MN102L230

Type			**MN102L230**
ROM (x8-bit / x16-bit)			Maximum 16M in external total (Control register, Inbuilt RAM, Character multiplex I/F space, VRAM, DRAM, Reserve Space included)
RAM (x16-bit)			2K
Minimum Instruction Execution Time			**100ns (at 4.75 to 5.25V, 20MHz)**
Interrupts			External (4 lines) Internal (6 lines) Timer x 2, A/D x 1, TV peripheral block x 1, Watchdog x 1, NMI x 1 TV peripheral block internal interrupt OSD x 4, Serial x 2, I^2C x 1, MUSE x 4, Remote Control x 5
Timer Counter			**Timer Counter 10, 11 : 16-bit x 2** (1000-division down counter) Clock Source . 1/ (1 to 256) of System Clock Interrupt Source . Underflow of Timer Counter 10, 11 Watchdog 17-bit x 1
Serial Interface			**Serial 0 : 8-bit x 1** (Transmission / Reception of arbitrary bit length, Transfer direction of MSB / LSB selectable, Clock Polarity selectable, Start Condition function) Clock Source 625k, 312 5k, 156 3k, 104 2k, 52 1k, 39 1k, 26 0kHz (at OSC=20MHz) **I^2C x 1** For multi master mode, Bus line (output) has 2 systems Clock Source 89 3k, 78 1k, 62 5k, 52 1k, 44 6k, 39.1kHz (at OSC=20MHz) **MUSE Serial Bus** Responds to arbitrary byte-length transfer, Parity Error, Acknowledge error detection function Clock Source 156 3k, 104 2k, 78 1k, 52 1k, 39 1k, 26 0kHz (at OSC=20MHz)
I/O Pins	**I/O**	**24**	• Common use 2
A/D Inputs			8-bit x 8ch (with S/H)
D/A Inputs			4-bit x 3ch (Analog R, G, B Output)
Special Ports			Remote Control Reception, Character multiplex LSI (MN83601) I/F
CRTC			**Bit map OSD** Packed pixel (4-bit / pixels) method, internal 32 color pallet, 16 colors simultaneously displayed per field, horizontal pixel width 512 to 840 pixels (when display covers entire screen within 28 µs / 32 µs)
Notes			VRAM, DRAM Refresh Controller, Remote control input discriminant circuit built-in
Package			QFP160-P-2828B

Electrical Characteristics

A/D, D/A Characteristics

Parameter	Symbol	Condition	Limit min	Limit typ	Limit max	Unit
A/D Conversion Absolute Error		ADVDD=5V, ADVSS=0V			±5	LSB
A/D Conversion Time		OSC=20MHz	4 0			µs
A/D Analog Input Voltage	VIA		VSS		VDD	V
D/A Full-scale Output Current	IFS	VREF =1 2V, VRIREF=1 2kΩ	4	5	6	mA
D/A Output Voltage Setting Range	VO	RL=200Ω, VREF=1 2V, RIREF=1 2kΩ	0		1 2	V
D/A Non-linear Error	NLE	RL=200Ω, VREF=1 2V, RIREF=1 2kΩ			±0 5	LSB
D/A Differential Non-linear Error	DNLE	RL=200Ω, VREF=1 2V, RIREF=1 2kΩ			±0 5	LSB
D/A Channel Interval Error	IFS	VREF=1 2V, RIREF=1 2kΩ Error from 3-channel average IFS			±3	%

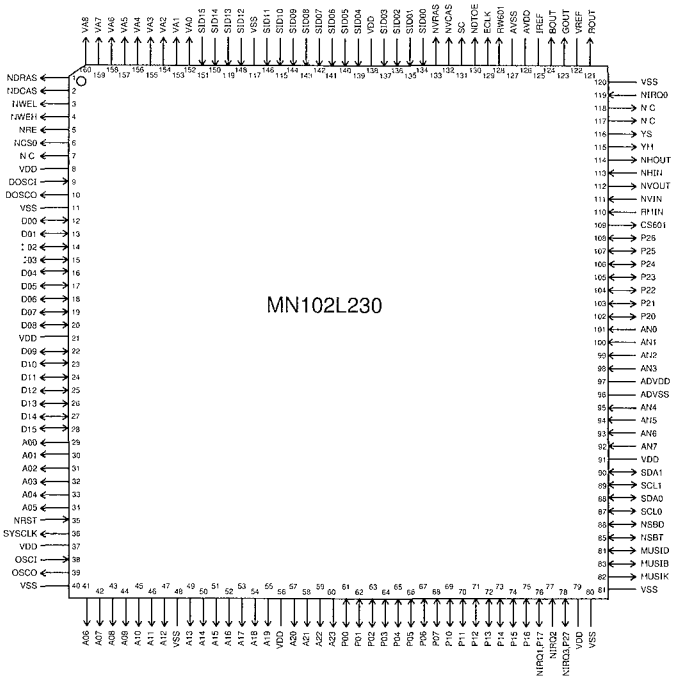
(Ta=25°C, VDD=AVDD=ADVDD=5.0V, VSS=AVSS=ADVSS=0V, fosc=20MHz)

Support Tool

In-Circuit Emulator

PX-ICE102L00 + PX-PRB102L23

Pin Assignement



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NC Nothing connected with pin