

Microcomputers

■ Digital Signal Processors (DSP), MN1900/1920/1930 Family

Category	Type No.	ROM (K × 32-bit)	RAM1 (× 16-bit)	RAM2 (× 16-bit)	Speed (ns)	Supply Voltage (typ) (V)	Package	Evaluator		Remarks
								No.		
MN1900 series	MN19091A	8 ext.	258 built-in	512 built-in, 4K ext.	100	4.75 to 5.25	PGA144-C-S15U	L103	—	Evaluator
	MN19041A	4	258 built-in	512 built-in, 4K ext.	100	4.75 to 5.25	QFP084-P-1818	L72	MN19091A	
	MN1900003	64 ext.	514 built-in	2K built-in, 64K ext.	100	4.75 to 5.25	PGA144-C-S15U	L103	—	Evaluator MN19091A RAM expanded version
	MN1900402	4	514 built-in	1K built-in, 4K ext.	100	4.75 to 5.25	QFP084-P-1818	L72	MN1900003	MN19041A RAM expanded version
	MN1900403	4	258 built-in	512 built-in	200	3.5 to 5.5	TQFI080-P-0530	L67	MN19091A	
	MN1900011	64 ext.	1026 built-in	3K built-in 512K ext.	100	4.75 to 5.25	PGA181-C-S15U	L105	—	Evaluator
	MN1901012	10	450 built-in	1792 built-in data ROM 3.5K built-in	83	4.75 to 5.5	QFP100-P-1818	L76	MN1900011	PCM-10DEC 1/F built-in
	MN1901611	16	514 built-in	2.5K built-in 512K ext.	80	4.75 to 5.5	QFH128-P-1818	L83	MN1900011	PCM-10DEC 1/F built-in
MN1920 series	MN1920001	64 ext.* ²	514* ³ built-in	2.5K built-in* ³ , 16M ext.	80	4.75 to 5.25	QFP208-P-2828 PGA281-C-S19U	L94 L107	—	Evaluator
	MN1920802	8* ²	514* ³ built-in	2K built-in* ³ , 16M ext.	80	4.75 to 5.25	QFP124-P-2828	L80	MN1920001	
MN1930 series	MN1932801	28* ³	—	6K built-in data ROM 30K built-in	27	2.7 to 3.3	TQFP100-P-1414	L78	MN1932801	Double speed MAC built-in
	▲MN1933211	32* ³	—	6K built-in data ROM 30K built-in	21.7	2.7 to 3.3	TQFP100-P-1414	L78	MN1933211	Double speed MAC built-in
Low power series	MN1920811	8	512 built-in	2K built-in data ROM 2.5K built-in	93	3.5 to 3.9	LQFP128-P-1818	L81	MN1920811	Double speed MAC built-in
	MN1920813	8	512 built-in	2K built-in data ROM 2.5K built-in	93 68	3.5 to 3.9 4.5 to 5.5	TQFP100-P-1414	L78	MN1920811	Double speed MAC built-in
	MN1921814	18	512 built-in	2.75K built-in data ROM 2.5K built-in	92 68	3.5 to 3.9 4.5 to 5.5	TQFP100-P-1414	L78	MN1920811	Double speed MAC built-in
	MN1921816	18	512 built-in	2.75K built-in data ROM 2.5K built-in	0.092	2.7 to 3.3	TQFP100-P-1414	L78	MN1920811	Double speed MAC built-in

▲ Under development *1 (K × 16-bit) *2 (K × 40-bit) *3 (× 24-bit)

■ Audio Signal Processor (ASP), MN1940 Family

Category	Type No.	ROM (× 32-bit)	RAM1 (× 16-bit)	RAM2 (× 24-bit)	Speed (ns)	Supply Voltage (V)	Interrupts (Level)	Package	
								No.	
ASP	MN19411	192	128	128 built-in	80	4.5 to 5.5	0	QFP064-P-1818	L58
	MN19412A	512	256	256 built-in	50	4.75 to 5.25	3	QFP084-P-1818	L72
	▲MN19413	512	256	256 built-in	50	4.75 to 5.25	3	QFP100-P-1818	L76

▲ Under development

(Package Symbol) LQFP = Low Profile Quad Flat Package, PGA = Pin Grid Array, QFH = Quad Flat High Package, QFP = Quad Flat Package, TQFI = Thin Quad Flat I-leaded Package, TQFP = Thin Quad Flat Package