

# BIPOLAR ANALOG INTEGRATED CIRCUIT $\mu$ PC1379C

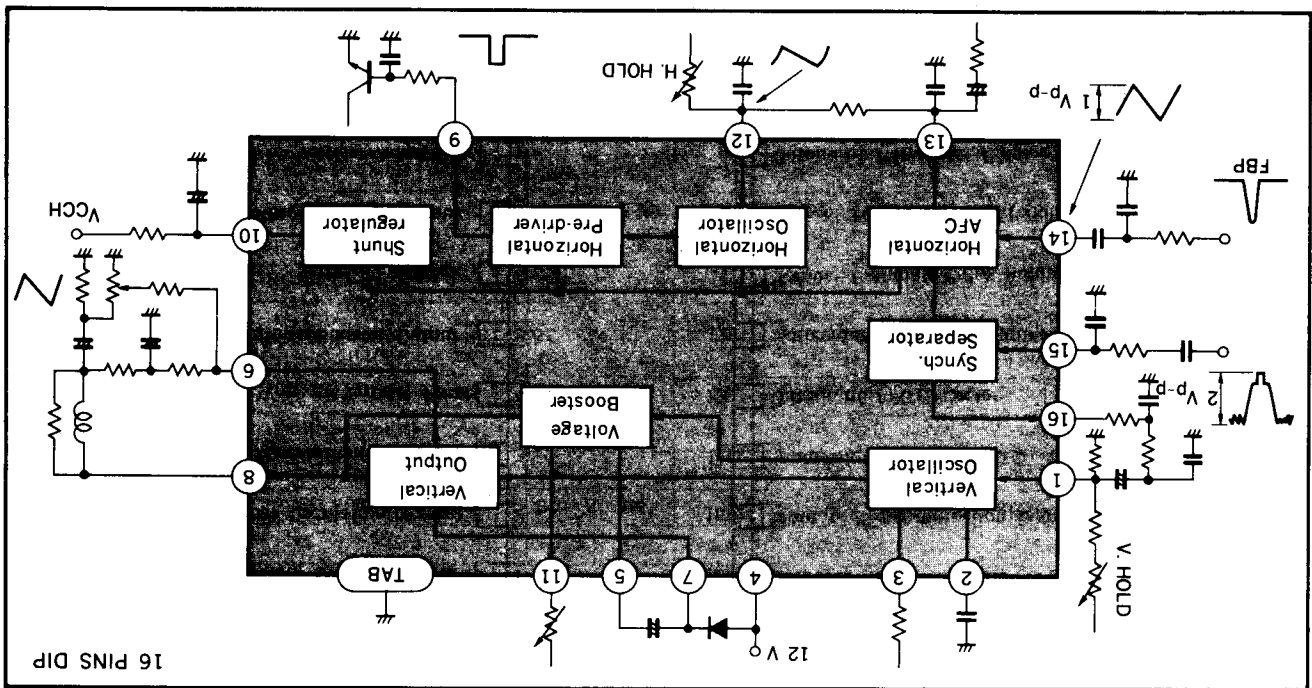
## SYNCHRONIZATION SIGNAL PROCESSOR FOR B/W TV AND SMALL-SIZED COLOR TV

$\mu$ PC 1379C is a bipolar analog integrated circuit designed for mono-chrome TV and small size color TV. It contains synchronous signal separator, vertical deflection signal generator, vertical power stage, and horizontal deflection signal generator in a molded 16 pins dual in-line package. The package has a tab attaching to the end. The vertical stage reduces the power consumption remarkably by the built-in voltage booster circuit. The horizontal signal part can take the working power from any voltage power supply higher than 8 volts, as it equips shunt type power regulator itself. So, it can take the power even from 110 volt power line through only one resistor.

### FEATURES

- Built-in vertical power stage remarkably low power vertical deflection realized by the built-in voltage booster.
- Vertical fly-back pulse width is freely adjustable by the exclusive terminal.
- Any supply voltage is available for the horizontal part, as it equips shunt type power regulator itself.

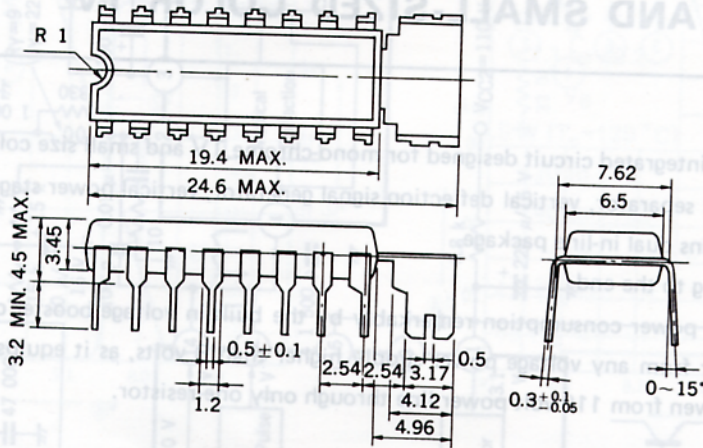
### BLOCK DIAGRAM



16 PINS DIP

# μPC1379C

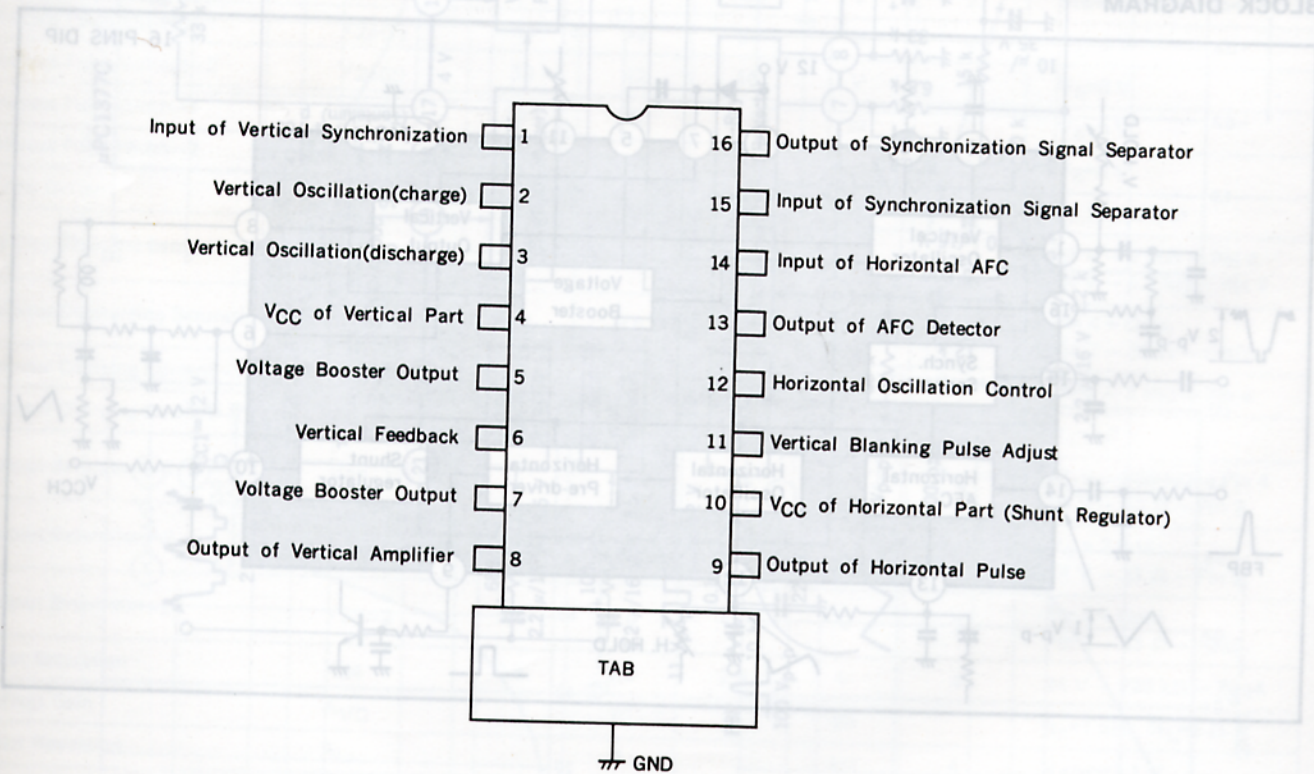
PACKAGE DIMENSIONS (Unit : mm)



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## CONNECTION DIAGRAM (Top View)



ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25 °C)

Mark(+) of current expresses that the current is flowing into the terminal. Mark(-) of current expresses that the current is flowing out from the terminal.

V <sub>4</sub>	Power Supply Voltage for Vertical Part
I <sub>10</sub>	Power Supply Current for Horizontal Part
V <sub>15</sub>	Video Input Voltage
I <sub>16</sub>	Synch Output Current
V <sub>11</sub>	Voltage Booster Charge Voltage
I <sub>5</sub>	Booster Output Current
I <sub>8</sub>	Deflection Current
V <sub>6</sub>	Vertical Feedback Voltage
V <sub>14</sub>	AFC Input Voltage
I <sub>9</sub>	Horizontal Output Current (Pulse)
P <sub>D</sub>	Power Dissipation
R <sub>th(j-tab)</sub>	Thermal Resistance (J-tab)
R <sub>th(j-a)</sub>	Thermal Resistance (J-a)
T <sub>opt</sub>	Operating Temperature
T <sub>stg</sub>	Storage Temperature

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Power Supply Voltage for the Vertical Part	V <sub>4</sub>	9.6	12	14.4	V
Deflection Current	I <sub>DEF</sub>	400	500	600	mAp-p
Power Supply Current for Horizontal Part	I <sub>10</sub>	6.5	12	18	mA

ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C, V<sub>4</sub> = 12 V, I<sub>DEF</sub> = 500 mAp-p, I<sub>10</sub> = 12 mA)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Power Supply Current for Vertical Part	I <sub>4(1)</sub>	85	100	100	mA
Power Supply Current for Vertical Part	I <sub>4(2)</sub>	6	12	20	mA
Vertical Free-running Frequency	f <sub>VO</sub>	46	50	54	Hz
Drift of Vertical Free-running Frequency	Δf <sub>VO(VCC)</sub>		0.8	2.0	Hz
				2.0	Hz
Drift of Vertical Free-running Frequency	Δf <sub>VO(T<sub>a</sub>)</sub>		1.5	2.0	Hz
Vertical Synchronizing Capture Frequency	f <sub>VP</sub>	47	50		Hz
Middle Voltage of Vertical Output	V <sub>MID</sub>	5.3	5.8	6.3	V
Vertical Synchronizing Capture Frequency	f <sub>VO</sub>	47	50		Hz
Deflection Current	I <sub>DEF</sub>	450	500	550	mAp-p
Supply Voltage for Horizontal Part	V <sub>10</sub>	6.2	6.7	7.2	V
Horizontal Free-running Frequency	f <sub>HO</sub>	15.0	15.75	16.5	KHz
Drift of Horizontal Free-running Frequency	Δf <sub>HO(T<sub>a</sub>)</sub>		1.90	2.50	Hz
Horizontal Output Pulse Width	PWH	23	25	27	μs
Horizontal Output Current	I <sub>9</sub>	0.8	1.3	2.0	mA
Horizontal Synchronizing Capture Freq.	f <sub>PH</sub>	±650	±900	±1150	Hz
Horizontal AFC Output Current	I <sub>13</sub>	0.28	0.45	0.74	mA
Gain of AFC Detector	μ	89	143	236	μA/rad
Efficiency of Horizontal Oscillation Control	β	66	72	78	Hz/μA