

/ Descriptions

SOP-8 Dual Voltage Comparator in a SOP-8 Plastic Package.

/ Features

$V_{CC}=2V\sim 36V$

$V_{CC}= \pm 1V\sim \pm 18V$

$I_{CC}=0.8mA$

$I_{bias}=25nA$

TTL DTL CMOS

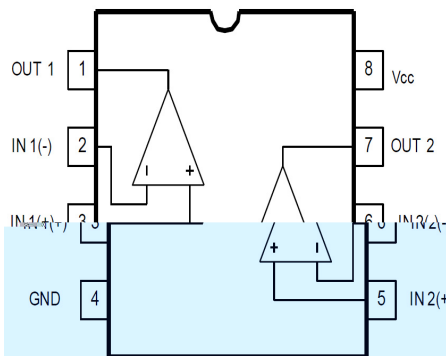
Wide operating supply range, Single or dual supply operation($V_{CC}=2V\sim 36V$ or $V_{CC}= \pm 1V\sim \pm 18V$).
Input common-mode voltage includes ground.
Low supply current drain: $I_{CC}=0.8mA$ (Typical).
Low input bias current $I_{bias}=25nA$ (Typical).
Output compatible with TTL,DTL,and CMOS logic system.
Halogen-free Product.

/ Applications

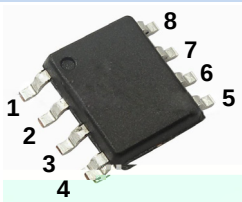
MOS

Basic comparator circuit,Low frequency operation and amplification circuit,MOS clock generator.

/ Equivalent Circuit



/ Pinning



PIN

/ PIN See Equivalent Circuit.

/ Marking

/ See Marking Instructions

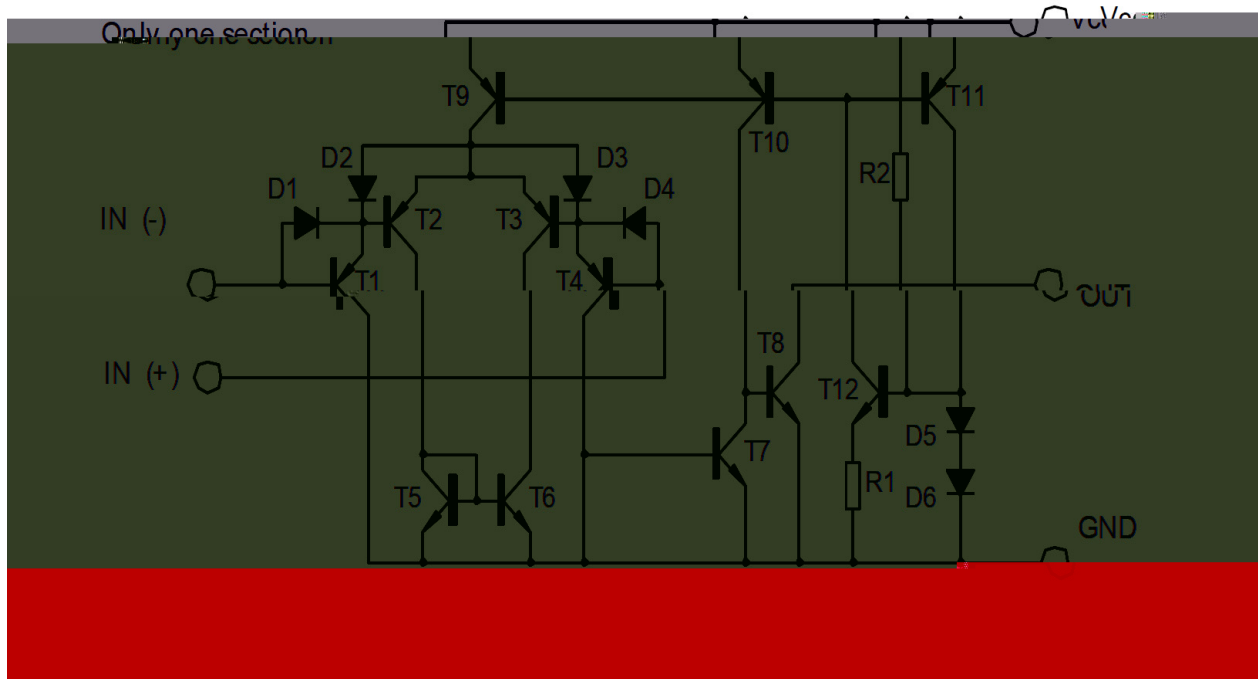
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{CC}	± 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 Temperature	T_{opr}	0 ~ +70	
Storage Temperature	T_{stg}	-65 ~ +150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input offset voltage	V_{IO}	$V_{CM}=0$ to $V_{CC}-1.5$ $V_{O(p)}=1.4V$, $R_s=0$		± 1.0	± 5.0	mV
Input offset current	I_{IO}			± 5.0	± 50	nA
Input Bias current	I_b			25	250	nA
Common Mode Input Voltage Range	$V_{I(R)}$		0		$V_{CC}-1.5$	V
Supply Current	I_{CC}	$R_L = \infty$		0.6	1.0	mA
		$R_L = \infty$ $V_{CC}=30V$		0.8	2.5	mA
Large signal Voltage Gain	G_V	$V_{CC}=15V$ R_L 15k Ω	50	200		V/mV
Large signal response time	T_{ires}	V_i =TTL logic wing, $V_{ref}=1.4V$ $V_{RL}=5V$ $R_L=5.1$ k Ω		350		ns
Response time	T_{res}	$V_{RL}=5V$ $R_L=5.1$ k Ω		1400		ns
Output sink current	I_{sink}	$V_i(-)>1V$ $V_i(+)=0V$ $V_{O(p)}<1.5V$	6	18		mA
Output saturation voltage	V_{sat}	$V_i(-)>1V$ $V_i(+)=0V$ $I_{sink}=4mA$		160	400	mV
output leakage current	$I_{leakage}$	$V_i(+)=1V$ $V_i(-)=0$ $V_{O(p)}=5V$		0.1		nA

/ Functional Block Diagram



BROP393SC
Rev. D Aug.-2019

/ Electrical Characteristic Curve

Fig.7 voltage Follower pulse response
(small signal)

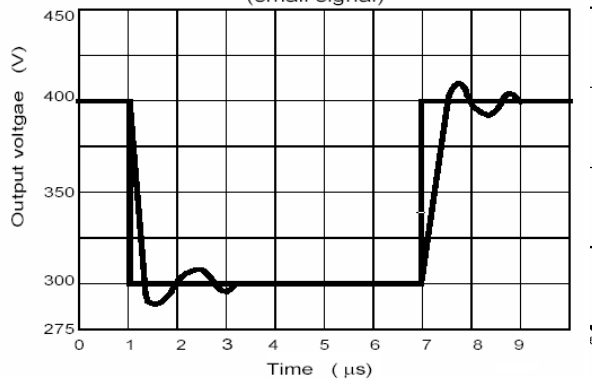


Fig.8 Large signal Frequency Response

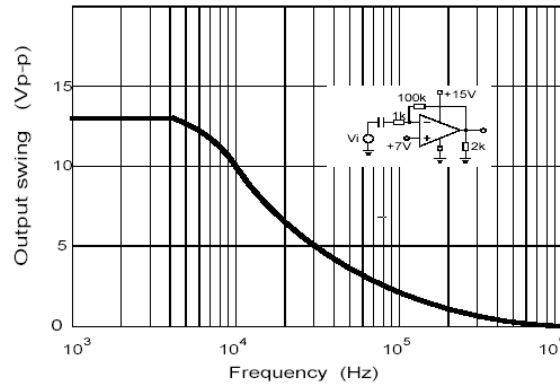


Fig.9 Output Characteristics
current sourcing

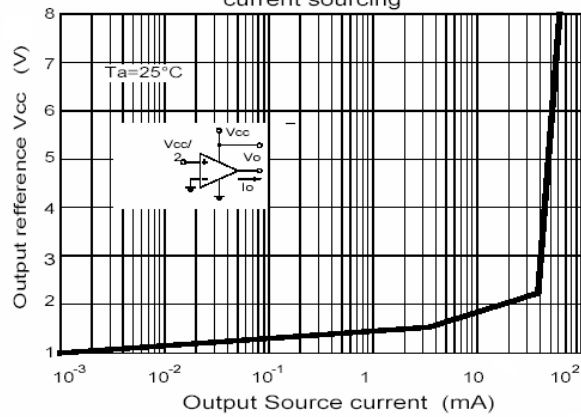


Fig.10 Output Characteristics Current sinking

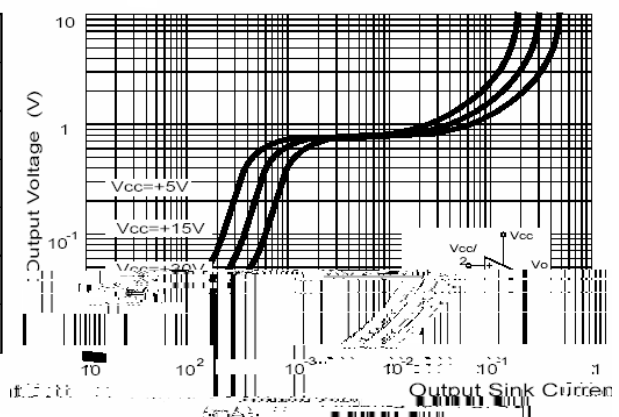
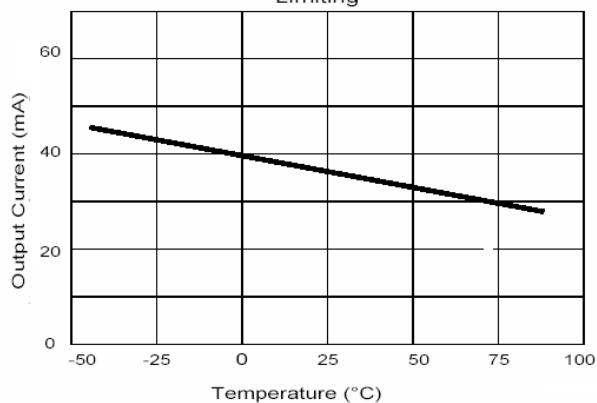
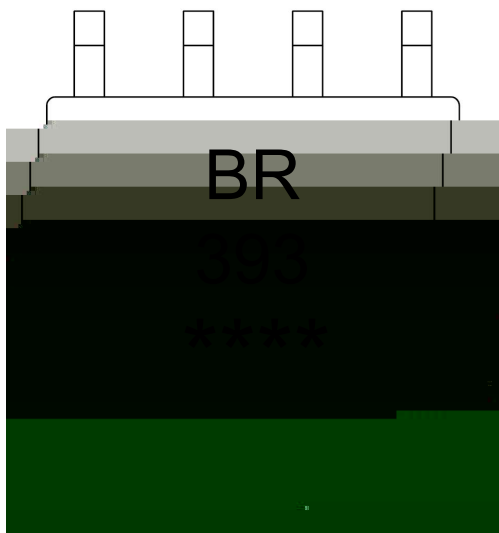


Fig.11 Current
Limiting



/ Marking Instructions



BR

393

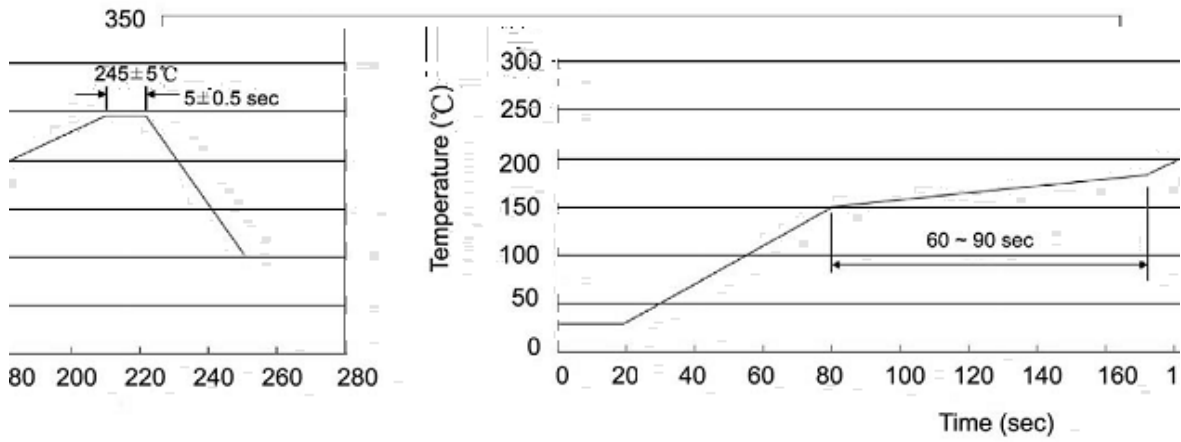
Note:

BR: Company Code.

393: Product Type.

****: Lot No. Code, code change with Lot No.

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|--------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices