

DIGITAL MONOLITHIC INTEGRATED CIRCUITS (MOS)

MOS IC, LSI

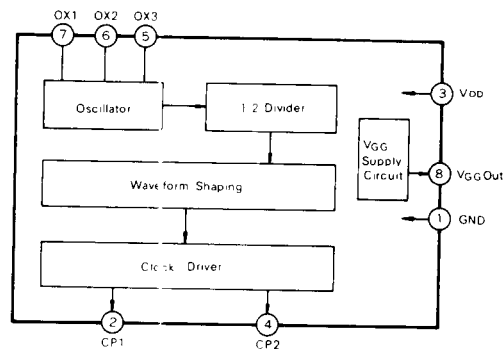
MOS IC, LSI			Electrical Characteristics (Ta=25°C)							
Type No.	Function	Maximum Ratings (Ta=25°C)	Item	Symbol	Condition	min.	typ.	max.	Unit	
BBD Clock Generator, Driver Circuits										
MN3101	CMOS Clock Generator/Driver for BBD	VDD=-18~+0.3V	Supply Current	IDD	Without load		3		mA	
		V1=VDD-0.3~+0.3V	Power Consumption	Ptot	Clock output 40kHz		45		mW	
		V0=VDD-0.3~+0.3V	"H" Level Input Voltage (OX1)	VIH		0		-1	V	
		PD=200mW	"L" Level Input Voltage (OX1)	VIL		VDD+1		VDD	V	
		Topr=-10~+70°C	"H" Level Output Current (OX1)	IOH1	VO=-1V	0.6			mA	
		Tstg=-30~+125°C	"L" Level Output Current (OX2)	IOL1	VO=-14V	0.5			mA	
		Operating Condition	"H" Level Output Current (OX3)	IOH2	VO=-1V	1.5			mA	
			"L" Level Output Current (OX3)	IOL2	VO=-14V	2			mA	
		VDD=-15V	"H" Level Output Current (CP1, CP2)	IOH3	VO=-1V	10			mA	
			"L" Level Output Current (CP1, CP2)	IOL3	VO=-14V	10			mA	
			Output Voltage (VGG(OUT))	VGG(OUT)			-14		V	
MN3102	CMOS Clock Generator/Driver for Low Voltage Operation BBD	VDD=-0.3~+12V	Supply Current	IDD	Without load		0.5		mA	
		V1=-0.3~VDD+0.3V	Power Consumption	Ptot	Clock output 40kHz		2.5		mW	
		V0=-0.3~VDD+0.3V	"H" Level Input Voltage (OX1)	VIH		VDD-1		VDD	V	
		PD=200mW	"L" Level Input Voltage (OX1)	VIL		0		1	V	
		Topr=-10~+70°C	"H" Level Output Current (OX2)	IOH1	VO=4V	0.5			mA	
		Tstg=-30~+125°C	"L" Level Output Current (OX2)	IOL1	VO=1V	0.4			mA	
		Operating Condition	"H" Level Output Current (OX3)	IOH2	VO=4V	0.7			mA	
			"L" Level Output Current (OX3)	IOL2	VO=1V	1			mA	
		VDD=5V	"H" Level Output Current (CP1, CP2)	IOH3	VO=4V	5			mA	
			"L" Level Output Current (CP1, CP2)	IOL3	VO=1V	5			mA	
			Output Voltage (VGG(OUT))	VGG(OUT)			4.67		V	
		* VGG 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	VDD=-33V	Supply Current	IGG				-7	mA	
		VGG=-20V	"H" Level Input Voltage	VIH				-2.5	V	
		V1=-25V	"L" Level Input Voltage	VIL		-9			V	
		VF=0.3V	"H" Level Output Voltage	VOH	VIH=-2.5V, VIL=-9V			-1	V	
		PD=250mW	"L" Level Output Voltage	VOL		-11			V	
		Topr=-30~+75°C	Input Frequency	fi		DC		100	kHz	
		Tstg=-55~+125°C	DC Noise Margin	VNIH		1.5			V	
				VNIL		2			V	
		Operating Condition								
			VDD=-13V VGG=-30V							

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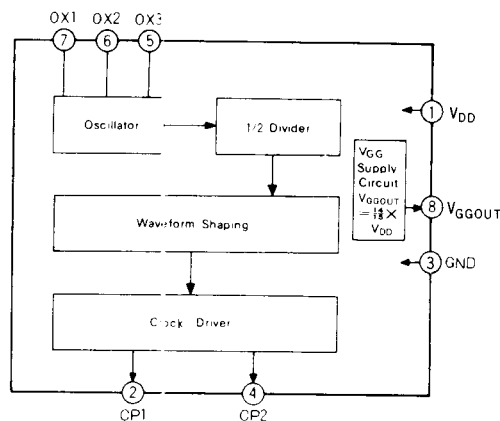
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Block Diagram

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



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



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

