

**HORIZONTAL AND VERTICAL SYNC. SIGNAL PROCESSOR
WITH GEOMETRY COMPENSATION CIRCUIT FOR MultiSync™ DISPLAY**

The μ PC1883 is a horizontal and vertical sync. signal processor with geometry compensation circuit for MultiSync display.

Horizontal and vertical sync. signal processing and geometry compensation for MultiSync Display are incorporated on one chip. These functions are controlled by DC voltage, so it's very easy to interface with microprocessor and D/A converter.

And components and peripheral circuits required for horizontal oscillator, horizontal delay circuit, vertical blanking and horizontal clamping circuits are incorporated. Therefore, application design is easy.

FEATURES

• Geometry compensation:

Geometry compensation circuit is incorporated on one chip (trapezoid, side pin, side pin corner, parallelogram and side pin balance correction). All functions are controlled by DC voltage.

• Horizontal and vertical input signal polarity normalization:

Both positive and negative polarity are acceptable.

• Horizontal position:

Built-in picture position control circuit is independent of horizontal frequency. Capacitor for position control circuit is incorporated.

• Horizontal oscillator:

Low jitter and low temperature coefficient realized. Capacitor for horizontal oscillator is incorporated.
 $f_{HOSC} = 22.5$ to 100 kHz.

• Horizontal output duty control: Duty is 33 to 55 % with DC voltage control.

• Clamp pulse output:

Clamp pulse width is approx. 0.8 μ s. This clamp pulse is mixed with vertical blanking pulse.

• Vertical oscillator: $f_V = 45$ to 160 Hz

• Vertical AGC:

The output voltage of vertical saw wave is controlled by DC voltage.

• Vertical linearity correction:

"S" and "C" curve linearity correction on vertical saw wave (DC voltage control).

• Vertical blanking pulse output: Capacitor for pulse generator is incorporated.

• Supply voltage: 9.0 V

ORDERING INFORMATION

Part Number	Package
μ PC1883CT	30-pin plastic shrink DIP (400 mil)

PIN CONFIGURATION (Top View)

- 30-pin plastic shrink DIP (400 mil)

Side Pin Corner Correction Setting	1 SPC	HGND	30	Horizontal GND	
Trapezoid Correction Setting	2 TRP	BLKO	29	Vertical Blanking/Clamp Pulse & Vertical Blanking Output	
Side Pin Correction Setting	3 SDP	HPDO	28	Horizontal Phase Distortion Output	
Parallelogram Correction Setting	4 PAR	VSI	27	Vertical Sync. Signal Input	
Side Pin Balance Correction Setting	5 SDPB	HSI	26	Horizontal Sync. Signal Input	
Vertical Oscillator Capacitor	6 VOSCC	HP	25	Horizontal Sync. Delay Setting	
Vertical AGC Filter	7 VAGCC	HAFC	24	Horizontal AFC Filter	
Vertical Saw Wave Amplitude Setting	8 VS	DUTY	23	Horizontal Duty Setting	
Vertical Saw Wave Output	9 VSAWO	OSCFIL	22	Horizontal Oscillation Filter	
EAV Output	10 EWO	FVC	21	F/V Delay Capacitor	
Vertical Center DC Voltage Input	11 VP	FVR	20	F/V Current Conversion Reference Resistor	
Vertical "S" Curve Correction Setting	12 VLS	FVI	19	F/V Voltage Input	
Vertical "C" Curve Correction Setting	13 VLC	HOUT	18	Horizontal Output	
Reference Voltage Output	14 VREF	FBPI	17	Horizontal Flyback Pulse Input	
Vertical GND	15 VGND	Vcc	16	Power Supply	

μPC1883CT



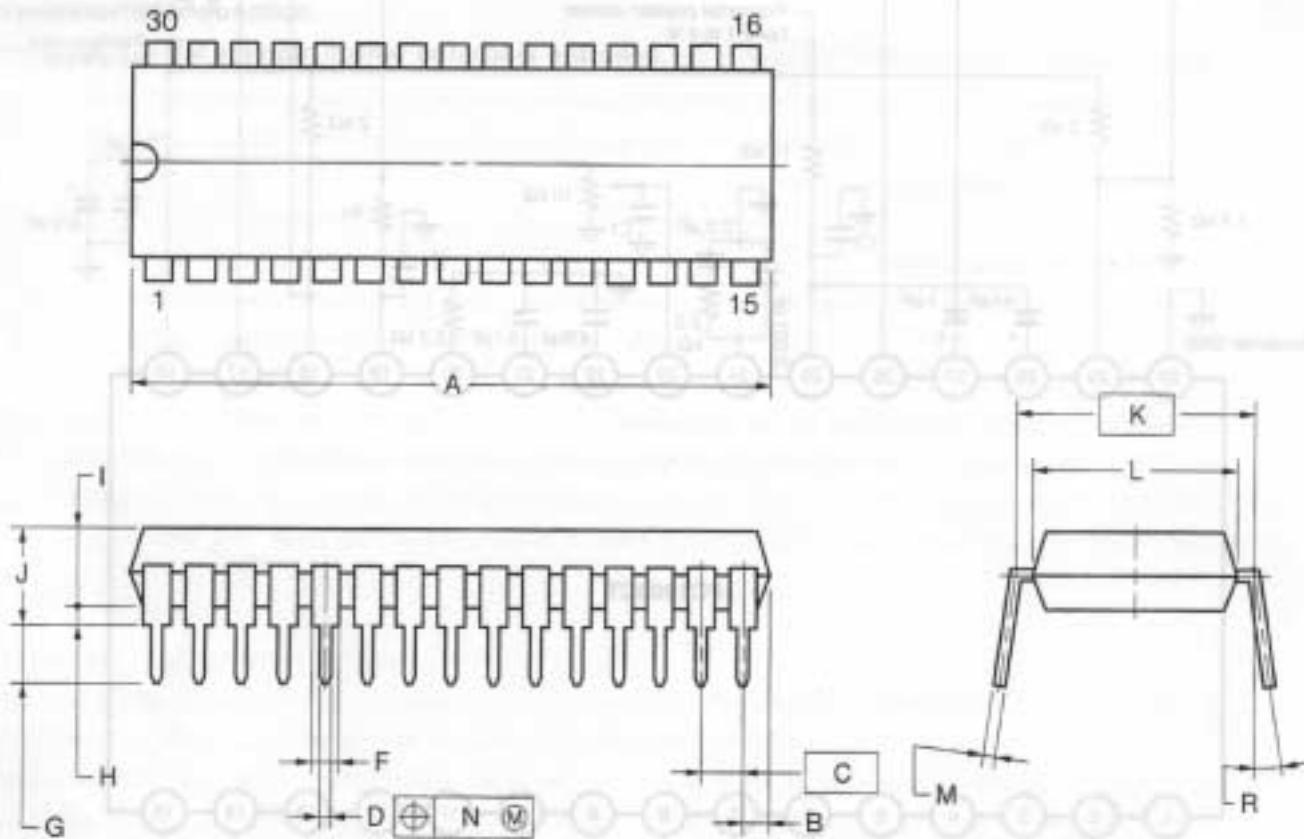
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Condition	Ratings	Unit
Absolute Maximum Ratings (Unless otherwise specified, TA = +25 °C, Vcc = 9.0 V)				
Power supply	Vcc		11	V
Horizontal sync. input signal voltage	VHIN		0 to Vcc	V
Vertical sync. input signal voltage	VVIN		0 to Vcc	V
Flyback pulse input voltage	VFBP		0 to Vcc	V
Clamp pulse + vertical blanking pull-up voltage	VVOLP	Pin 28	Vcc	V
Control pin input voltage	VCONT	Pins 1, 2, 3, 4, 5, 8, 11, 12, 13, 19, 23 and 25	0 to Vcc	V
Horizontal output driving current	Ih	Pin 18	10	mA
Vertical, E/W and phase output source current	IsOMAX	Pins 9, 10 and 28	10	mA
Vertical, E/W and phase output sink current	IsIMAX		2	mA
Power dissipation	Pd	TA = +75 °C	0.7	W
Operating ambient temperature	TA		-10 to +75	°C
Storage temperature	Tstg		-40 to +125	°C

Parameter	Symbol	Description	Min	Max	Unit
Horizontal AFC capture range A	SAFCB	Voltage of pins 18 < 4.0 V negative 1.5V with positive range	0.0	3.0	mA
Horizontal AFC capture range B	SAFCB	Voltage of pins 18 < 4.0 V negative 1.5V with positive range	0.0	3.0	mA
Horizontal AFC input impedance	Zin	Impedance of pins 18	21.0	32.0	kΩ
Pulse delay value	Tpulse	10 ~ 80 kHz, same with Tc	15.0	30.0	ns
Horizontal start value	Tstart	10 ~ 80 kHz	8.0	40.0	ns
Horizontal digital settle waveform amplitude	SHsync	10 ~ 80 kHz voltage of pins 18 < 3.0V to 8.0 V	10.0	25.0	ns
Horizontal output current	Isync	100% load	0.00	0.01	mA
Horizontal output voltage	Vsync	100% load	0.00	0.01	V

PACKAGE DRAWING

30PIN PLASTIC SHRINK DIP (400 mil)



NOTES

- 1) Each lead centerline is located within 0.17 mm (0.007 inch) of its true position (T.P.) at maximum material condition.
- 2) Item "K" to center of leads when formed parallel.

ITEM	MILLIMETERS	INCHES
A	28.46 MAX.	1.121 MAX.
B	1.78 MAX.	0.070 MAX.
C	1.778 (T.P.)	0.070 (T.P.)
D	0.50 \pm 0.10	0.020 \pm 0.004 0.005
F	0.85 MIN.	0.033 MIN.
G	3.2 \pm 0.3	0.126 \pm 0.012
H	0.51 MIN.	0.020 MIN.
I	4.31 MAX.	0.170 MAX.
J	5.08 MAX.	0.200 MAX.
K	10.16 (T.P.)	0.400 (T.P.)
L	8.6	0.339
M	0.25 \pm 0.10 0.05	0.010 \pm 0.004 0.003
N	0.17	0.007
R	0-15°	0-15°

S30C-70-400B-1