élantec
HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

EL7232C

2-Ch, High-Speed, High-Current Line Driver w/3-State

Features

- 3-State output
- 3V and 5V input compatible
- Clocking speeds up to 10 MHz
- 20ns Switching/delay time
- 2A Peak drive
- Low, matched output impedance — 5Ω
- Low quiescent current — 2.5mA
- Wide operating voltage — 4.5V-16V

Applications

- Parallel bus line drivers
- EPROM and PROM programming
- Motor controls
- Charge pumps
- Sampling circuits
- Pin drivers
- Bridge circuits

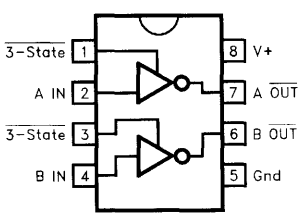
Ordering Information

Part No.	Package	Tape & Reel	Outline #
EL7232CN	PDIP-8	-	MDP0031
EL7232CS	SO-8	-	MDP0027
EL7232CS-T7	SO-8	7 in	MDP0027
EL7232CS-T13	SO-8	13 in	MDP0027

General Description

The EL7232C 3-state drivers are particularly well suited for ATE and microprocessor based applications. The low quiescent power dissipation makes this part attractive in battery applications. The 2A peak drive capability, makes the EL7232C an excellent choice when driving high speed capacitive lines, as well. The input circuitry provides level shifting from TTL levels to the supply rails. The EL7232C is available in 8-pin PDIP and 8-lead SO packages.

Connection Diagrams



Manufactured under U.S. Patent Nos. 5,334,883, #5,341,047

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Absolute Maximum Ratings (T_A = 25 °C)

Supply (V+ to Gnd)	16.5V	Operating Junction Temperature	125°C
Input Pins	-0.3V to +0.3V above V+	Power Dissipation	
Combined Peak Output Current	4A	SOIC	570mW
Storage Temperature Range	-65°C to +150°C	PDIP	1050mW
Ambient Operating Temperature	-40°C to +85°C		

Important Note:

All parameters having Min/Max specifications are guaranteed. Typ values are for information purposes only. Unless otherwise noted, all tests are at the specified temperature and are pulsed tests, therefore: $T_J = T_C = T_A$

DC Electrical Characteristics

T_A = 25°C, V = 15V unless otherwise specified

Parameter		Description	Test Conditions	Min	Typ	Max	Units
Input	V_{IH}	Logic "1" Input Voltage		2.4			V
	I_{IH}	Logic "1" Input Current	@V+		0.1	10	µA
	V_{IL}	Logic "0" Input Voltage				0.8	V
	I_{IL}	Logic "0" Input Current	@0V		0.1	10	µA
	V_{HYS}	Input Hysteresis			0.3		V
Output	R_{OH}	Pull-Up Resistance	I_{OUT} = -100mA		3	6	Ω
	R_{OL}	Pull-Down Resistance	I_{OUT} = +100mA		4	6	Ω
	I_{OFF}	3-State Output Leakage	V_{OUT} = V+ V_{OUT} = 0V	0.2		10	µA
	I_{PK}	Peak Output Current	Source Sink		2.0 2.0		A
	I_{DC}	Continuous Output Current	Source/Sink	100			mA
Power Supply	I_S	Power Supply Current	Inputs High		1	2.5	mA
	V_S	Operating Voltage		4.5		16	V

AC Electrical Characteristics

T_A = 25°C, V = 15V unless otherwise specified

Parameter		Description	Test Conditions	Min	Typ	Max	Units
Switching Characteristics	t_R	Rise Time	C_L = 500pF C_L = 1000pF		7.5 10		ns
	t_F	Fall Time	C_L = 500pF C_L = 1000pF		10 13	 20	ns
	t_{D-ON}	Turn-On Delay Time			18	25	ns
	t_{D-OFF}	Turn-Off Delay Time			20	25	ns

Truth Table

3-State	Input	Output
1	0	1
1	1	0
0	0	Open
0	1	Open

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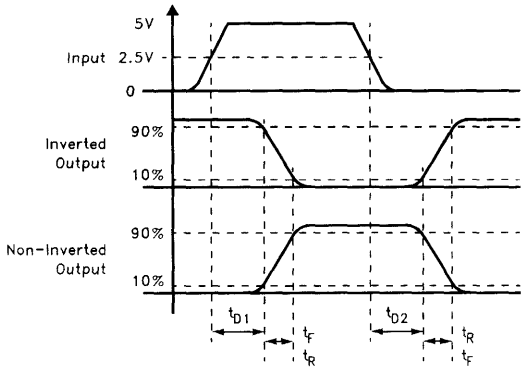
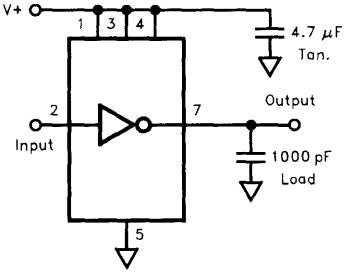
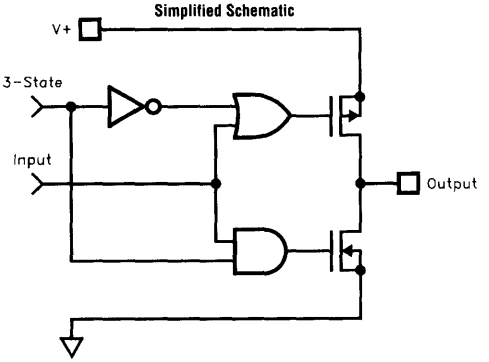
Timing Table



Standard Test Configuration

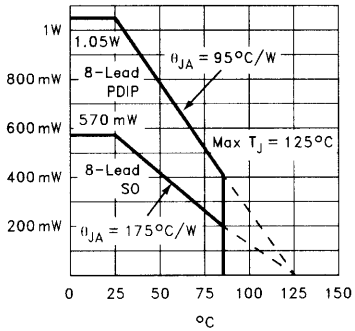


Simplified Schematic

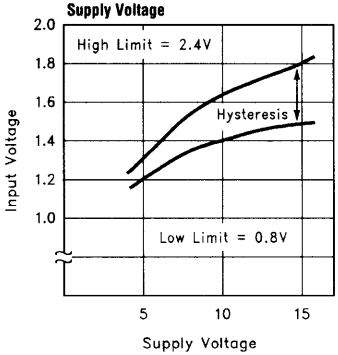


Typical Performance Curves

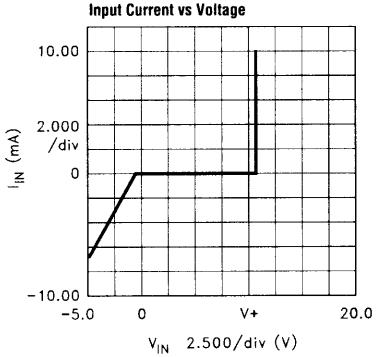
Max Power/Derating Curves



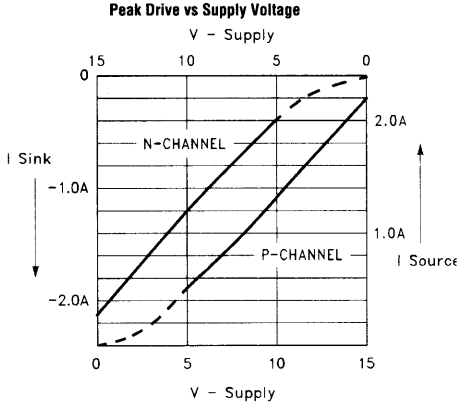
Switch Threshold vs Supply Voltage



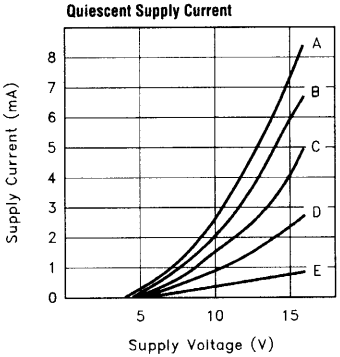
Input Current vs Voltage



Peak Drive vs Supply Voltage



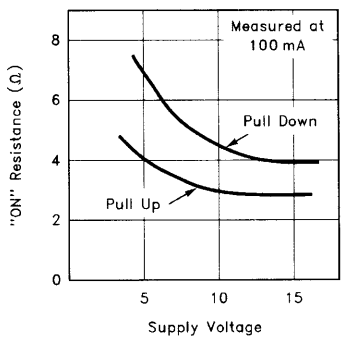
Quiescent Supply Current



CASE:

A	ALL INPUTS GND
B	3 INPUTS GND
C	2 INPUTS GND
D	1 INPUTS GND
E	ALL INPUTS V+

"ON" Resistance vs Supply Voltage



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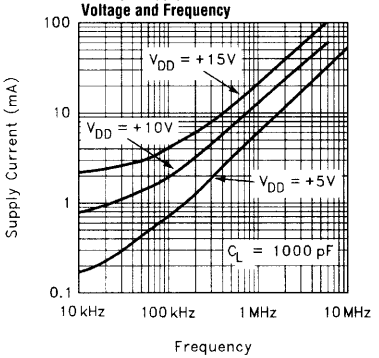
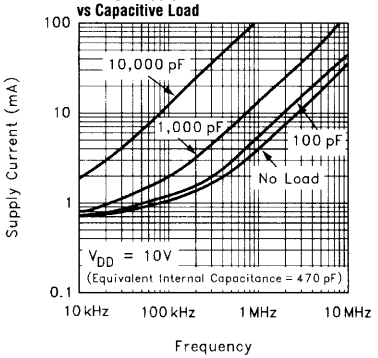
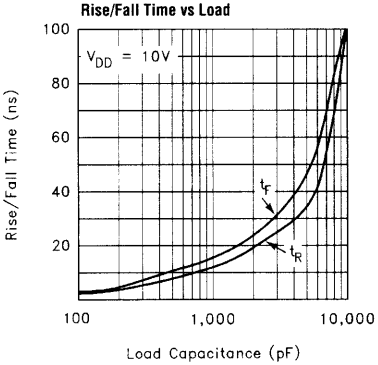
Average Supply Current vs Voltage and Frequency



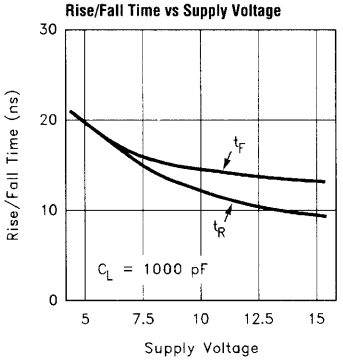
Average Supply Current vs Capacitive Load



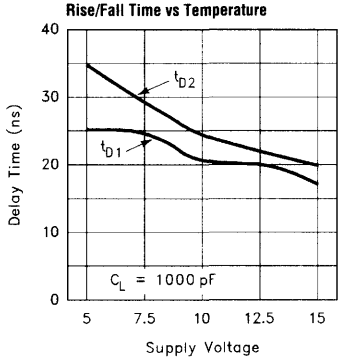
Rise/Fall Time vs Load



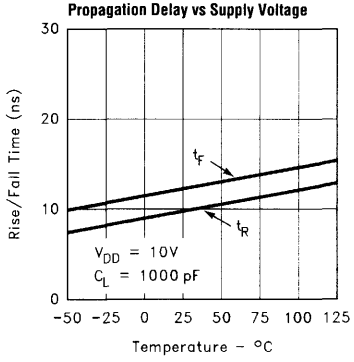
Rise/Fall Time vs Supply Voltage



Rise/Fall Time vs Temperature



Propagation Delay vs Supply Voltage



Propagation Delay vs Temperature