	170	5 ± 10%	220				
	TMS27C256-2			200	200	5 ± 5%	210				
	TMS27C256-20			200	200	5 ± 10%	220				
	TMS27C256			250	250	5 ± 5%	210				
	TMS27C256-25			250	250	5 ± 10%	220				
	TMS27C256-3			300	300	5 ± 5%	210				
	TMS27C256-30			300	300	5 ± 10%	220				
	TMS27C256-4			450	450	5 ± 5%	210				
TMS27C256-45	450	450	5 ± 10%	220							

Continued next page.

†J = Ceramic DIP

‡ Advance information for product under development by TI.

SELECTION GUIDE

EPROM SELECTION GUIDE (CONCLUDED)

Density	Device Number	Organization	Process	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply/ Tolerance (V)	Power Dissipation Max (mW)		Pins	Package [†]	Page
							Active	Standby			
512K	TMX27C512-2 [‡]	64K X 8	CMOS	200	200	5 ± 5%	263	1.4	28	J	6-45
	TMX27C512-20 [‡]			200	200	5 ± 10%	275				
	TMX27C512 [‡]			250	250	5 ± 5%	263				
	TMX27C512-25 [‡]			250	250	5 ± 10%	275				
	TMX27C512-3 [‡]			300	300	5 ± 5%	263				
	TMX27C512-30 [‡]			300	300	5 ± 10%	275				
	TMX27C512-4 [‡]			450	450	5 ± 5%	263				
TMX27C512-45 [‡]	450	450	5 ± 10%	275							

[†]J = Ceramic DIP

[‡] Preliminary Target Specifications for product under development by TI.

PROM (OTP) SELECTION GUIDE

Density	Device Number	Organization	Process	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply/ Tolerance (V)	Power Dissipation Max (mW)		Pins	Package [†]	Page
							Active	Standby			
32K	TMS27P32A-25	4K X 8	NMOS	250	250	5 ± 5%	657	158	24	N	6-47
	TMS27P32A-30			300	300						
	TMS27P32A-45			450	450						
64K	TMS27P64-25	8K X 8	NMOS	250	250	5 ± 5%	788	184	28	N	6-53
	TMS27P64-30			300	300						
	TMS27P64-45			450	450						
128K	TMX27PC128-2 [‡]	16K X 8	CMOS	200	200	5 ± 5%	210	1.4	28	N	6-61
	TMX27PC128-20 [‡]			200	200	5 ± 10%	220				
	TMX27PC128 [‡]			250	250	5 ± 5%	210				
	TMX27PC128-25 [‡]			250	250	5 ± 10%	220				
	TMX27PC128-3 [‡]			300	300	5 ± 5%	210				
	TMX27PC128-30 [‡]			300	300	5 ± 10%	220				
	TMX27PC128-4 [‡]			450	450	5 ± 5%	210				
TMX27PC128-45 [‡]	450	450	5 ± 10%	220							
256K	TMX27PC256-2 [‡]	32K X 8	CMOS	200	200	5 ± 5%	210	1.4	28	N	6-63
	TMX27PC256-20 [‡]			200	200	5 ± 10%	220				
	TMX27PC256 [‡]			250	250	5 ± 5%	210				
	TMX27PC256-25 [‡]			250	250	5 ± 10%	220				
	TMX27PC256-3 [‡]			300	300	5 ± 5%	210				
	TMX27PC256-30 [‡]			300	300	5 ± 10%	220				
	TMX27PC256-4 [‡]			450	450	5 ± 5%	210				
	TMX27PC256-45 [‡]			450	450	5 ± 10%	220				

[†]N = Plastic DIP

[‡] Preliminary Target Specifications for products under development by TI.

ROM SELECTION GUIDE

Density	Device Number	Organization	Process	Access Time Max (ns)	Cycle Time Min (ns)	Power Supply (V)	Power Dissipation Max (mW)		Pins	Package [†]	Page
							Active	Standby			
32K	TMS2332-15	4K X 8	NMOS	150	150	5	330	83	24	N	7-3
	TMS2332-20			200	200						
	TMS2332-25			250	250						
32K	TMS4732-15	4K X 8	NMOS	150	150	5	330	83	24	N	7-15
	TMS4732-20			200	200						
	TMS4732-25			250	250						
64K, JEDEC Approved Pinout	TMS2364-15	8K X 8	NMOS	150	150	5	330	83	28	N	7-9
	TMS2364-20			200	200						
	TMS2364-25			250	250						
64K	TMS4764-15	8K X 8	NMOS	150	150	5	330	83	24	N	7-21
	TMS4764-20			200	200						
	TMS4764-25			250	250						
128K	TMS47128-20	16K X 8	NMOS	200	200	5	330	83	28	N	7-27
	TMS47128-25			250	250						
	TMS47128-35			350	350						
256K	TMS47256-20	32K X 8	NMOS	200	200	5	330	83	28, 32	N, FM	7-33
	TMS47256-25			250	250						
	TMS47256-35			350	350						
256K	TMS47C256-15 [‡]	32K X 8	CMOS	150	150	5	220	3	28, 32	N, FM	7-39
	TMS47C256-20 [‡]			200	200						
	TMS47C256-25 [‡]			250	250						
512K	TMS47C512-20 [‡]	64K X 8	CMOS	200	200	5	TBD	TBD	28, 32	N, FM	7-45
	TMS47C512-25 [‡]			250	250						
	TMS47C512-30 [‡]			300	300						
1024K	TMS47C1024-20 [‡]	128K X 8	CMOS	200	200	5	TBD	TBD	28, 32	N, FM	7-51
	TMS47C1024-25 [‡]			250	250						
	TMS47C1024-30 [‡]			300	300						

†N = Plastic DIP

FM = Plastic Chip Carrier

‡Advance Information for products under development by TI.