

Features

- Logic AND/NAND input
- 3V and 5V Input compatible
- Clocking speeds up to 10 MHz
- 20 ns Switching/delay time
- 2A Peak drive
- Isolated drains
- Low output impedance
- Low quiescent current
- Wide operating voltage — 4.5V – 16V

Applications

- Short circuit protected switching
- Under-voltage shut-down circuits
- Switch-mode power supplies
- Motor controls
- Power MOSFET switching
- Switching capacitive loads
- Shoot-thru protection
- Latching drivers

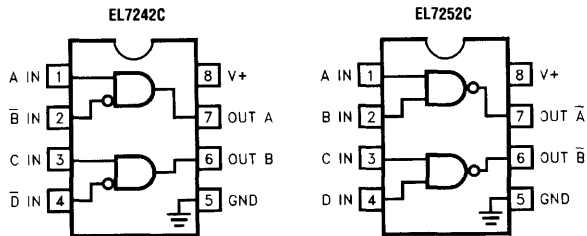
Ordering Information

Part No.	Package	Tape & Reel	Outline #
EL7242CN	PDIP-8	-	MDP0031
EL7242CS	SO-8	-	MDP0027
EL7242CS-T7	SO-8	7 in	MDP0027
EL7242CS-T13	SO-8	13 in	MDP0027
EL7252CN	PDIP-8	-	MDP0031
EL7252CS	SO-8	-	MDP0027
EL7252CS-T7	SO-8	7 in	MDP0027
EL7252CS-T13	SO-8	13 in	MDP0027

General Description

The EL7242C, EL7252C dual input, 2-channel drivers achieve the same excellent switching performance of the EL7212C family while providing added flexibility. The 2-input logic and configuration is applicable to numerous power MOSFET drive circuits. As with other Elantec drivers, the EL7242C, EL7252C are excellent for driving large capacitive loads with minimal delay and switching times. "Shoot-thru" protection and latching circuits can be implemented by simply "cross-coupling" the 2-channels.

Connection Diagrams



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

EL7242C, EL7252C

Dual Input, High Speed, Dual Channel Power MOSFET Driver

EL7242C, EL7252C

Absolute Maximum Ratings

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	SO	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

$T_A = 25^\circ\text{C}$, $V = 15\text{V}$ 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_{HVS}	Input Hysteresis		0.3		V
Output	R_{OH}	Pull-Up Resistance	$I_{OUT} = -100\text{mA}$	3	6	Ω
	R_{OL}	Pull-Down Resistance	$I_{OUT} = +100\text{mA}$	4	6	Ω
	I_{PK}	Peak Output Current	Source Sink	2 2		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

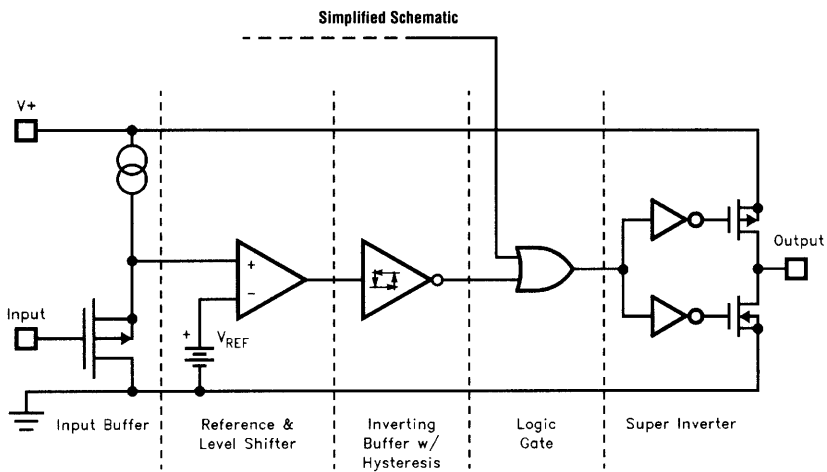
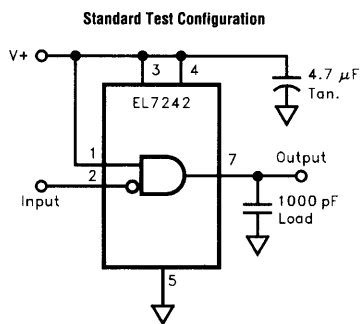
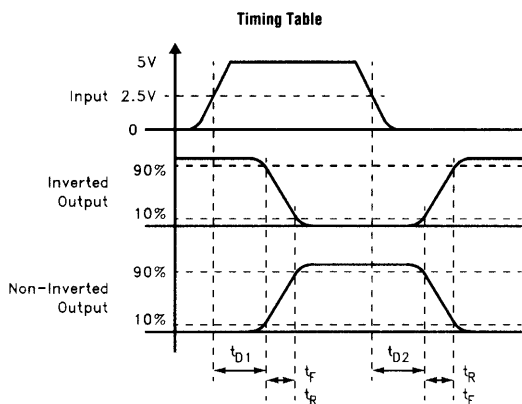
$T_A = 25^\circ\text{C}$, $V = 15\text{V}$ unless otherwise specified

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

MOSFET Drivers & Comparators

EL7242C, EL7252C

Dual Input, High Speed, Dual Channel Power MOSFET Driver

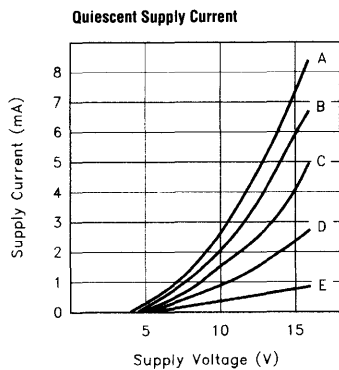
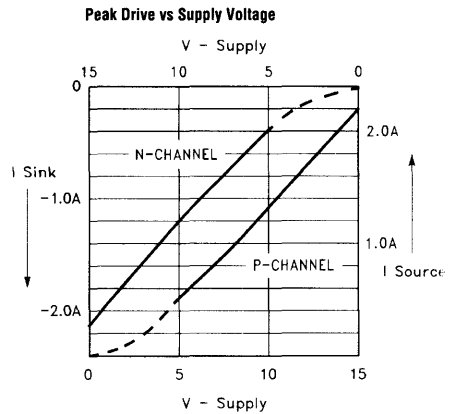
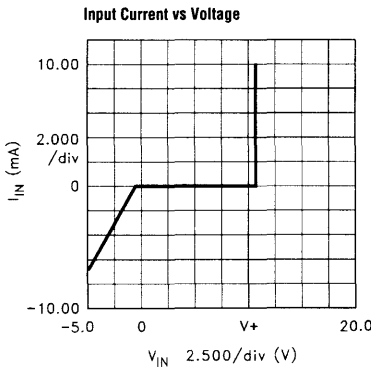
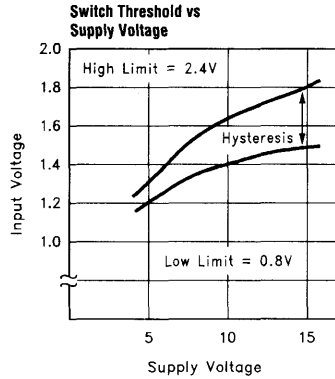
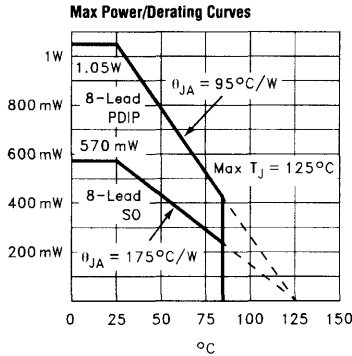


EL7242C, EL7252C

Dual Input, High Speed, Dual Channel Power MOSFET Driver

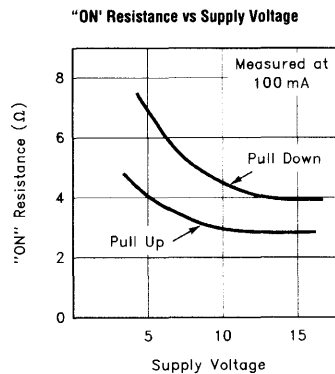
EL7242C, EL7252C

Typical Performance Curves



CASE:

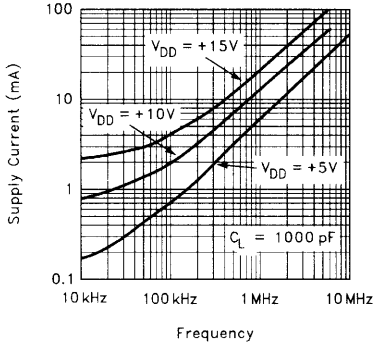
A	ALL INPUTS GND
B	3 INPUTS GND
C	2 INPUTS GND
D	1 INPUT GND
E	ALL INPUTS V+



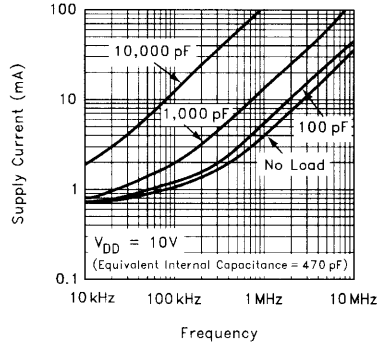
EL7242C, EL7252C

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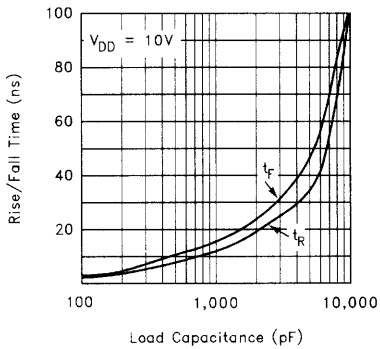
Average Supply Current vs Voltage and Frequency



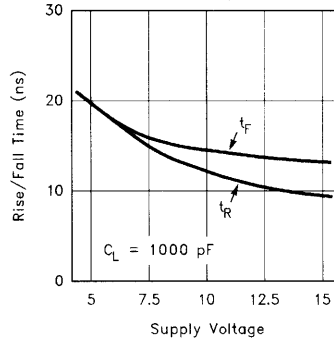
Average Supply Current vs Capacitive Load



Rise/Fall Time vs Load



Rise/Fall Time vs Supply Voltage

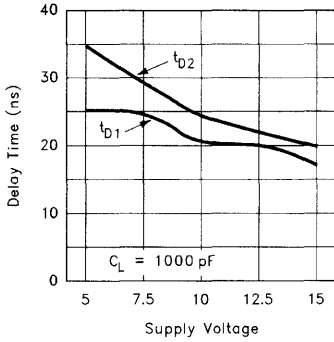


EL7242C, EL7252C

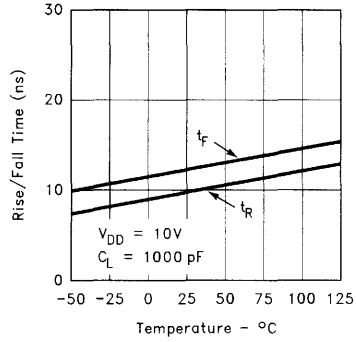
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EL7242C, EL7252C

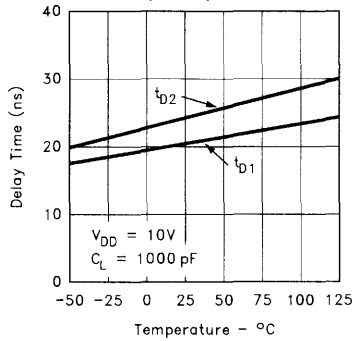
Propagation Delay vs Supply Voltage



Rise/Fall Time vs Temperature



Delay vs Temperature



MOSFET Drivers & Comparators