

DIGITAL MONOLITHIC INTEGRATED CIRCUITS (MOS)

MOS IC, LSI

Type No.	Function	Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)							
			Item	Symbol	Condition	min.	typ.	max.	Unit	
MN6205	CMOS Digital Quartz Watch Circuit for LCD Driver	V _{SS1} =+0.2~-3V V _{SS2} =+0.2~-6V Topr=-20~+70°C Tstg=-55~+100°C Operating Condition V _{DD} =0 V _{SS1} =-1.55V V _{SS2} =-3V fosc=32.768kHz	Supply Voltage 1)	V _{SS1}		-1.25	-1.55	-1.8	V	
			Supply Voltage 2)	V _{SS2}	C ₁ Open	-2	-3	-3.6	V	
			Supply Current	I _{SS}	Without load, C ₁ =C ₂ =0.1μF			-2.5	μA	
			Osc. Start Voltage	V _{STA}	t _{osc} =10s			-1.4	V	
			Frequency Variation vs Supply Voltage	Δf ₁ /f ₀	V _{SS1} =-1.45~-1.55V			±2	ppm	
			Osc. Feedback Resistance	R _f			20		MΩ	
Timer										
MN6076	Digital AC Clock Timer with ON/OFF Double Time Setting Function	V _{DD} =+0.3~-16V V _I =+0.3~-V _{DD} -0.3V V _O =+0.3~-26V Topr=-10~+70°C Tstg=-30~+125°C Operating Condition V _{DD} =-12V V _{SS} =0V V _{PF} =-10V	Supply Current	I _{DD}			1.3		mA	
			Input Signal Frequency	f _i		DC	50/60	10k	Hz	
			"H" Level Input Voltage All Input	V _{IH}	V _{SS} =0V	0		-1	V	
			"L" Level Input Voltage All Input	V _{IL}	V _{SS} =0V	V _{DD} +1		V _{DD}	V	
			"H" Level Output Current (PM)	I _{OH1}	V _{TH} =-3V		12.0		mA	
			Output Breakdown Voltage (PM)	BV _{O1}	I _{TL} =-10μA			-22	V	
			"H" Level Output Current (^{d&c} _{a&b})	I _{OH2}	V _{TH} =-3V		6		mA	
			Output Breakdown Voltage (^{d&c} _{a&b})	BV _{O2}	I _{TL} =-10μA			-22	V	
			"H" Level Output Current Others	I _{OH3}	V _{TH} =-3V		3		mA	
			Output Breakdown Voltage Others	BV _{O3}	I _{TL} =-10μA			-22	V	
"H" Level Output Current Others	I _{OH4}	V _{TH} =-2V	500			μA				
Output Breakdown Voltage Others	BV _{O4}	I _{TL} =-10μA			-22	V				
BBD's for Audio Signal Delays										
MN3001	Dual 512-stage BBD for Audio Signal Delays	V _{TE} =-20~+0.3V V _{BB} =-0.3~+10V P _D =50mW Topr=-20~+60°C Tstg=-55~+125°C Operating Condition V _{DD} =-15V V _{GG} =-14V V _{BB} =+5V V _{Bias} =-3.3~-4.9V	Signal Delay Time	t _D	f _{cp} =10kHz~800kHz 512+512stages	0.32		51.2	ms	
			Input Signal Frequency	f _i	3dB down from value at f _i =1kHz f _{cp} =40kHz, V _i =2V _{rms}	0		0.3f _{cp}	kHz	
			Input Signal Swing	V _i	f _{cp} =40kHz, f _i =1kHz THD≤2.5%		0.32	1.8	V _{rms}	
			Insertion Loss	L _i	f _{cp} =40kHz, f _i =1kHz V _i =2V _{rms}		8.5	11	dB	
			Total Harmonic Distortion	THD	f _{cp} =40kHz, f _i =1kHz V _i =0.78V _{rms}		0.4	2.5	%	
			Noise Voltage	V _{no}	f _{cp} =80kHz		0.25		mV _{rms}	
			Signal to Ratio	S/N	Weighted "A" curve		70		dB	
MN3002	512-Stage BBD for Audio Signal Delays	V _{TE} =-20~+0.3V V _{BB} =-0.3~+10V P _D =50mW Topr=-20~+60°C Tstg=-55~+125°C Operating Condition V _{DD} =-15V V _{GG} =-14V V _{BB} =+5V V _{Bias} =-3.3~-4.9V	Signal Delay Time	t _D	f _{cp} =10kHz~800kHz	0.32		25.6	ms	
			Input Signal Frequency	f _i	3dB down from value at f _i =1kHz f _{cp} =40kHz, V _i =2V _{rms}	0		0.3f _{cp}	kHz	
			Input Signal Swing	V _i	f _{cp} =40kHz, f _i =1kHz THD≤2.5%			1.8	V _{rms}	
			Insertion Loss	L _i	f _{cp} =40kHz, f _i =1kHz V _i =2V _{rms}		8.5	11	dB	
			Total Harmonic Distortion	THD	f _{cp} =40kHz, f _i =1kHz V _i =0.78V _{rms}		0.4	2.5	%	
			Output Noise Voltage	V _{no}	f _{cp} =80kHz		0.25		mV _{rms}	
			Signal to Noise Ratio	S/N	Weighted "A" curve		70		dB	

