



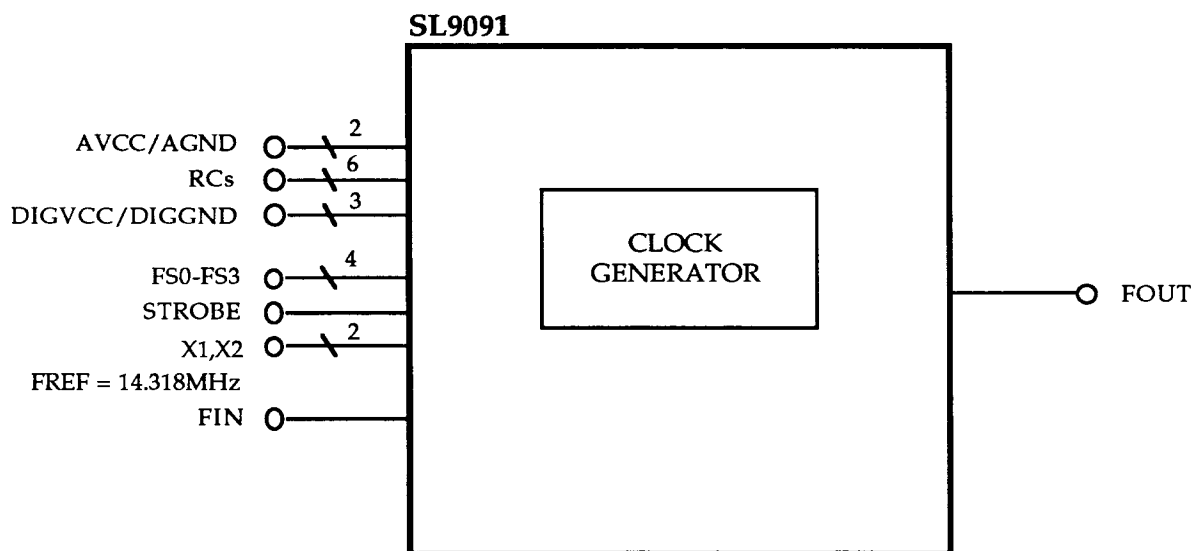
# UNIVERSAL VIDEO CLOCK CHIP SL9091

PRELIMINARY

## FEATURES

- Generates all essential Clock Signals for Video.
- Ideal for all EGA, VGA applications.
- Select code is IBM compatible.
- Generates 16 different clock frequencies (14 to 55 MHz).
- Requires only one Crystal and few RC components.
- Internal Clock Generator.
- High output drive of 8 mA.
- TTL Level inputs and Analog interface.
- Advanced Bipolar technology.
- Package option: 20 pin SOJ or DIP.

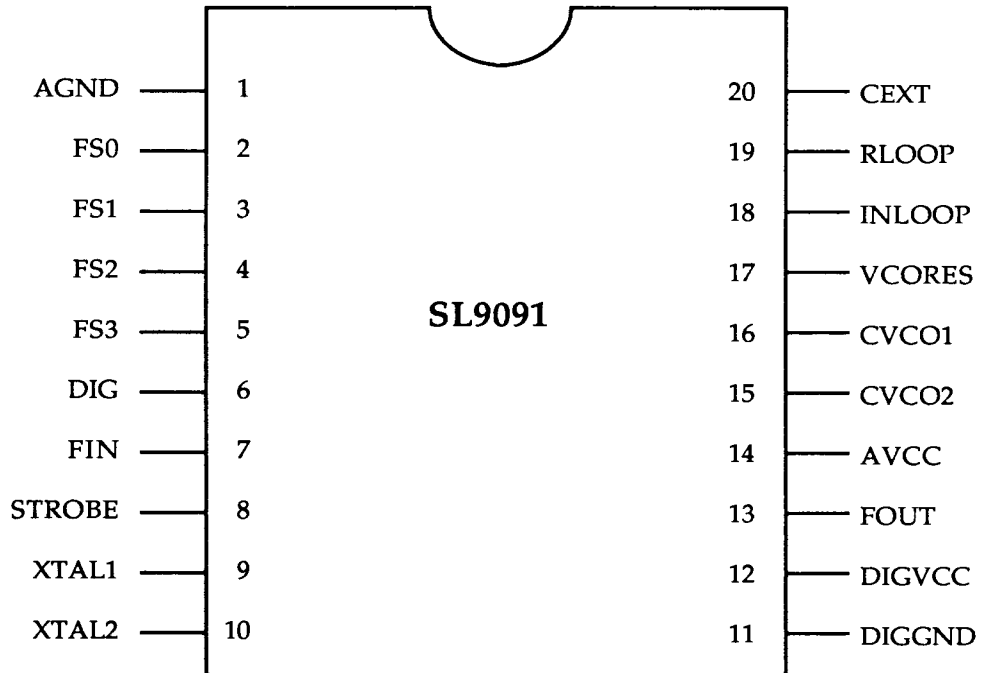
## FUNCTIONAL BLOCK DIAGRAM



October 1988

LOGICSTAR, Inc. (415) 651-2796  
4160-B Technology Drive  
Fremont, CA 94538

## PINOUT





## PIN DESCRIPTION

SYMBOL	PIN	TYPE	DESCRIPTION
AGND	1	-	Analog Ground.
AVCC	14	-	Analog VCC.
CVCO1,2	15,16	I	VCO capacitor pin 1, 2 for Clock generator .
CEXT	20	I	Charge pump pin.
DIGGND	11	-	Digital Ground.
DIGVCC	6,12	-	Digital + 5V supply.
FS0-FS3	2,3,4,5	I	Frequency Select LSB-MSD.
FIN	7	I	External frequency input.
FOUT	13	O	Frequency output.
INLOOP	18	I	Loop filter resistor pin 1.
RLOOP	19	I	Loop filter resistor pin 2.
STROBE	8	I	Low to enable frequency selection.
VCORES	17	I	Center frequency resistor.
XTAL1,2	9,10	X1,X2	Crystal oscillator pin 1,2.



**FREQUENCY SELECT CODES**

FUNCTION	FS3	FS2	FS1	FS0	FOUT (MHz)
PIN No.	5	4	3	2	13
	0	0	0	0	25.175
	0	0	0	1	28.322
	0	0	1	0	31.883
	0	0	1	1	40.029
	0	1	0	0	32.554
	0	1	0	1	35.000
	0	1	1	0	44.873
	0	1	1	1	35.658
	1	0	0	0	16.277
	1	0	0	1	14.318
	1	0	1	0	35.037
	1	0	1	1	42.000
	1	1	0	0	36.000
	1	1	0	1	55.040
	1	1	1	0	39.413
	1	1	1	1	FIN



## DC CHARACTERISTICS SL9091

(TA = 0 ° C to 70 ° C, VDD = 5V ± 5%)

Parameters	Symbol	Min.	Max.	Units	Conditions
Low Level Input Voltage	VIL	0	0.8	V	
Low Level Input Current	IIL		-0.6	mA	Vin = 0.4V
High Level Input Voltage	VIH	2.0	5.25	V	
High Level Input Current	IIH		10	μA	Vin = DIGVCC
Low Level Output Voltage	VOL		0.5	V	Iol = 8mA
High Level Output Voltage	VOH	2.4		V	Ioh = -400 μA
Supply Current	ICC		105	mA	

### NOTES

1. Thermal resistance of package = 66 ° C/W.
2. Calculated worst case tpd factor = 1°81.
3. Calculated max junction temp = 117° C.



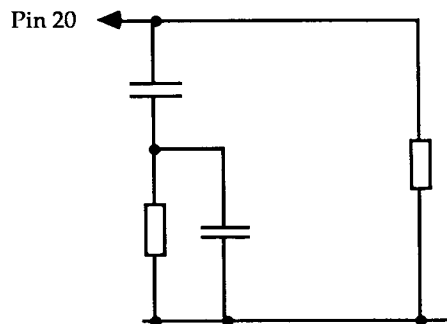
## A.C. CHARACTERISTICS

(TA = 0 °C to 70 °C, VDD = 5V ± 5%)

XTAL1, XTAL2, Crystal frequency.....	14.318 MHz
FOUT Duty Cycle.....	55:45 - 45:55 (Load 2 LSTTL inputs, External resistor may be required to achieve duty cycle close to 50%.)
FOUT Rise Time.....	5 ns (typ)
FOUT Fall Time.....	5 ns (typ)
FOUT Load.....	35 pf (max)
FOUT Capture Time.....	1 µS to ± 10% of final frequency. 500µS to full lock (typ)
VCCD Decoupling Capacitor.....	0.1 µF.
Long term Voltage stability.....	same as reference input.
Long term Temperature stability.....	same as reference input.

## EXTERNAL COMPONENTS

Description	Name	Value
Shunt Regulator	(RSHUNT)	TBD
Centre frequency resistor	(VCORES)	
Loop filter resistor	(RLOOP - INLOOP)	
VCO Capacitor	(CVCO1 - CVCO2)	
VCO Resistor		
Charge Pump Components	(CEXT)	





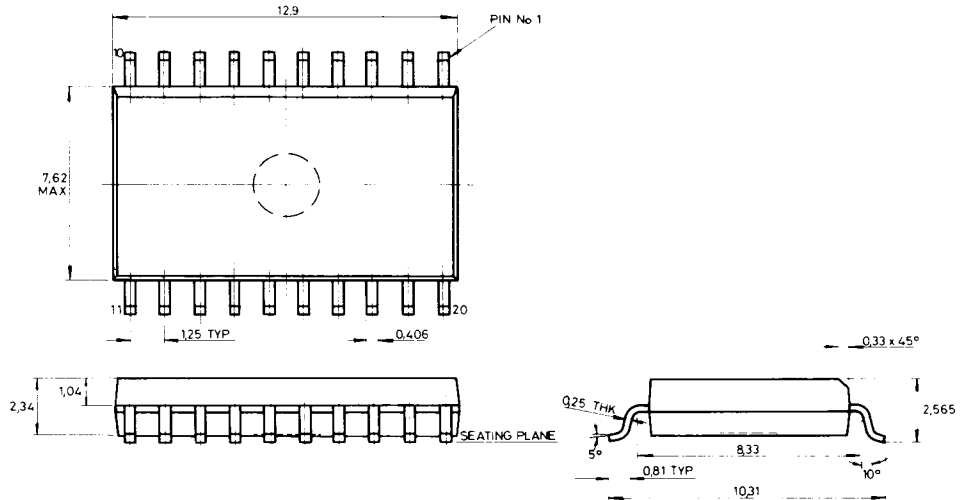
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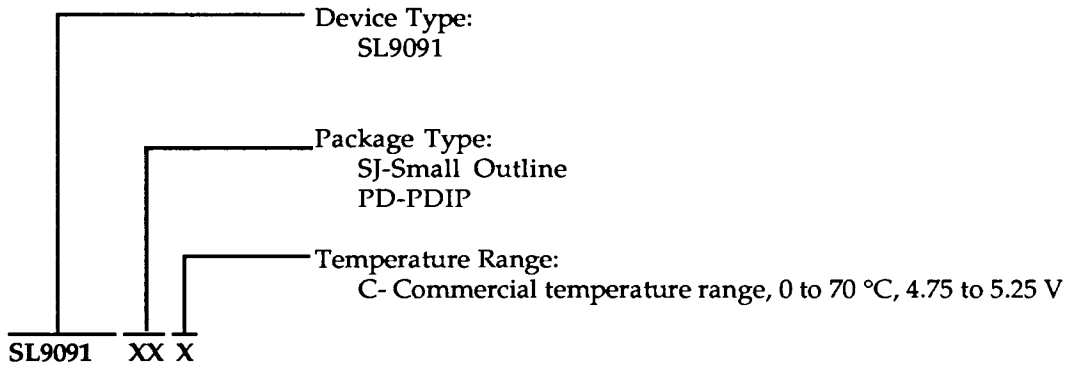


Package Information

20 Pin Small Outline Plastic Package



ORDERING INFORMATION



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LOGICSTAR Inc. (415) 651-2796

4160-B Technology Dr  
Fremont CA 94538