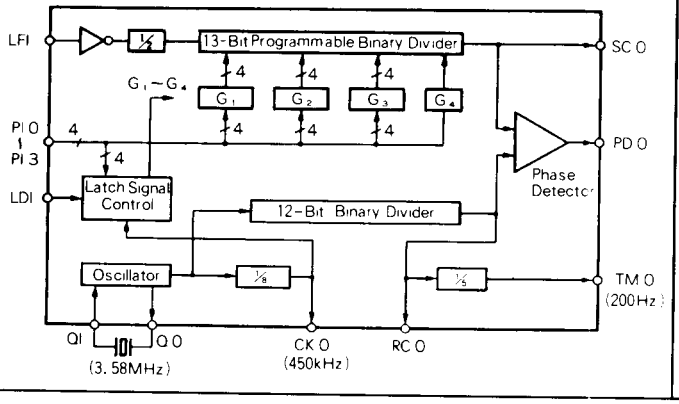
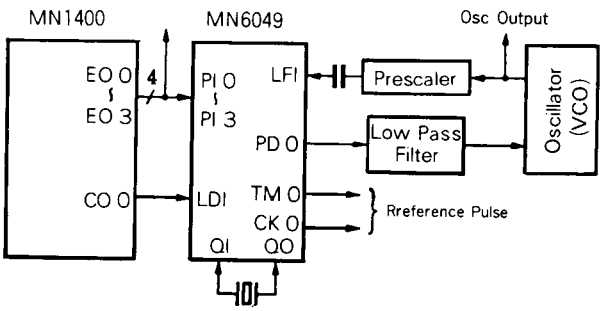
Peripheral LSI's

Type No.	Function	Maximum Ratings (Ta=25°C)	Item	Symbol	Condition	min.	typ.	max.	Unit
MN6049	CMOS Frequency Synthesizer for TV	V_{DD}=−0.3~+9V V_I=−0.3~V_{DD}+0.3V V_O=−0.3~V_{DD}+0.3V Topr=−20~+70℃ Tstg=−55~+100℃	Supply Current	I_{DD}	V_{DD}=7V, Without load			15	mA
			Power Consumption	P_{tot}				105	mW
			Input Frequency Upper Limit	f_i	Input sine wave Free running	15.6			MHz
			Input Voltage Swing	V_i		0.7			V_{P-P}
			Input Current	I_{I1}	LFI V_I=V_{SS}~V_{DD}	−50		+50	μA
		Operating Condition	"H" Level Input Voltage	V_{IH}	PI0~PI3 LDI	3.4		V_{DD}	V
			"L" Level Input Voltage	V_{IL}		V_{SS}		0.8	V
		V_{DD}=7V V_{SS}=0V Ta=25℃	Input Current	I_{I2}	V_I=V_{SS}~V_{DD}	−10		+10	μA
			"H" Level Output Voltage	V_{OH}	I_{OH}=−0.05mA, TMŌ	6.0			V
			"L" Level Output Voltage	V_{OL}	I_{OL}=0.1mA, TMŌ			0.4	V
			Oscillation Frequency	f_{OSC}	QI, QŌ		3.58		MHz
MN6142	CMOS PLL Frequency Synthesizer for FM/AM Radio	V_{DD}=−0.3~+10V V_I=−0.3~V_{DD}+0.3V V_O=−0.3~V_{DD}+0.3V P_D=50mW Topr=−20~+70℃ Tstg=−55~+100℃	Supply Current	I_{DD}	V_{DD}=6V		3	5	mA
			Power Consumption	P_{tot}			15	25	mW
			"H" Level Input Voltage	V_{IH1}	V_{DD}=6V P0~P3 C0~C2 LD V_I=V_{SS}~V_{DD}	2.4		V_{DD}	V
			"L" Level Input Voltage	V_{IL1}		V_{SS}		0.8	V
			Input Current	I_{I1}				±10	μA
			Input Voltage	V_{I2}	PI	1.0			V_{P-P}
		Operating Condition	Input Current	I_{I2}	PI, V_I=0Vまたは6V	±1	±5	±25	μA
			Input Frequency Upper Limit	f_i	PI, V_{DD}=5.5~6.5V	6			MHz
		V_{DD}=6V V_{SS}=0V Ta=25℃	Oscillation Frequency	f_{OSC}	OSC1, OSC2		11.52		MHz
			"H" Level Output Voltage	V_{OH}	CPO, QO V_{DD}=6V I_{OH}=−100μA	4.0			V
			"L" Level Output Voltage	V_{OL}	CPO, QO V_{DD}=6V I_{OL}=100μA			0.4	V
MN6145	CMOS PLL Frequency Synthesizer for FM/AM Radio	V_{DD1}=−0.3~+6V V_{DD2}=−0.3~+200V V_{I1}=−0.3~V_{DD1} V_{I2}=−0.3~+18V Topr=−20~+70℃ Tstg=−55~+100℃	Supply Current	I_{DD}	V_{DD}=5V, Ta=25℃			5	mA
			Power Consumption	P_{tot}				25	mW
			Input Frequency Upper Limit	$f_{i(max)}$	LFI Input sine wave Free running	7.2			MHz
			Input Signal Swing	V_i		0.7			V_{P-P}
			"H" Level Output Voltage	V_{OH}	PDŌ, LDŌ I_{OH}=3mA	0.7 V_{DD}		V_{DD}	V
			"L" Level Output Voltage	V_{OL}	CKŌ, TMŌ I_{OL}=3mA	0		0.3 V_{DD}	V
		Operating Condition	"L" Level Output Voltage	V_{OL}	CKŌ, TMŌ I_{OL}=3mA	0		0.3 V_{DD}	V
			Output Breakdown Voltage	BV_O	CKŌ, TMŌ, AŌ	18			V
		V_{DD}=5V V_{SS}=0V Ta=25℃	"H" Level Input Voltage	V_{IH}	SHI, SDI, LDI, AI	0.7 V_{DD}		15	V
			"L" Level Input Voltage	V_{IL}		−0.3		0.8	V
			Oscillation Frequency	f_{OSC}	QI, QŌ, V_{DD}=3.5V		5.76		MHz
MN6147	CMOS PLL Frequency Synthesizer for FM/AM Stereo Tuners	V_{DD}=−0.3~+10V V_I=−0.3~V_{DD}+0.3V V_O=−0.3~V_{DD}+0.3V P_D=250mW Topr=−30~+70℃ Tstg=−55~+100℃	Supply Current	I_{DD}	V_{DD}=5V, Ta=25℃		20	30	mA
			Power Consumption	P_{tot}			100	150	mW
			"H" Level Input Voltage	V_{IH}	V_{DD}=5V, DA0~DA3, CPL, FM·AM, SW·MW	2.4		V_{DD}	V
			"L" Level Input Voltage	V_{IL}		V_{SS}		0.8	V
			Input Voltage	V_i	FMLO	1.0			V_{P-P}
			Input Current	I_I	V_I=0 or 5V	±10	±50	±250	μA
		Operating Condition	Input Frequency Upper Limit	f_i	V_{DD}=4.5~5.5V	120			MHz
			Oscillation Frequency	f_{OSC}	OSC1, OSC2		4.5		MHz
		V_{DD}=5V V_{CK}=5V Ta=−30~+70℃	"H" Level Output Current	I_{OH}	V_{DD}=5V, V_O=3V, PD	−1.5			mA
			"L" Level Output Current	I_{OL}	V_{DD}=5V, V_O=2V, PD	1.5			mA
			"H" Level Output Voltage	V_{OH}	V_{DD}=5V, I_{OH}=100μA, CK1, CK2	4.0			V
			"L" Level Output Voltage	V_{OL}	V_{DD}=5V, I_{OL}=100μA, CK1, CK2			0.4	V

Block Diagram	Application Circuit

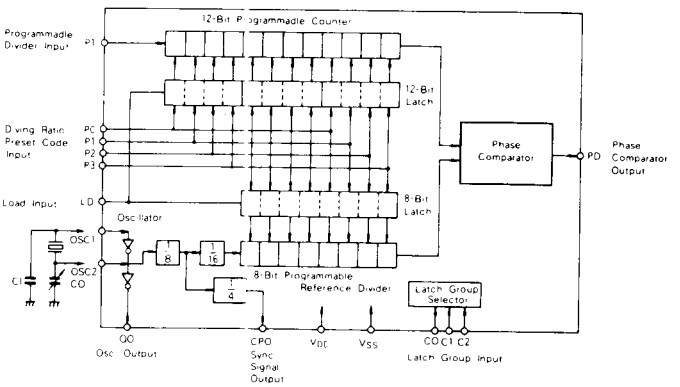
MN6049 (Package L—13,16—Lead Plastic DIL)



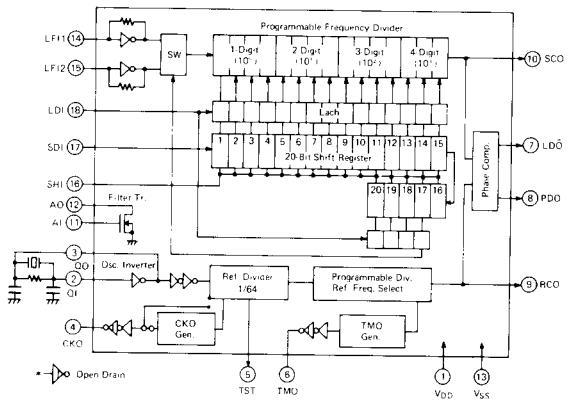


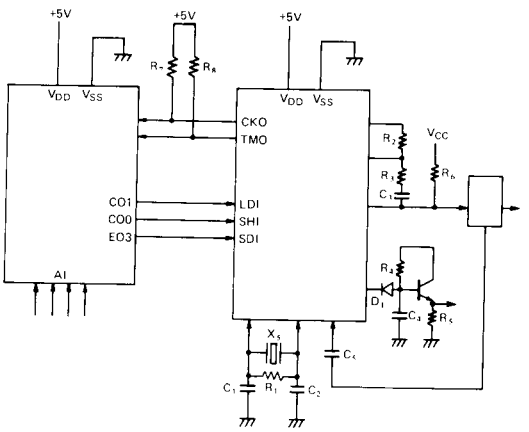
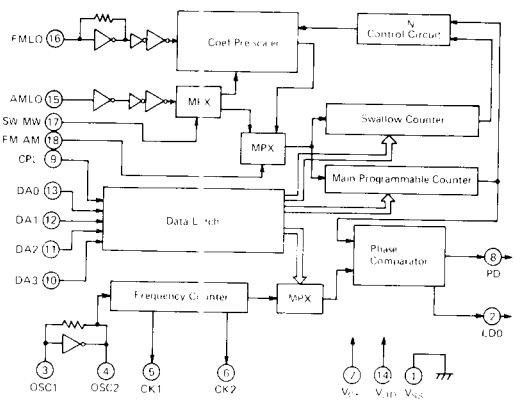
Note) LDI requires a special control signal

MN6142 (Package L—13,16—Lead Plastic DIL)



MN6145 (Package L—15,18—Lead Plastic DIL)





MN6147 (Package L—15,18—Lead Plastic DIL)