



BIPOLAR ANALOG INTEGRATED CIRCUIT μ PC1486, μ PC1487C

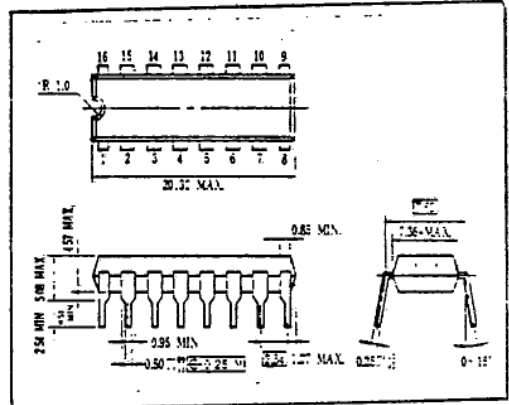
DTS INTERFACE FOR TV

The μ PC1486C or the μ PC1487C is an interface IC for PLL frequency synthesizer digital tuning system of TV. This IC contains all circumferential function block of PLL system, So it can reduce many external components. This IC, with the μ PD1709C (PLL & controller) and the μ PB562AC (prescaler), constitutes a high performance PLL tuning system of TV. It's packed in 16 pins dual in-line package.

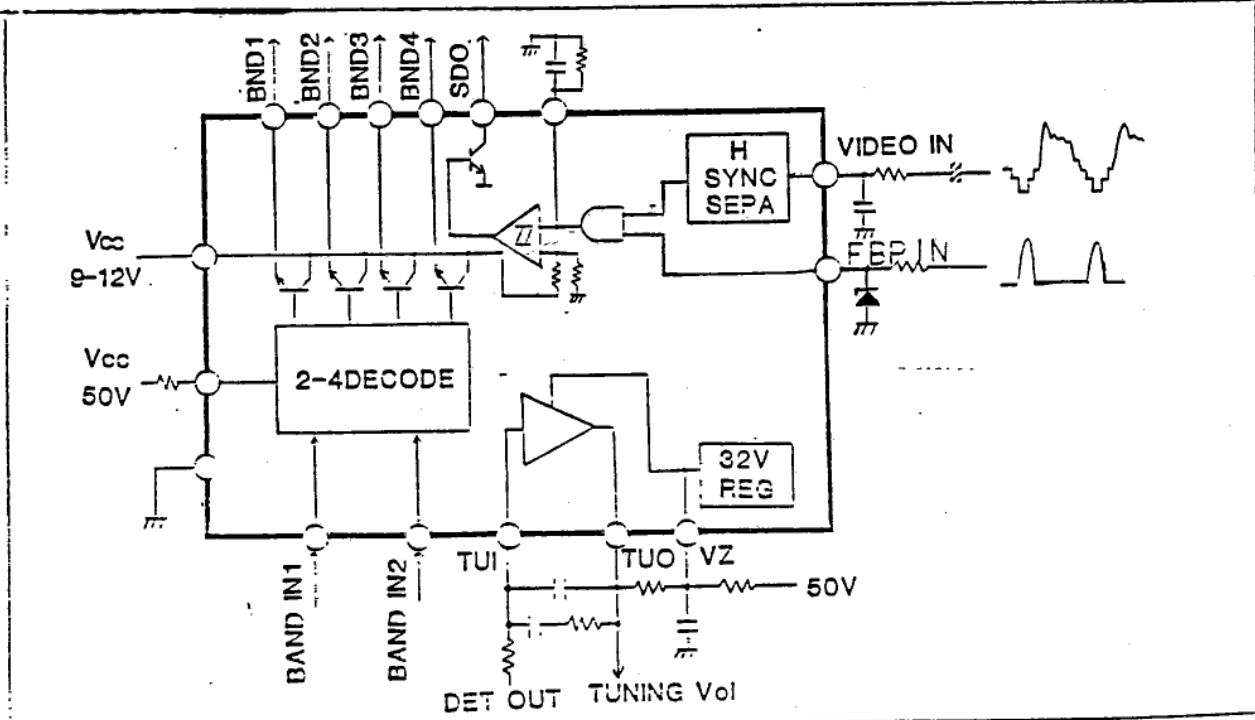
FEATURES

- It contains all circumferential function block of PLL system.
- Internal synch. separator for station detector.
- Band output : large supply current and low saturation voltage.
 $I_{OH} = -40 \text{ mA}$; $V_{Osat} = 0.3 \text{ V TYP.}$
- Compact package : 16 pins DIP.

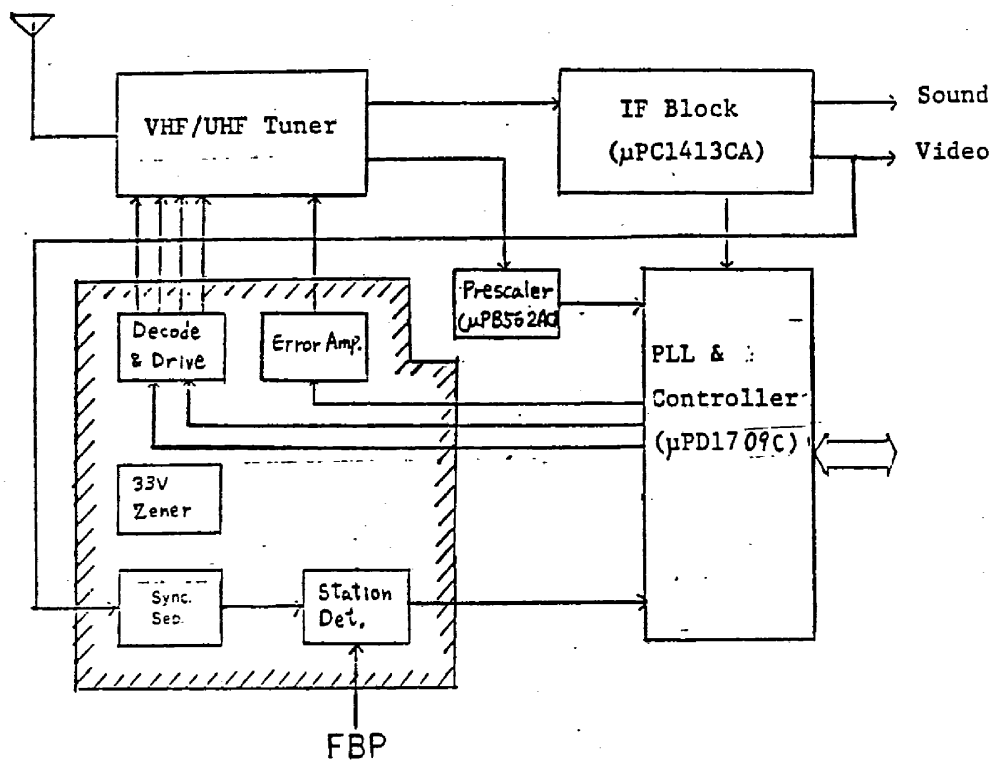
PACKAGE DIMENSIONS in millimeters



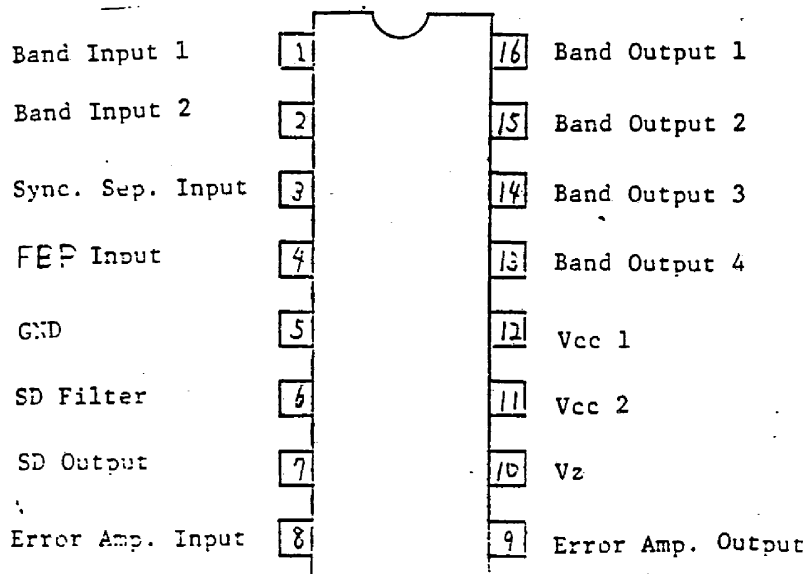
IC BLOCK DIAGRAM



BLOCK DIAGRAM



PIN CONNECTION (Top View)



ABSOLUTE MAXIMUM RATINGS ($T_a=25\pm 3^\circ\text{C}$)

RATINGS	SYMBOL	CONDITION	LIMIT	UNIT
Supply Voltage	V_{CC}		14.4	V
Band Output Current	I_{OH}		-60	mA
Band Output Supply Voltage	V_{OL}		-15	V
Vz Current	I_z		15	mA
SD Output Supply Voltage	V_{OH}		15	V
Band Input Voltage	V_I		0 ~ V_{CC}	V
Sync. Sep. Input Voltage	V_{CV}		0 ~ 5	V _{p-p}
Error Amp. Input Voltage	V_{AT}		0 ~ V_{CC}	V
Error Amp. Output Current	I_{AO}		-5	mA
FBP Input Voltage	V_{FBP}		V_{CC}	V _p
Power Dissipation	P_D	$T_a=65^\circ\text{C}$	600	mW
Operating Temperature	T_{opt}		-20 ~ +65	$^\circ\text{C}$
Storage Temperature	T_{stg}		-40 ~ +150	$^\circ\text{C}$

RECOMMENDED OPERATING CONDITION

CHARACTERISTIC	SYMBOL	RECOMMENDED VALUE	UNIT
Supply Voltage	V_{CC}	8.1 ~ 13.2	V
Band Input High Level Voltage	e_{BIH}	3.2 ~ 5.5	V _{DC}
Band Input Low Level Voltage	e_{BIL}	0 ~ 0.8	V _{DC}
Video Signal Input Voltage	e_{iv}	2	V _{p-p}
FBP Input Voltage	e_{FBP}	3.5 ~ V_{CC}	V _p

ELECTRICAL CHARACTERISTICS (Ta=25±3°C, Vcc=12V)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I _{cc}	Error Amp. Output: High Band Output: V _{cc}	2.0	6.0	12.0	mA
Band Input Threshold Voltage	V _{ITH}		1.0	2.0	3.0	V _{DC}
Band Output Saturation Voltage	V _{Osat}	I _{OH} = -40mA	-	0.3	0.7	V
Band Output Leak Current	I _{OL}	V _{OL} = -15V	-	-	-50	μA
Zener Stabilized Voltage	V _Z	I _Z = 5mA	31	33	35	V
Stabilized Voltage Temperature Drift	ΔV _Z /ΔT	Ta = -20 ~ +65°C, I _Z = 5mA	-5	0	+5	mV/°C
Dynamic Resistance	r _Z	I _Z = 5mA	-	10	25	Ω
Error Amp. Input Bias Current	I _{BIAS}		-	-	200	nA
Error Amp. Minimum Output Voltage	V _{AOL}		-	0.2	0.5	V

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CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Error Amp. Maximum Output Voltage	V_{AOH}		$V_z-1.5$	$V_z-0.6$	-	V
Error Amp. Reference Voltage	V_{Aref}		1.5	2.0	2.5	V
Comperator Reference Voltage	V_{cref1}	No signal → Signal	6.5	7.0	7.5	V
Comperator Reference Voltage	V_{cref2}	Signal → No signal	4.5	5.0	5.5	V
SD Output Low Level Voltage	V_{OL}	$I_{OL}=1mA$	-	0.2	0.5	V
SD Output Leak Current	I_{OH}	$V_{OH}=13.2V$	-	-	5	μA

BAND OUTPUT PATTERN

Pattern A (μ PC1486C)

B.I.1	B.I.2	B.O.1	B.O.2	B.O.3	B.O.4
L	L	H	Z	Z	Z
H	L	Z	H	Z	Z
L	H	Z	Z	H	Z
H	H	Z	Z	Z	H

Pattern B (μ PC1487C)

B.I.1	B.I.2	B.O.1	B.O.2	B.O.3	B.O.4
L	L	Z	Z	H	Z
H	L	H	Z	H	Z
L	H	H	H	H	Z
H	H	H	Z	Z	H

Z : High Impedance

APPLICATION CIRCUIT

