

June, 1998 Preliminary

**AMI 0.8 micron CMOS
CWLDouble Poly**

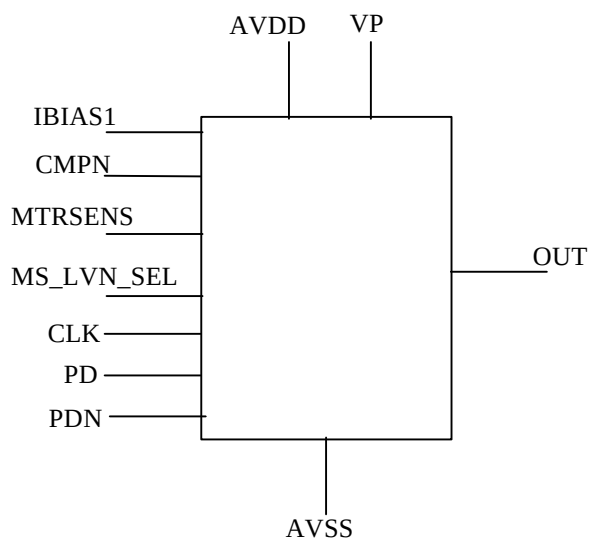
LOW-VOLTAGE DETECTOR

FEATURES

- Less than 100uA supply current
- High voltage measurement capability (around 6.5V)
- Clocked comparator for fast measurements
- Multi-input measurements capability
- Equipped with power-down circuits

DESCRIPTION

This is a low-voltage detector circuit used to monitor power supply voltages or signals. The circuit consists of two main parts: resistor divider for the voltage to be measured and a high speed comparator. The comparator is clocked, so a clock source is required. This circuit also requires a voltage reference. The digital input and outputs are standard CMOS levels



TRUTH TABLE

MS_LVN_SEL	
0	Measures supply Voltage on VP Pin
1	Positive Comparator Input is set to mtrsens pin.

PIN DESCRIPTION

NAME	TYPE	DESCRIPTION
CMPN	Analog input	Negative comp input (From Reference)
MTRSENS	Analog input	Positive comp input #2
MS_LVN_SEL	Digital input	Positive comp input selector
CLK	Digital input	Clock input 1 (MHz Max)
OUT	Digital output	Comp output
IBIAS1	Analog input	Bias current (20uA $\pm$ 10% Sourcing)
AVDD	Analog supply	+5V supply
VP	Analog supply	+6.5V supply (if needed)
AVSS	Ground supply	Ground supply
PD	Digital Input	Power Down Input

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PDN	Digital Input	Power Down Input
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ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	MIN	MAX	UNITS
VDD	Supply Voltage	3.3	5.5	V
T	Temperature	-40	85	°C
IDC	DC current		100	uA
IPD	Standby current		78.0	nA
VOS	Comparator offset		5.0	mV
ICMR	Input Common Mode Range	0.5	Vdd-1.5	V
TPHL	Prop delay high->low	38.4	107.6	ns
TPLH	Prop delay low->high	26.3	81.0	ns
IBIAS	Input bias current	20.0	50.0	uA
TRRES	R-string rise time	3.58	7.52	us
TFRES	R string fall time	3.58	7.52	us