



BIPOLAR ANALOG INTEGRATED CIRCUIT

μ PC1253H2

RMS LEVEL SENSOR FOR dbx NOISE REDUCTION SYSTEM

DESCRIPTION

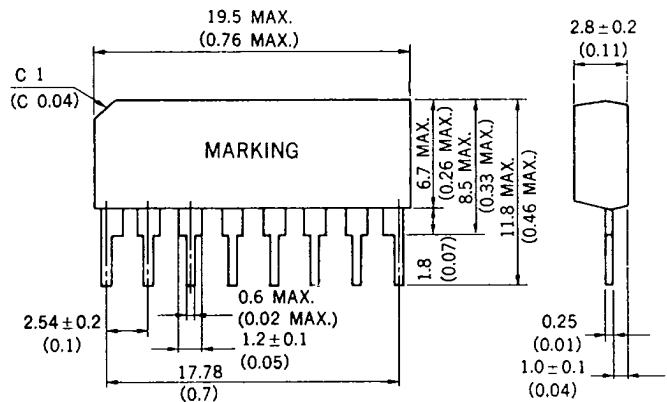
The μ PC1253H2 is dbx noise reduction system RMS (Root Mean Square) level sensor, used in tape deck and other audio equipment.

The μ PC1253H2 features high accurate RMS level sensor for wide input due to NEC's super low noise and high h_{FE} PNP process.

Since the package is 8 pin SIP, it can be built in a compact set.

PACKAGE DIMENSIONS

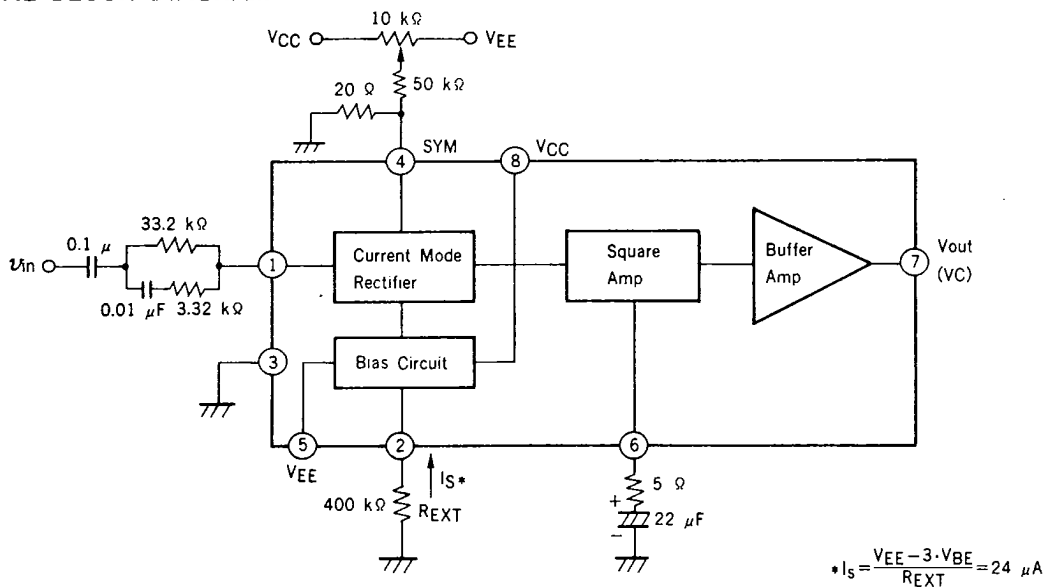
in millimeters (inches)



FEATURES

- Wide operating supply voltage $V_{CC} = \pm 4$ to ± 15 V (TYP. ± 12 V)
- Excellent linearity Control Constant $V_C = 5.9$ mV/dB
- Wider input range $v_{in} = -40$ dBV to $+10$ dBV

FUNCTIONAL BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Supply Voltage	V _{CC} , V _{EE}	±15	V
Supply Current	I _{CC}	30	mA
Power Dissipation	P _D	330*	mW
Operating Temperature Range	T _{opt}	-20 to +75	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

* Value at Ta = 75 °C

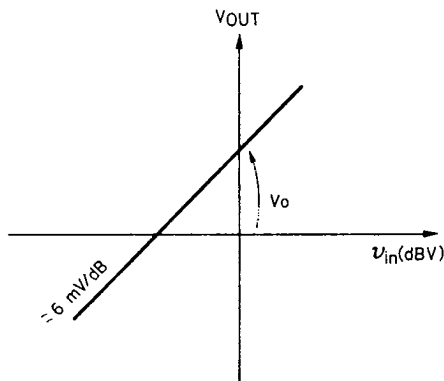
RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Operating Supply Voltage	V _{CC} , V _{EE}	±4	±12	±15	V
Input Level Range	v _{in}	-40		+10	dBV
Bias Current	I _s		24		μA

ELECTRICAL CHARACTERISTICS (Ta = 25 °C, V_{CC} = +12 V, V_{EE} = -12 V, f = 1 kHz, Z_{in} = 33 kΩ)

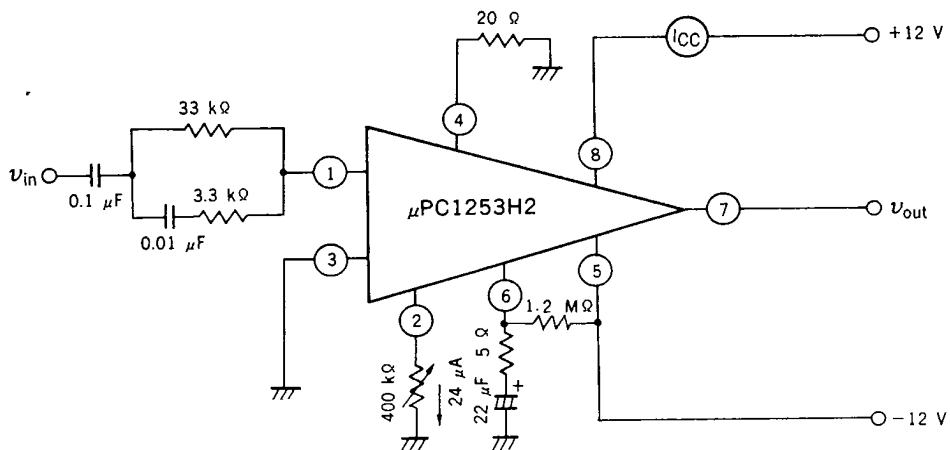
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Supply Current	I _{CC}		0.9	2.0	mA	No Signal
Output Level	V _O *	111	136	161	mV	V _{IN} = 0 dBV
Control Constant	V _C	5.8	5.9	6.1	mV/dB	v _{in} = -40 dBV to +10 dBV

* Output Level is defined as follows.

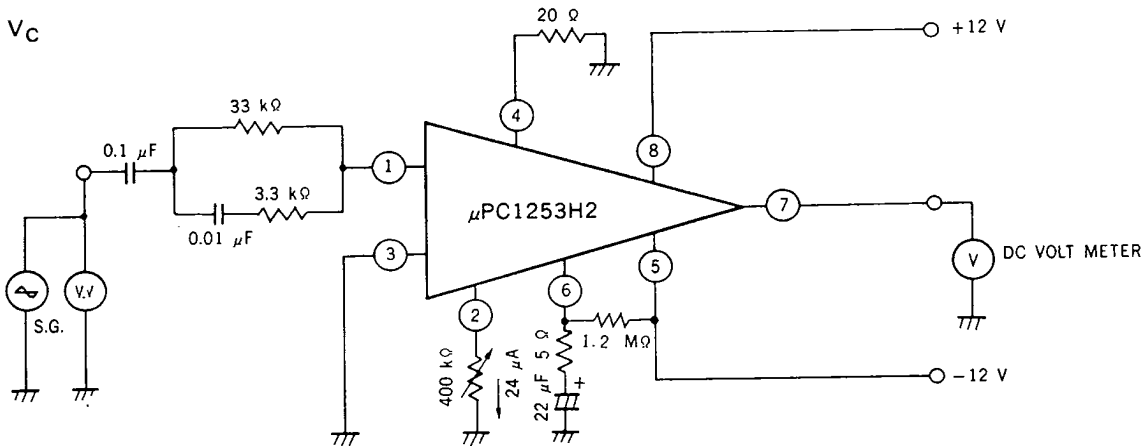


TEST CIRCUIT

(1) I_{CC}



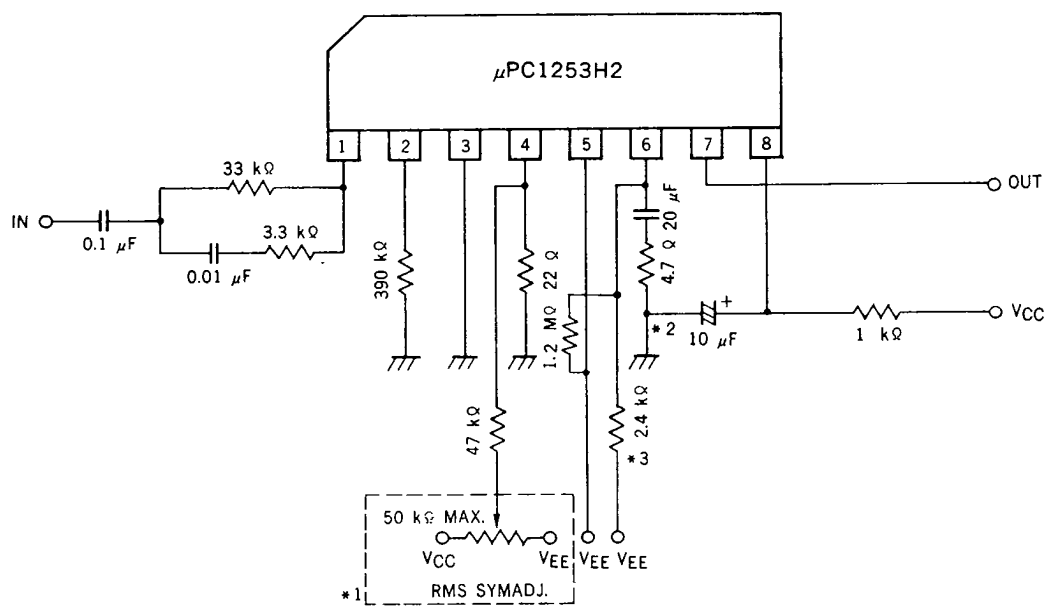
(2) V_O, V_C



Note for use

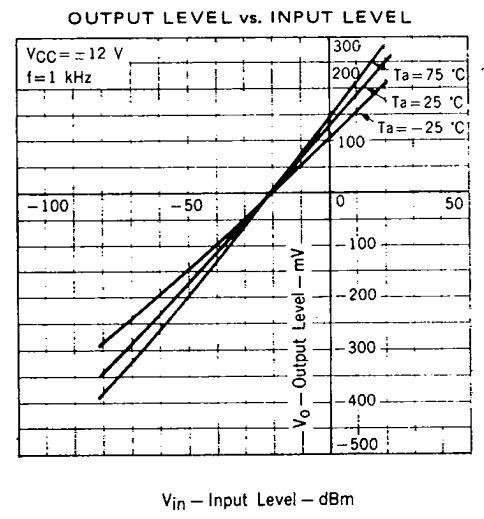
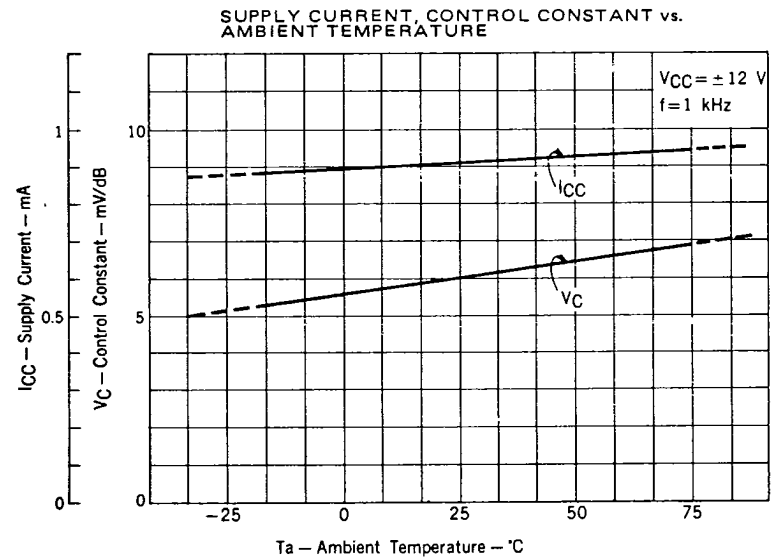
1. Since μPC1253H2 is designed for dbx Noise Reduction System, recommend to use μPC1253H2 with μPC1252H2 (VCA) in case of composing dbx NR system.
2. Documents issued by dbx incorporated have priority over NEC, such as application note or data about dbx NR system.

APPLICATION CIRCUIT



- *1. Possible to omit RMS SYM.ADJ. in case of using this IC with $\mu\text{PC1252H2}$ at T.H.D. $\geq 0.05\%$.
 - *2. Make GND common about these terminals.
 - *3. This resistor is for RMS time constant.
- Connect 7 PIN OUT to GC1 of $\mu\text{PC1252H2}$ (VCA).

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



Nippon Electric Co., Ltd.

245
 NEC Building, 33-1, Shiba Gochoe, Minato-ku, Tokyo 108, Japan
 Tel: Tokyo 454 - 1111
 Telex Address: NECTOK J22686
 Cable Address: MICROPHONE TOKYO

IC-1432
 FEB.-25-82M
 Printed in Japan