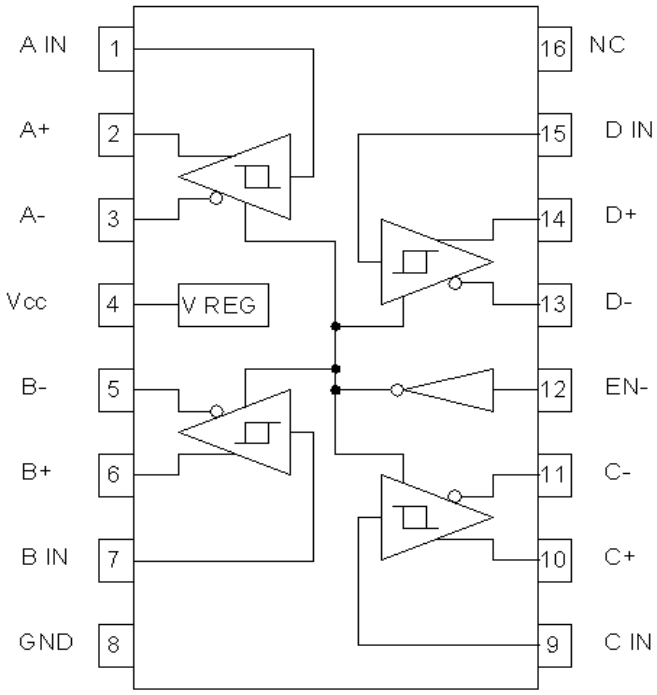
QUAD DIFFERENTIAL LINE DRIVER IC
WITH OPEN-COLLECTOR OUTPUTS AND ENABLE FUNCTION

ET7273C

FEATURES

- Supply Voltage Range 3.5V to 30V
- Operation to 800KHz
- CMOS and TTL Compatible Inputs
- Outputs RS-422A Compatible
- High Impedance Buffered Inputs with Hysteresis
- **NPN Open-Collector outputs**
- 80mA peak SINK current
- Outputs Protected by Thermal Shut-Down
- ESD protection to 1KV, HBM
- MSL level 2



DESCRIPTION

These line drivers are similar in function to the ET7272, only in an open-collector format. The V_{CC} pin powers the internal logic only. Output voltage is dependent on the customer supplied voltage, up to a maximum of 30V. There is essentially no difference in output swing or performance with $V_{CC\ (LOGIC)}$ values from 3.5V-30V. Internal clamp diodes allow trouble-free operation when driving cable lengths exceeding 100 meters. The outputs are protected by initiating shutdown when junciton temperatures exceed safe limits. This feature assures highly reliable operation in harsh environments. Heat sinking is aided by having pin 8 directly connected to the ASIC substrate inside the package. The revC version reduced the high level enable current.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Units	Ref.
Operating Temperature Range	T_A	-55	115	°C	Note 1
Supply Voltage Range	V_{CC}	3.5	30	V	

East Texas Integrated Circuits USA • 275 W. Campbell Road Suite 310 • Richardson, Texas 75080 • Tel (972) 234-5656 • Fax (972) 234-5657
Visit our website at www.etic-avago.com, or send us email at sales@etic-avago.com.

ELECTRICAL CHARACTERISTICS

Unless otherwise specified, T_A = 25°C and EN- <0.8V.

Parameters	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Overtemp Operate Point (junction)	T_{JOP}		172		°C	Note 1
Overtemp Release Point (junction)	T_{JRP}		136		°C	Note 1
Vcc Voltage Range	Vcc	3.5	5	30	V	
Supply Current Vcc1	Icc1		11.9	16.0	mA	
Supply Current Vcc2	ICC2		2.5	3.4	mA	Vcc = 5V, EN- >2V
Supply Current Vcc3	Icc3		12.1	18.5	mA	Vcc = 30V
Supply Current Vcc4	ICC4		2.6	3.5	mA	Vcc = 30V, EN- > 2V
Enable Input Threshold	V_{THE}	0.8	1.5	2	V	
Enable Low Level Input Current	I_{ILE}	-10	0	10	µA	V_{IN} = 0V, Vcc = 5V
Enable High Level Input Current	I_{IHE}	-	108	150	µA	V_{IN} = 5V, Vcc = 5V
High Impedance Output Leakage	I_{OZ}	-4.0	0.0	4.0	µA	Vcc = 5V, EN- > 2V, Output at 15V
Input Positive-Going Threshold	V_{T+}	1.05	1.25	1.45	V	
Input Negative-Going Threshold	V_{T-}	0.75	0.95	1.15	V	
Input Hysteresis	V_H	-	0.3	-	V	
Low Level Input Current	I_{IL}		-0.1	-4.0	µA	V_{IN} = 0V, Vcc = 5V
High Level Input Current	I_{IH}		0	4.0	µA	V_{IN} = 5V, Vcc = 5V
Low Level Output1	$V_{OL}1$		375	500	mV	I_{OL} = 20mA, Vcc = 5V, V_{OC} = 30V
Low Level Output2	$V_{OL}2$		370	500	mV	I_{OL} = 20mA, Vcc =30V, V_{OC} = 30V
High Level Output Current1	$I_{OH}1$	-	0	10	µA	Vcc = 5V, V_{OC} = 30V
High Level Output Current2	$I_{OH}2$	-	0	10	µA	Vcc = 30V, V_{OC} = 30V

PIN FUNCTION TABLE

PIN NUMBERS	PIN NAMES	FUNCTION
1, 7, 9, 15	A IN, B IN, C IN, D IN	LOGIC LEVEL INPUTS
2, 6, 10, 14	A+, B+, C+, D+	TRUE OUTPUTS
3, 5, 11, 13	A-, B-, C-, D-	COMPLEMENT OUTPUTS
4	VCC	POWER
8	GND	RETURN
12	EN-	ENABLE, ACTIVE LOW
16	NC	no connection

East Texas Integrated Circuits USA • 275 W. Campbell Road Suite 310 • Richardson, Texas 75080 • Tel (972) 234-5656 • Fax (972) 234-5657
Visit our website at www.etic-avago.com, or send us email at sales@etic-avago.com.

AC SWITCHING CHARACTERISTICS

Load is 470 ohms and 1000pF, output to its compliment, and 470 ohms each output to V_{OC}.

Parameters	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Propagation delay, rising input 50% point to zero crossing of differential outputs	T_{PLH}	-	232	325	ns	
Propagation delay, falling input 50% point to zero crossing of differential outputs	T_{PHL}	-	236	330	ns	
Output Rise Time	T_R	-	516	722	ns	
Output Fall Time	T_F	-	516	722	ns	

NOTES:

1. This is not a test parameter, but for information only.
2. Unused inputs should be connected to ground.
3. Do not leave pin 12 open. In applications which do not use the enable function, this pin should be tied to ground.

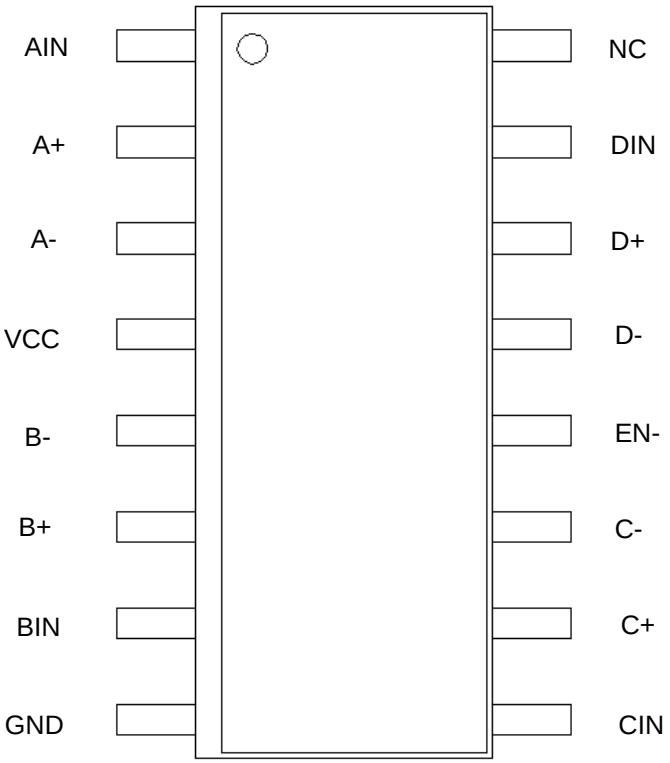
Ordering Information:

PART NUMBER	DESCRIPTION	Packaging	MINIMUM ORDER
ET7273C SOIC	16L SOIC (See drawing)	50 per tube	50
ET7273C T&R	SOIC on Tape & Reel	Reel size & qty per customer PO	500

East Texas Integrated Circuits USA • 275 W. Campbell Road Suite 310 • Richardson, Texas 75080 • Tel (972) 234-5656 • Fax (972) 234-5657
Visit our website at www.etic-avago.com, or send us email at sales@etic-avago.com.

ET7273C SOIC

Package Drawing for 16L SOIC



East Texas Integrated Circuits USA • 275 W. Campbell Road Suite 310 • Richardson, Texas 75080 • Tel (972) 234-5656 • Fax (972) 234-5657
Visit our website at www.etic-avago.com, or send us email at sales@etic-avago.com.