❑ MN101C29D

Type	MN101C29D
ROM (×8-bit)	64 K
RAM (×8-bit)	1.5 K
Package	LQFP080-P-1414A *Lead-free
Minimum Instruction Execution Time	0.10 µs (at 4.5 V to 5.5 V, 20 MHz)
Interrupts	• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • External 5 • Timer 2 • Timer 3 • Timer 6 • Time base • Timer 8 (2 systems) • Serial 2 • Key interrupts (8 lines)
Timer Counter	Timer counter 2 : 8-bit × 1 (square-wave output[timer pulse output], PWM output, event count, timer synchronous output, simple pulse width measurement function) Clock source ····· 1/2, 1/4 of system clock frequency; 1/1, 1/4, 1/16, 1/32, 1/64 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Timer counter 3 : 8-bit × 1 (square-wave output[timer pulse output], event count, remote control carrier output) Clock source ····· 1/2, 1/8 of system clock frequency; 1/1, 1/4, 1/16, 1/64, 1/128 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Timer counter 2, 3 can be cascade-connected. Time base timer Clock source ····· 1/1, $1/2^7$, $1/2^8$, $1/2^9$, $1/2^{10}$, $1/2^{13}$, $1/2^{15}$ of OSC oscillation clock frequency; 1/1, $1/2^7$, $1/2^8$, $1/2^9$, $1/2^{10}$, $1/2^{13}$, $1/2^{15}$ of XI oscillation clock frequency Timer counter 6 : 8-bit freerun timer Clock source ····· 1/1 of system clock frequency; 1/1, $1/2^7$, $1/2^{13}$ of OSC oscillation clock frequency; 1/1, $1/2^7$, $1/2^{13}$ of XI oscillation clock frequency Timer counter 8 : 16-bit × 1 Clock source ····· either of system clock, OSC oscillation clock, external clock 1 or external clock 2 divided into 1/1, 1/2, 1/4 and 1/16 (hardware configuration) double buffer type compare register × 2 input capture register × 1 (timer functions) square-wave output (timer pulse output), PWM output (duty continuously variable), event count, simple pulse width measurement function and input capture function Watchdog timer Interrupt source ····· runaway detection frequency selection from $1/2^{16}$, $1/2^{18}$ and $1/2^{20}$ of system clock
Serial Interface	Serial 2 : synchronous type × 1 Synchronous type (MSB or LSB first selectable, 1 to 8 bits arbitrary transmission) Transfer clock source ····· 1/2, 1/4 of system clock frequency; 1/2, 1/4, 1/16, 1/32 of OSC oscillation clock frequency; timer counter 2, 3 output; 1/3 of frequency of the above clocks
Multiplication / Division functions	Singned/unsigned: 16-bit × 16-bit arithmetic operation (execution in 15 cycles) Unsigned: 32-bit ÷ 16-bit arithmetic operation (execution in 17 cycles)

I/O Pins	**I/O**	53	• Common use: 48 • Specified pull-up resistor available • Input/output selectable (bit unit)
	Input	2	• Common use: 1

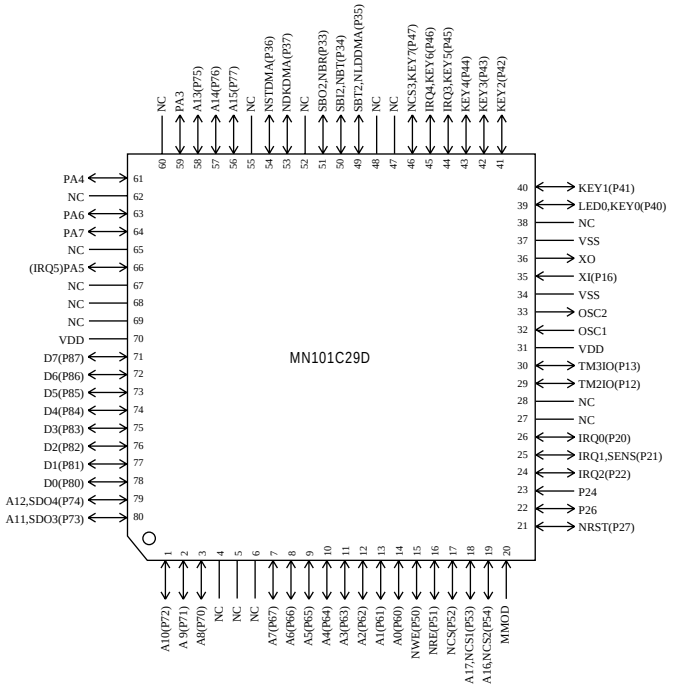
Special Ports High-current drive port × 1

Electrical Characteristics

Supply current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 20 MHz, VDD = 5 V			60	mA
Supply current at STOP	IDD2	VDD = 5 V			10	µA

Pin Assignment



LQFP080-P-1414A *Lead-free

Support Tool

In-circuit Emulator PX-ICE101C / D + PX-PRB101C29-LQFP080-P-1414A (under planning)

Flash Memory Built-in Type

Type	MN101CF29D
ROM (× 8-bit)	64 K
RAM (× 8-bit)	1.5 K
Minimum instruction execution time	0.10 µs (at 4.5 V to 5.5 V, 20 MHz)
Package	LQFP080-P-1414A *Lead-free

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