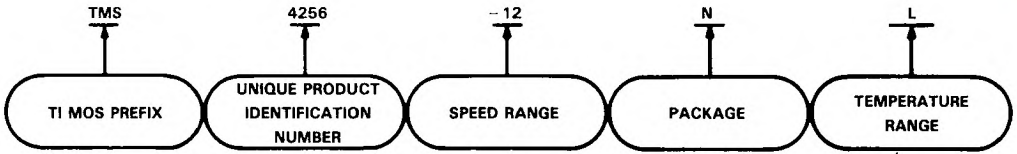


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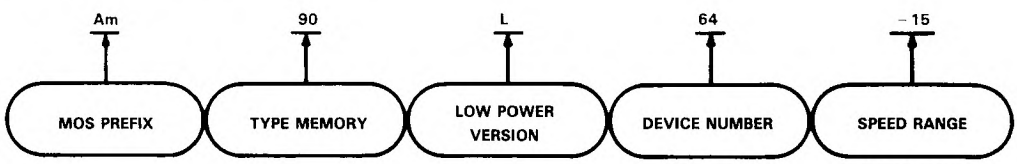
**PART I – ALTERNATE VENDOR PART NUMBERING (EXAMPLES)
BASED ON AVAILABLE PUBLISHED DATA**

TEXAS INSTRUMENTS (TI)



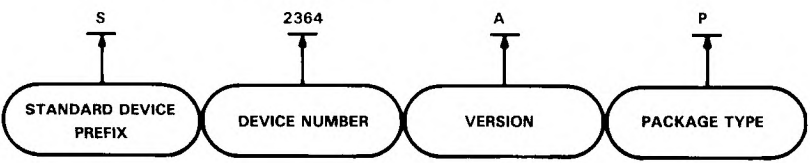
	Max Access		
TMS Commercial MOS	- 4 45 ns -20 200 ns	DJ Plastic SOJ	E -40°C to 85°C
SMJ Military MOS	- 5 55 ns -25 250 ns	FE Ceramic Chip Carrier	L 0°C to 70°C
TMX Pre-production MOS	- 7 70 ns -30 300 ns	FG Ceramic Chip Carrier	M -55°C to 125°C
	-10 100 ns -35 350 ns	FM Plastic Chip Carrier	S -55°C to 100°C
	-12 120 ns -45 450 ns	FP Plastic Chip Carrier	
	-15 150 ns	J Cerpak/Cerdip	
		JD Side Braze	
		N Plastic DIP	

ADVANCED MICRO DEVICES (AMD)



	Max Access
90 DRAM	- 2 200 ns - 10 100 ns
91 MOS RAM	- 3 300 ns - 15 150 ns
92 MOS	- 4 450 ns - 20 200 ns
27 EPROM	

AMERICAN MICROSYSTEMS, INC. (AMI)

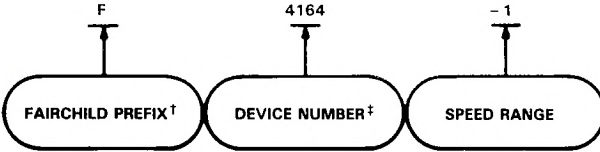


INTERCHANGEABILITY GUIDE

FAIRCHILD

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Interchangeability Guide



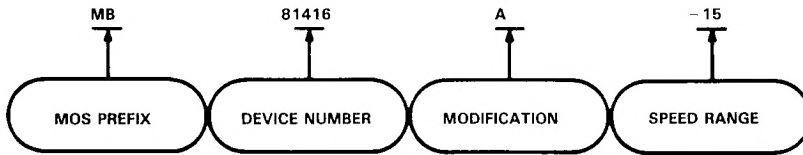
Max Access

- 1	120 ns
- 2	150 ns
- 3	200 ns
- 4	250 ns

†May be omitted.

‡Inclusion of an "L" indicates low-power version.

FUJITSU

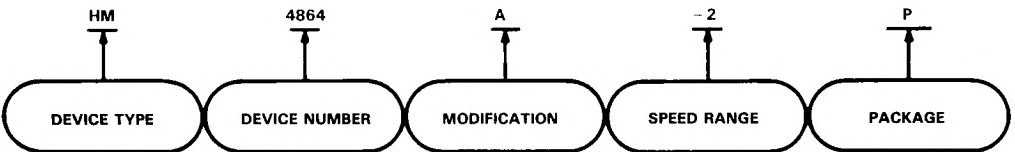


MB Fujitsu
MBM Industry Standard Prefix

Max Access

- 10	100 ns
- 12	120 ns
- 15	150 ns

HITACHI



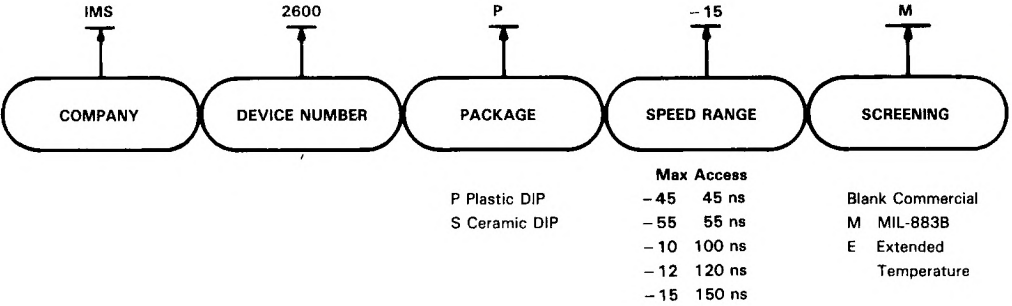
HM RAM
HN ROM

Max Access

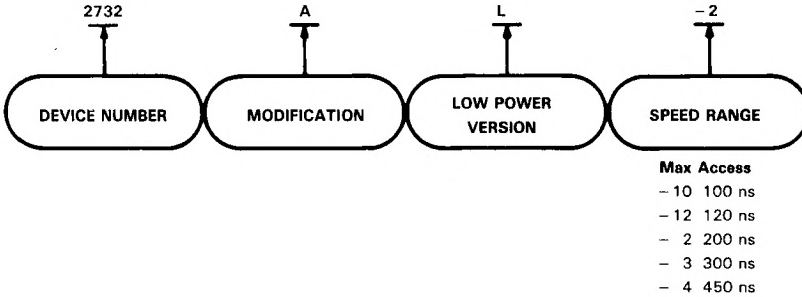
- 1	Fastest	- 15	150 ns
- 2		- 20	200 ns
- 3		- 25	250 ns
- 4	Slowest	- 30	300 ns
- 12		- 45	450 ns

P Plastic

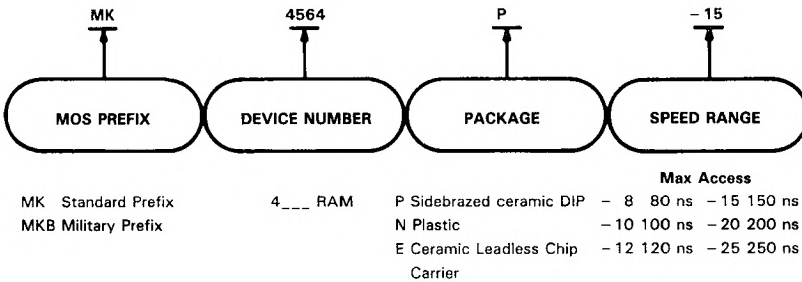
INMOS



INTEL



MOSTEK

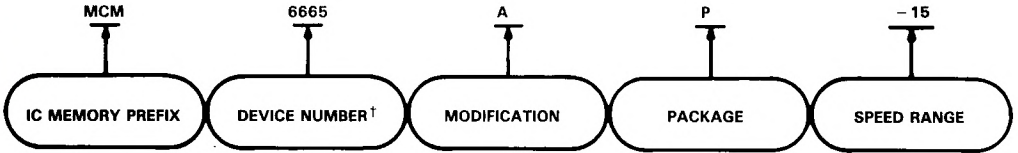


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Interchangeability Guide

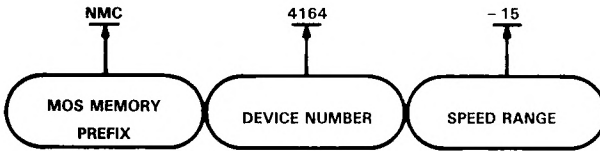
MOTOROLA



	Max Access	
P Plastic	- 10 100 ns	- 25 250 ns
	- 12 120 ns	- 30 300 ns
	- 15 150 ns	- 45 450 ns
	- 20 200 ns	

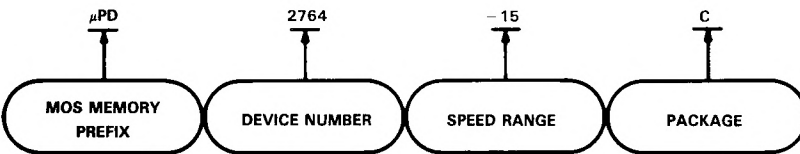
[†]Inclusion of an "L" indicates low power version.

NATIONAL SEMICONDUCTOR



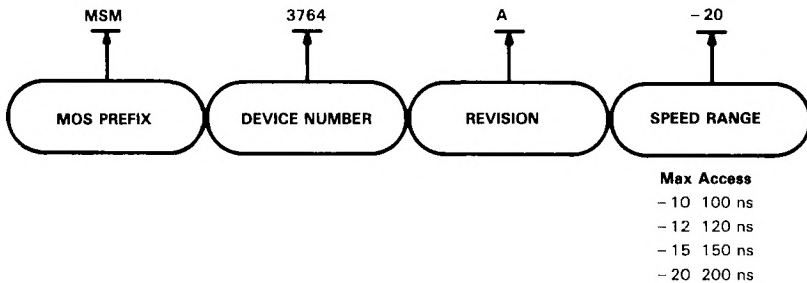
Max Access	
- 12 120 ns	
- 15 150 ns	
- 20 200 ns	

NEC

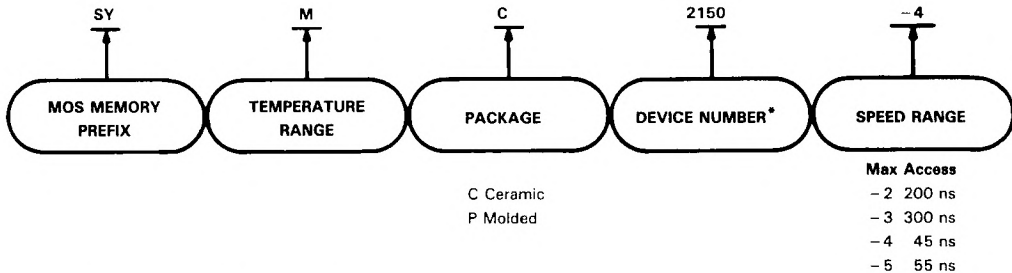


Max Access		
- 10 100 ns	- 20 200 ns	C Plastic DIP
- 12 120 ns	- 25 250 ns	D Ceramic DIP
- 15 150 ns	- 30 300 ns	

OKI SEMICONDUCTOR (OKI)

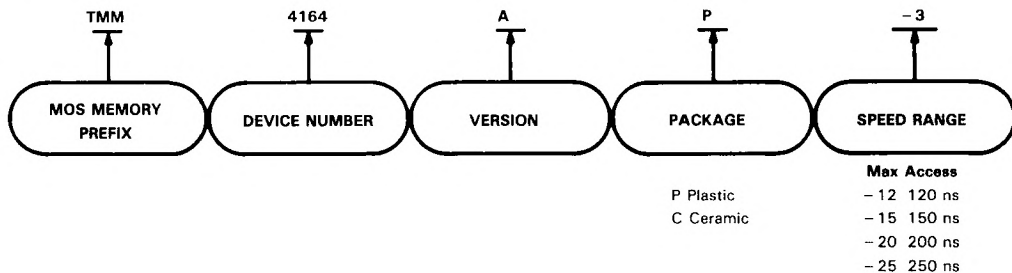


SYNERTEK



*Inclusion of an alpha character indicates a device modification.

TOSHIBA

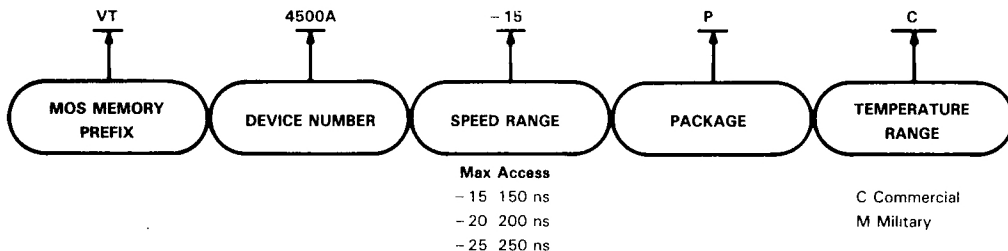


INTERCHANGEABILITY GUIDE

VLSI TECHNOLOGY

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Interchangeability Guide



PART II — ALTERNATE SOURCES†

DYNAMIC RAMS

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
16K X 1 (3 Supply)	TI	AMD ITT Mostek Motorola National NEC Toshiba	TMS4116 AM9016F ITT4116 MK4116 MCM4116B MM5290 μPD416 TMM416
64K X 1 (5 V)	TI	AMD Fairchild Fujitsu Hitachi Inmos Intel Matsushita Micron Tech. Mitsubishi Mostek Motorola National NEC Oki Siemens Toshiba TRISTAR	TMS4164‡ AM9064 F64K MB8264A/MB8265A HM4864/HM4864A IMS2600‡ 2164A MN4164 MT4264‡ M5K4164 MK4564 MCM6665A NMC4164‡ μPD4164 MSM3764 HYB4164 TMM4164 KM4164A
64 K X 1 Multiport Video RAM (5 V)	TI	AT&T	TMS4161 M51064PX
16K X 4 (5 V)	TI	Fujitsu Hitachi Inmos Mitsubishi	TMS4416 MB81416 HM48416A IMS2620 M5M4416

Continued next page.

†Based on available published data. (Official alternate sourcing agreements not necessarily implied.) All devices listed operate over the 0°C to 70°C temperature range.

‡These devices have a 256 cycle, 4 ms refresh scheme. All others refresh in 2 ms.

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Interchangeability Guide

DYNAMIC RAMS (CONCLUDED)

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
256K X 1	TI	Fujitsu Hitachi Micron Tech. Mitsubishi Motorola NEC Oki Toshiba Western Electric	TMS4256/TMS4257 MB81257/MB81256 HM50256/HM50257 MT1256 M5M4256 MCM6256 μ PD41256/ μ PD41257 MSM37256 TMM41256 WCM41256
64K X 4 (5 V)	TI	Hitachi Micron Tech. NEC	TMS4464 HM50464/HM50465 MT4064 μ PD41256

EPROMS

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
4K X 8 (5 V)	TI	AMD Fujitsu Hitachi Intel Mitsubishi NEC Oki Toshiba	TMS2732A Am2732 MBM2732A HN462732 2732A M5L2732 μ PD2732 MSM2732 TMM2732
8K X 8 (5 V)	TI	AMD Fairchild Fujitsu Hitachi Intel Mitsubishi NEC Oki Seeq Toshiba	TMS2764 Am2764 2764 MBM2764 HN482764 2764 M5L2764 μ PD2764 MSM2764A 2764 TMM2764
8K X 8 (5 V)	TI	AMD Fujitsu Hitachi Intel NEC	TMS27C64 Am27C64 MBM27C64 HN27C64 27C64 μ PD27C64

Continued next page.

EPROMS (CONCLUDED)

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
16K X 8 (5 V)	TI	AMD	TMS27C128
		Fujitsu	Am27128A
		Hitachi	MBM27128
		Intel	HN4827128
		Mitsubishi	27128
		NEC	M5L27128
		Oki	μPD27128
		Seeq	MSM27128A
		Toshiba	27128
			TMM27128
32K X 8 (5 V)	TI	AMD	TMS27C256
		Fujitsu	Am27256
		Hitachi	MBM27256
		Intel	HN27256
		National	27256/27C256
		NEC	NM27C256
		Seeq	μPD27256/μPD27C256
		Toshiba	27C256
	TC57256		

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Interchangeability Guide

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
4K X 8 (5 V)	TI	AMD GI Motorola NEC Oki Signetics Synertek Toshiba VTI	TMS4732 Am9232 RO-3-9332 MCM68A332 μ PD2332 MSM2932 2632A SY2332 TMM333 VT2332
4K X 8 (5 V)	TI	AMD GI Synertek Toshiba VTI	TMS2332 Am9233 RO9333 SY2333 TMM2332 VT2333
8K X 8 (5 V) 24 pin	TI	AMD GI GTE Micro Mostek Motorola NCR NEC Oki Rockwell SGS Signetics Synertek VTI	TMS4764 Am9264C RO9464C G2364 MK36000 MCM68364 NCR2364 μ PD2364 MSM2965 R2364A M2364 2664A SY2364 VT2364
8K X 8 (5 V) 28 pin	TI	AMD GI Motorola NCR Rockwell SGS Synertek VTI	TMS2364 Am9265C RO9864C MCM68370 NCR2365 R2364B M37000 SY2365 VT2365

Continued next page.

ROMS (CONCLUDED)

ORGANIZATION	VENDOR		PART NUMBER
	TI	ALTERNATE SOURCES	
16K X 8 (5 V)	TI	AMD EXEL GI Gould AMI NCR NEC Oki Sharp Signetics VTI	TMS47128 Am92128D XLS23128 RO9128C S23128B NCR23128 μPD23128 MSM38128A LH23128 23128 23128
32K X 8 (5 V)	TI	AMD EXEL Gould AMI Mostek NCR NEC Signetics Synertek VTI	TMS47256 Am92256 XLS23256 S23256C MK38000 NCR23256 μPD23256 23256A SY23256 VT23256
32K X 8 (5 V)	TI	Fujitsu GTE Micro Hitachi Motorola NCR Oki RCA SMOS Toshiba	TMS47C256 MB83256 G53256 HN613256H MCM65256 NCR23C256 MSM53256 CDM53256 SMM2325/SMM2326 I.M.M. 5.14 23256
64 K X 8 (5 V)	TI	GI Sharp VTI	RO9512 LH53512 VT23512
128K X 8 (5 V)	TI	GI Hitachi NEC	TMS47C1024 RO91000 (NMOS) HN62301 μPD231000 (NMOS)