

DIGITAL MONOLITHIC INTEGRATED CIRCUITS (MOS)

MOS IC, LSI

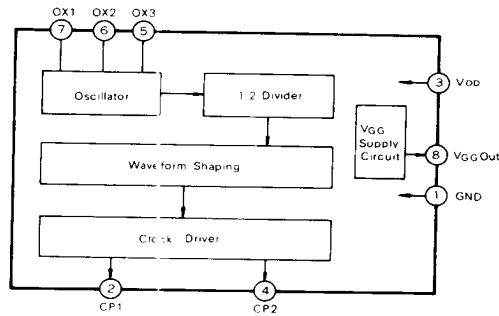
Type No.	Function	Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)								
			Item	Symbol	Condition	min.	typ.	max.	Unit		
BBD Clock Generator, Driver Circuits											
MN3101	CMOS Clock Generator/Driver for BBD	V _{DD} =-18~+0.3V V _I =V _{DD} -0.3~+0.3V V _O =V _{DD} -0.3~+0.3V P _D =200mW T _{opr} =-10~+70°C T _{stg} =-30~+125°C	Supply Current	I _{DD}	Without load Clock output 40kHz		3		mA		
			Power Consumption	P _{tot}			45		mW		
			"H" Level Input Voltage (OX1)	V _{IH}		0		-1	V		
			"L" Level Input Voltage (OX1)	V _{IL}		V _{DD} +1		V _{DD}	V		
			"H" Level Output Current (OX1)	I _{OH1}	V _O =-1V	0.6			mA		
			"L" Level Output Current (OX2)	I _{OL1}	V _O =-14V	0.5			mA		
			"H" Level Output Current (OX3)	I _{OH2}	V _O =-1V	1.5			mA		
			"L" Level Output Current (OX3)	I _{OL2}	V _O =-14V	2			mA		
			"H" Level Output Current (CP1, CP2)	I _{OH3}	V _O =-1V	10			mA		
			"L" Level Output Current (CP1, CP2)	I _{OL3}	V _O =-14V	10			mA		
Operating Condition											
	V _{DD} =-15V	Output Voltage (V _{GG(OUT)})	V _{GG(OUT)}			-14		V			
MN3102	CMOS Clock Generator/Driver for Low Voltage Operation BBD	V _{DD} =-0.3~+12V V _I =-0.3~V _{DD} +0.3V V _O =-0.3~V _{DD} +0.3V P _D =200mW T _{opr} =-10~+70°C T _{stg} =-30~+125°C	Supply Current	I _{DD}	Without load Clock output 40kHz		0.5		mA		
			Power Consumption	P _{tot}			2.5		mW		
			"H" Level Input Voltage (OX1)	V _{IH}		V _{DD} -1		V _{DD}	V		
			"L" Level Input Voltage (OX1)	V _{IL}		0		1	V		
			"H" Level Output Current (OX2)	I _{OH1}	V _O =4V	0.5			mA		
			"L" Level Output Current (OX2)	I _{OL1}	V _O =1V	0.4			mA		
			"H" Level Output Current (OX3)	I _{OH2}	V _O =4V	0.7			mA		
			"L" Level Output Current (OX3)	I _{OL2}	V _O =1V	1			mA		
			"H" Level Output Current (CP1, CP2)	I _{OH3}	V _O =4V	5			mA		
			"L" Level Output Current (CP1, CP2)	I _{OL3}	V _O =1V	5			mA		
Operating Condition											
	V _{DD} =5V	Output Voltage (V _{GG(OUT)})	V _{GG(OUT)}			4.67		V			
* V _{GG} voltage supply for Matsushita low voltage operation BBDS. The voltage might not be suitable for other maker's.											
Electronic Musical Instrument											
MN133	3 + 2 + 1 Frequency Divider	V _{DD} =-33V V _{GG} =-20V V _I =-25V V _F =0.3V P _D =250mW T _{opr} =-30~+75°C T _{stg} =-55~+125°C	Supply Current	I _{GG}				-7	mA		
			"H" Level Input Voltage	V _{IH}				-2.5	V		
			"L" Level Input Voltage	V _{IL}			-9		V		
			"H" Level Output Voltage	V _{OH}	V _{IH} =-2.5V, V _{IL} =-9V			-1	V		
			"L" Level Output Voltage	V _{OL}			-11	V			
			Input Frequency	f _i		DC		100	kHz		
			DC Noise Margin	V _{NH}		1.5			V		
				V _{NL}		2			V		
			Operating Condition								
				V _{DD} =-13V V _{GG} =-30V							

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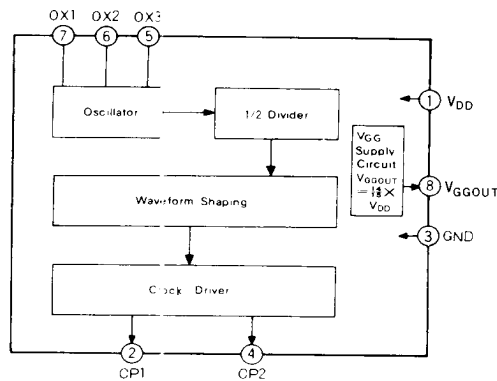
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Block Diagram

MN3101 (Package L-9, 8-Lead Plastic DIL)



MN3102 (Package L-9, 8-Lead Plastic DIL)



MN133 (Package L-12, 14-Lead Plastic DIL)

