# ■ MN102H85K

Туре		MN102H85K			
ROM (x16-bit)		256 K			
RAM (×16-bit)		8 K			
Package		SDIP064-P-0750C *Lead-free			
(Conventional Package)		(SDIP064-P-0750)			
Minimum Instruction Execution Time		83 ns (at 3.0 V to 3.6 V, 12 MHz)			
Interrupts		External (6 lines) Internal (30 lines): Timer $\times$ 11, A/D $\times$ 1, Undefined command $\times$ 1, RESET $\times$ 1, OSD $\times$ 2, Serial $\times$ 4, I <sup>2</sup> C $\times$ 1, Caption $\times$ 4, Remote control $\times$ 1, Address coincidence $\times$ 4			
Timer Counter		8-bit timer × 4 16-bit timer × 2 Watchdog timer: 17-bit × 1			
Serial Interface		I <sup>2</sup> C × 1: for multimaster mode, bus line (output) has 2 systems Sync serial / I <sup>2</sup> C (master) / UART × 2			
Caption		• Built-in sync separator × 2			
I/O Pins	1/0	50 • Common use			
A/D Inputs		8-bit $\times$ 12-ch. (with S/H)			
D/A Outputs		4-bit × 4-ch. (analog R, G, B, YM output)			
PWM		8-bit × 7-ch.			
Special Ports		Remote control reception			
CRTC		3-layer display (graphics, characters, splits)			
Notes		Remote control input discriminant circuit built-in			

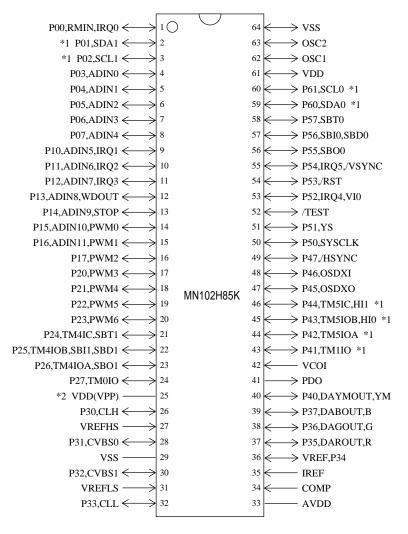
### **Electrical Characteristics**

#### D/A characteristics

Parameter	Symbol	Condition	Limit			Unit
rarameter		Condition		typ	max	Unit
D/Afull-scaleoutputcurrent	IFS	RL = 200 Ω, VREF = 1.2 V, RIREF = 1.2 kΩ		5.0	5.5	mA
D/A output voltage setting range	VO	RL = 200 Ω, VREF = 1.2 V, RIREF = 1.2 kΩ			1.1	V
D/Anon-linearerror	NLE	RL = 200 Ω, VREF = 1.2 V, RIREF = 1.2 kΩ			± 0.5	LSB
D/A differential non-linear error	DNLE	RL = 200 Ω, VREF = 1.2 V, RIREF = 1.2 kΩ			± 0.5	LSB
D/A channel interval error	IFS	$VREF = 1.2 V$ , $RIREF = 1.2 k\Omega$ , $Error from 4-channel average IFS$			±5	%

 $(Ta = 25^{\circ}C, VDD = AVDD = 3.3 \text{ V}, VSS = 0 \text{ V}, fosc = 4 \text{ MHz})$ 





SDIP064-P-0750C \*Lead-free (SDIP064-P-0750)

\*1: 5 V dielectric Nch open drain output pin

\*2: MN102H85K (VDD), MN102HF85K (VPP)

#### **Support Tool**

In-circuit Emulator	PX-ICE102H85-SDIP064-P-0750		
Flash Memory Built-in Type	Туре	MN102HF85K	
	ROM (× 16-bit)	256 K	
	RAM (× 16-bit)	8 K	
	Minimum instruction execution time	83 ns (at 3.0 V to 3.6 V, 12 MHz)	
	Package	SDIP064-P-0750C *Lead-free	
	(Conventional Package)	(SDIP064-P-0750)	
	(Conventional Package)	(SDIP064-P-0750)	

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