Elektronische Bauelemente

SSCLM393

Dual Differential Comparator

RoHS Compliant Product
A suffix of "-C" specifies halogen or lead -free

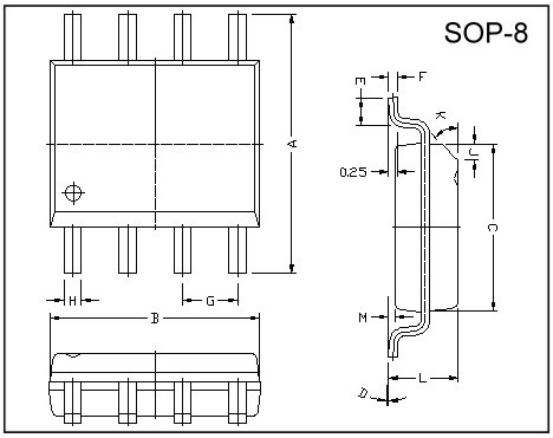
DESCRIPTION

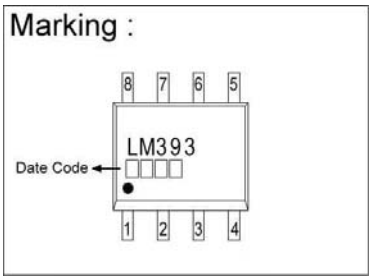
The SSCLM393 consists of two independent voltage comparators, designed specifically to operate from a single power over a wide voltage range.

FEATURES

- Output compatible with TTL, DTL, and CMOS logic system.
- Single or dual supply operation.
- Wide operating supply range (V_{CC}=2V~36V or ±1 to ±18V).
- Input common-mode voltage includes ground.
- Low supply current drain I_{CC} =0.8mA (Typ).
- Low input bias current I_{BIAS}=25nA (Typ)

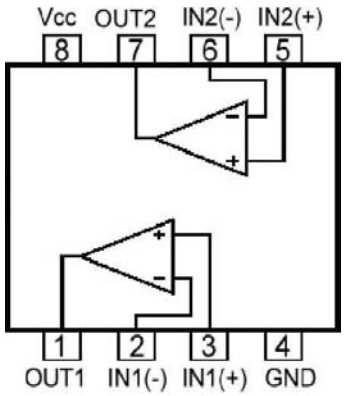
PACKAGE DIMENSIONS



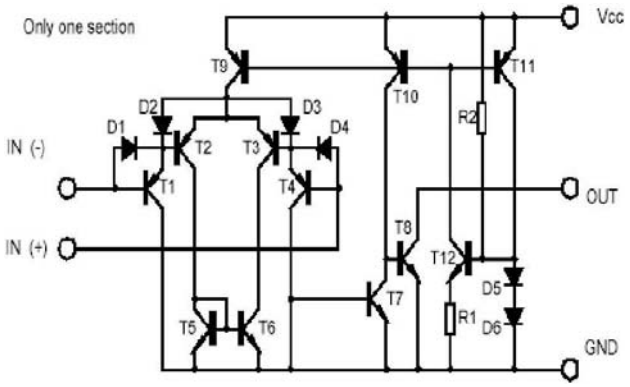


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	M	0.10	0.25
B	4.80	5.00	H	0.35	0.49
C	3.80	4.00	L	1.35	1.75
D	0°	8°	J	0.375 REF.	
E	0.40	0.90	K	45°	
F	0.19	0.25	G	1.27 TYP.	

PIN CONFIGURATIONS



BLOCK DIAGRAMS



MAXIMUM RATINGS

Parameter	Value	Units
Supply Voltage (Vcc)	±18 or 36	V
Differential Input Voltage ($V_{I(DIFF)}$)	±36	V
Input Voltage (V_I)	-0.3 ~+36	V
Power Dissipation (P_D)	570	mW
Operating & Junction Temperature (T_{OPR}, T_{STG})	0~+70, -65~+150	°C

RECOMMENDED OPERATING CONDITIONS

(Vcc=5.0V V_{EE}=GND,T_A=25°C,unless otherwise specified)

Characteristics	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Input Offset Voltage	V_{IO}	-	±1.0	±5.0	mV	V_{CM}=0V to V_{CC}-1.5V, $V_{O(P)}$=1.4V, R_S=0Ω
Input Offset Current	I_{IO}	-	±5	±50	nA	
Input Bias Current	I_{BIAS}	-	65	250	nA	
Input Common Mode Voltage	$V_{I(R)}$	0	-	V_{CC}-1.5	V	
Supply Current	I_{CC}	-	0.6	1.0	mA	R_L=∞
		-	0.8	2.5	mA	R_L=∞, Vcc=30V
Large Signal Voltage Gain	G_V	50	200	-	V/mV	V_{CC}=15V, R_L>5KΩ
Large Signal Response Time	t_{RES}	-	350	-	ns	V_I=TTL logic wing V_{REF}=1.4V,V_{RL}=5V,RL=5.1 KΩ
Response Time	t_{RES}	-	1400	-	ns	V_{RL}=5V,RL=5.1KΩ
Output Leakage Current	$I_{LEAKAGE}$	-	-	-		$V_{I(+)}$=1V,$V_{I(-)}$=0
		-	0.1	-	nA	$V_{O(P)}$=5V
		-	-	1.0	uA	$V_{O(P)}$=30V
Output Sink Current	I_{SINK}	6	18	-	mA	$V_{I(-)}$>1V,$V_{I(+)}$=0V,$V_{O(P)}$<1.5V
Output Saturation Voltage	V_{SAT}	-	160	400	mV	$V_{I(-)}$>1V,$V_{I(+)}$=0V,I_{SINK}=4mA

CHARACTERISTIC CURVE

Fig.1 supply current

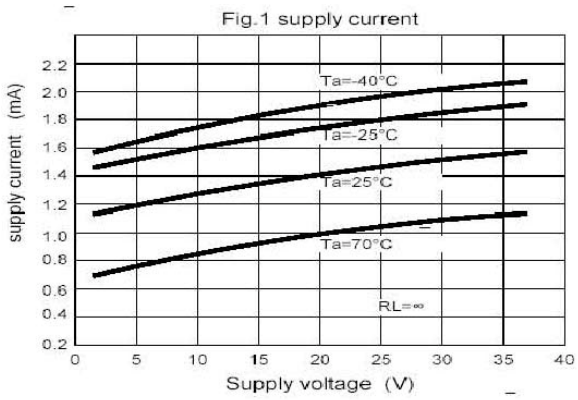


Fig.2 Input current

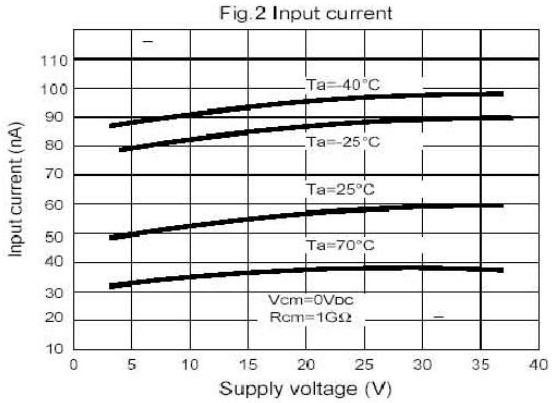


Fig.3 Output saturation voltage

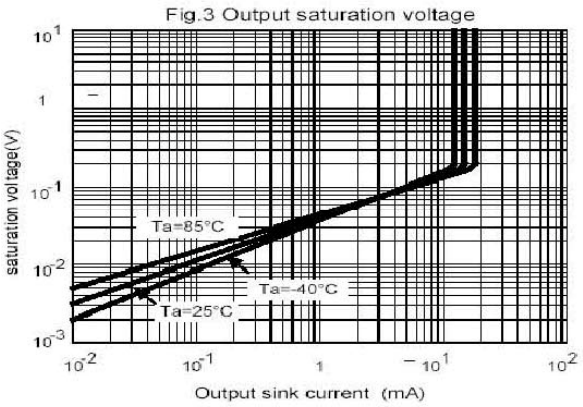


Fig.4 Reponse time for various input overdrive negative transition

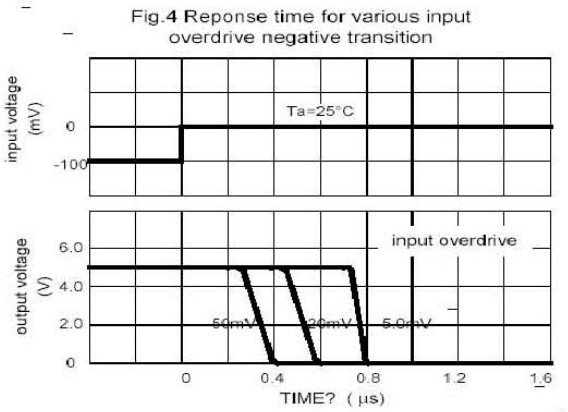


Fig.5 Reponse time for various input overdrive positive transition

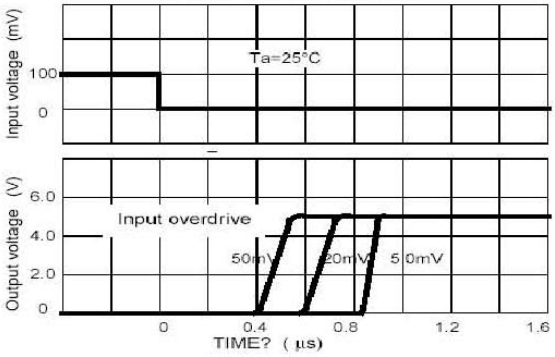
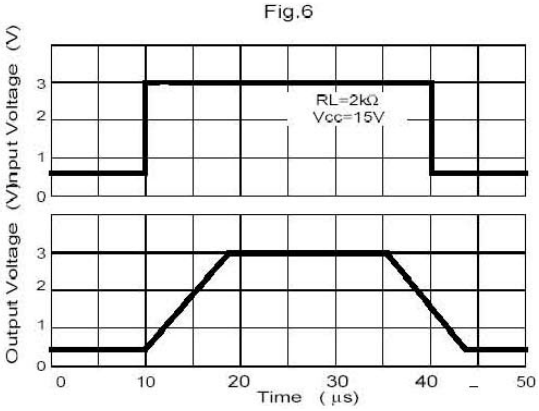


Fig.6



CHARACTERISTIC CURVE (cont'd)

Fig.7 voltage Follower pulse response (small signal)

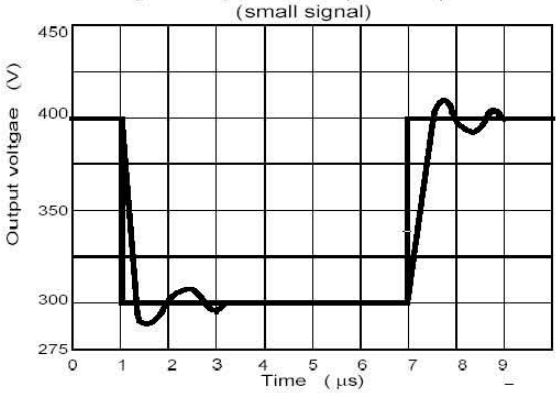


Fig.8 Large signal Frequency Response

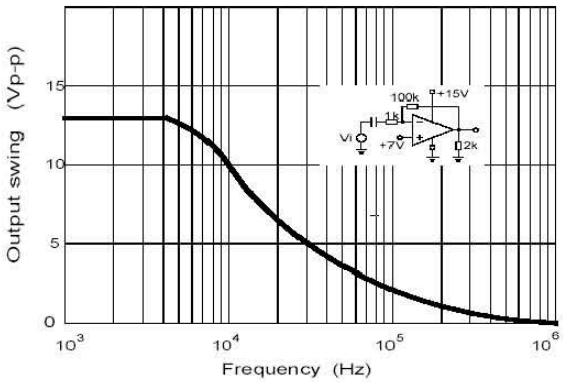


Fig.9 Output Characteristics current sourcing

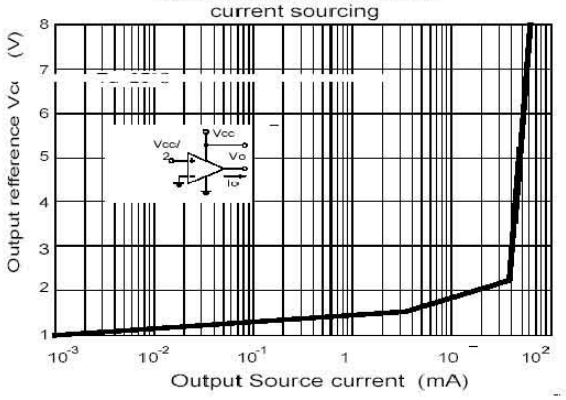


Fig.10 Output Characteristics Current sinking

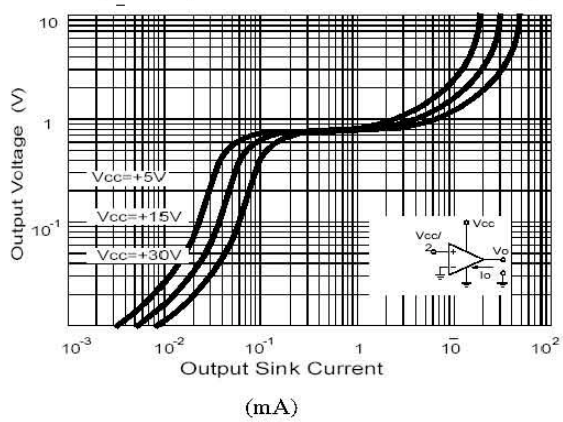


Fig.11 Current Limiting