ZSM560

ABSOLUTE MAXIMUM RATING

Input Supply Voltage	-1 to 10V	**Power Dissipation**	
Offstate Output Voltage	10V	TO92	780mW
Onstate Output Sink Current(Note 1)	Internally limited	SOT223	2W(Note 2)
Clamp Diode Forward Current(Note 1)	100mA		
Operating Junction Temperature	150°C		
Operating Temperature	-40 to 85°C		
Storage Temperature	-55 to 150°C		

TEST CONDITIONS
(T_{amb}=25°C for typical values, T_{amb}=-40 to 85°C for min/max values (Note3))

COMPARATOR

PARAMETER	SYMBOL	MIN	TYP.	MAX.	UNITS
Threshold Voltage High state output (Vcc increasing)	V_{IH}	4.5	4.61	4.7	V
Threshold Voltage Low state output (Vcc decreasing)	V_{IL}	4.5	4.59	4.7	V
Hysteresis	V_H	0.01	0.02	0.05	V

OUPUT

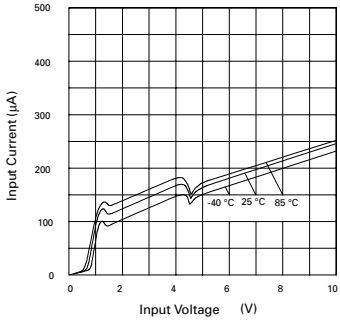
Output sink saturation:	V_{OL}				
(V_{cc}=4.0V, I_{sink}=8.0mA)			0.46	1.0	V
(V_{cc}=4.0V, I_{sink}=2.0mA)			0.15	0.4	V
(V_{cc}=1.0V, I_{sink}=0.1mA)				0.25	V
Onstate output sink current (V_{cc} , Output=4V)	I_{sink}	10	20	60	mA
Offstate output leakage current (V_{cc} , Output=5V)	I_{oh}		0.02	0.5	µA
Clamp diode forward voltage (I_f=10mA)	V_f	0.6	1.2	1.5	V
Propagation delay (V_{in} 5V to 4V, R_l=10k, T_{amb}=25°C)	T_d		1.5		µs

TOTAL DEVICE

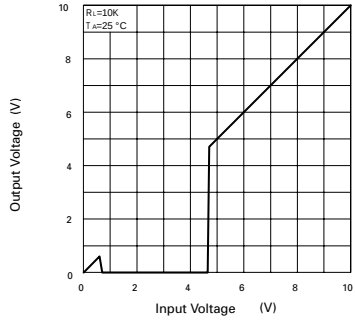
Operating input voltage range	V_{cc}	1.0 to 6.5			V
Quiescent input current (V_{cc}=5V)	I_q		135	200	µA

Note:
1. Maximum package power dissipation must be observed.
2. Maximum power dissipation for the SOT223 package is calculated assuming that the device is mounted on a PCB measuring 2 inches square.
3. Low duty cycle pulse techniques are used during test to maintain junction temperatures as close to ambient as possible.

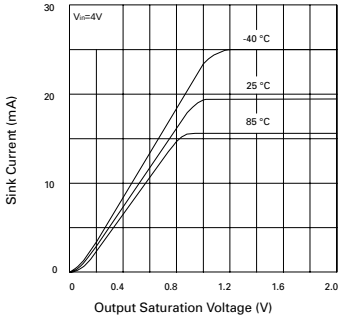
TYPICAL CHARACTERISTICS



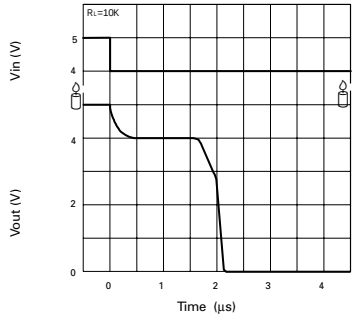
Input Current vs. Input Voltage



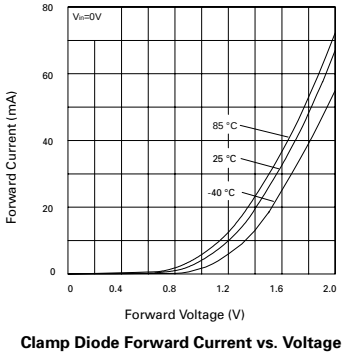
Output Voltage vs. Input Voltage



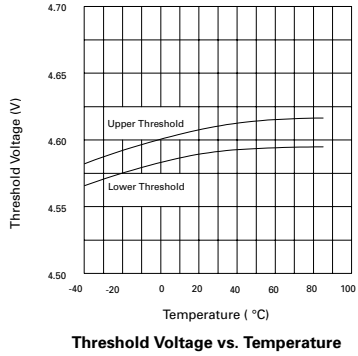
Output Saturation Voltage vs. Sink Current



Reset Delay Time

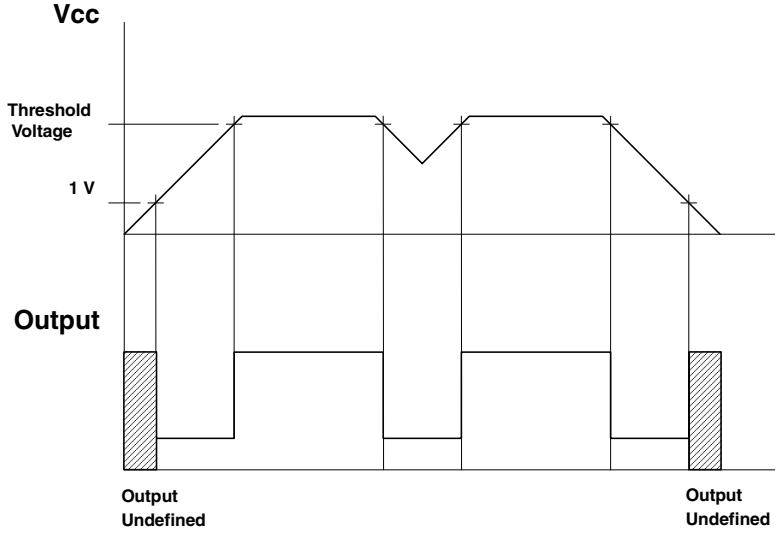


Clamp Diode Forward Current vs. Voltage

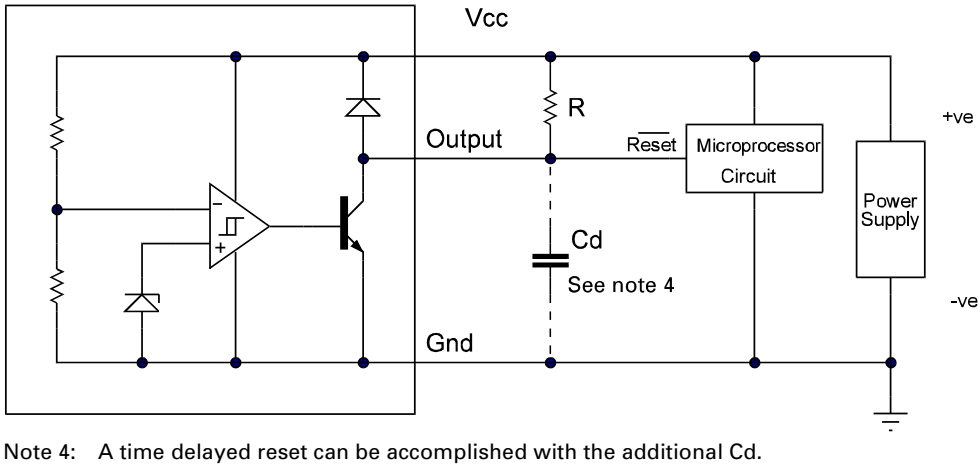


Threshold Voltage vs. Temperature

TIMING DIAGRAM



APPLICATION CIRCUIT



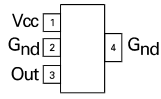
Note 4: A time delayed reset can be accomplished with the additional Cd.

$$T_{DY} = RCd \ln\left(\frac{1}{1 - \frac{V_{TH(mpu)}}{V_{in}}}\right)$$

T_{DY} =Time (Seconds)
V_{TH} =Microprocessor Reset Threshold
V_{in} =Power Supply Voltage

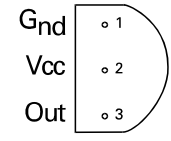
CONNECTION DIAGRAMS

SOT223 Package Suffix – G



Top View –
Pin 4 floating or connected to pin 2

TO92 Package Suffix – C



Bottom View

ORDERING INFORMATION

Part Number	Package	Part Mark
ZSM560G	SOT223	ZSM560
ZSM560C	TO92	ZSM560

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