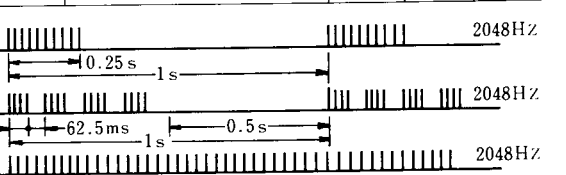


DIGITAL MONOLITHIC INTEGRATED CIRCUITS (MOS)

MOS IC, LSI

			Electrical Characteristics (Ta=25°C)						
Type No.	Function	Maximum Ratings (Ta=25°C)	Item	Symbol	Condition	min.	typ.	max.	Unit
MN6094 MN6095 △ MN6096	CMOS Quartz Clock Circuit with 64Hz Synchronous Motor Driver	VDD=-0.3~+4V	Supply Voltage	VDD		1.2	1.5	1.9	V
		VI=-0.3~+4V	Supply Current	IDD	Without load		25	35	μA
		PD=300mW	Output Saturation Resistance (O1, O2)	Rsat1	IO=3mA			200	Ω
		Topr=-30~+70℃	Output Saturation Resistance (A1)	Rsat2	IO=0.1mA		1	4	kΩ
		Tstg=-40~+100℃	Frequency Variation vs Supply Voltage	Δf/fo	VDD=1.2~1.7V			± 1	ppm
			Osc. Feedback Resistance	Rf		0.5	3		MΩ
		Operating Condition	Osc. Rise Time	tos	VDD=1.2V			1	s
		VDD=1.5V							
		VSS=0							
		fosc=4.19MHz							
MN6220	CMOS Quartz Clock Circuit with Time Signal Generator Usable Either with 0.5Hz Stepper or 16Hz Synchronous Motor	VDD=-0.3~+4V	Supply Current	IDD	Without load		50	70	μA
		VI=-0.3~VDD+0.3V	Power Consumption	Ptot	Without load		75	105	μW
		Topr=-30~+70℃	Output Saturation Resistance (O1, O2)	Rsat(P+N)	VDD=1.2V, IO=3mA		75	100	Ω
		Tstg=-55~+100℃	“H” Level Input Voltage (R)	VIH	CNT, RST, CLR, HRS, SKP	1.1			V
		Operating Condition	“L” Level Input Voltage (R)	VIL	STP, ADJ, CST Pin			0.4	V
			Input Current	IIL	VI=0, RST, CLR, HRS SKP, STP, ADJ, CST Pin	-7.5	-15	-30	μA
		VDD=1.5V	Output Resistance (1)	RO1	Between OTS, OTR Pin and OTC Pin			2	kΩ
		VSS=0	Output Resistance (2)	RO2	Between OTC Pin and VSS Pin			0.5	kΩ
		fosc=4.19MHz	Frequency Variation vs Supply Voltage	Δf/fo	VDD=1.2~1.7V			± 1	ppm
			Osc. Feedback Resistance	Rf		0.5	3		MΩ
			Osc. Rise Time	tos	VDD=1.2V			1	s
		CMOS Watches							
△MN6200	CMOS Digital Quartz Watch Circuit for LCD Driver	VSS=-5~+0.3V	Supply Voltage	VSS	VSS=0V	-1.25	-1.55	-1.80	V
		Topr=-10~+70℃	Supply Current	ISS	VSS=-1.55V Without load			-2.5	μA
		Tstg=-55~+100℃	Output Saturation Voltage	Vsat	tosc=10s			-1.4	V
		Operating Condition	Frequency Variation vs Supply Voltage	Δf/fo	VSS=-1.45~1.55V			± 2	ppm
			Oscillation Rise Time	Rf	VSS=-1.55V		20		MΩ
		VSS=-1.5V VLCD=-3.0V fosc=32.768kHz							
MN6201	CMOS Digital Quartz Watch Circuit for LCD Driver	VSS1=+0.2~-3V	Supply Voltage (1)	VSS1		-1.25	-1.55	-1.8	V
		VSS2=+0.2~-6V	Supply Voltage (2)	VSS2	C1 Open	-2	-3	-3.6	V
		Topr=-20~+70℃	Supply Current	ISS	Without load			-3.6	μA
		Tstg=-55~+100℃	Osc. Start Voltage	VSTA	tosc=10s			-1.4	V
		Operating Condition	Frequency Variation vs Supply Voltage	Δf1/fo	VSS1=-1.45~-1.55V			± 2	ppm
			Osc. Feedback Resistance	Rf			20		MΩ
		VDD=0 VSS1=-1.55V VSS2=-3V fosc=32.768kHz							

△ Preliminary

