

CA3161

August 1997

Features

- TTL Compatible Input Logic Levels
- 25mA (Typ) Constant Current Segment Outputs
- Eliminates Need for Output Current Limiting Resistors
- Pin Compatible with Other Industry Standard Decoders
- Low Standby Power Dissipation18mW (Typ)

Ordering Information

PART NUMBER	TEMP. RANGE (^o C)	PACKAGE	PKG. NO.
CA3161E	0 to 70	16 Ld PDIP	E16.3

Description

The CA3161E is a monolithic integrated circuit that performs the BCD to seven segment decoding function and features constant current segment drivers. When used with the CA3162E A/D Converter the CA3161E provides a complete digital readout system with a minimum number of external parts.

BCD to Seven Segment Decoder/Driver



CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures. http://www.intersil.com or 407-727-9207 | Copyright © Intersil Corporation 1999

Absolute Maximum Ratings

DC V _{SUPPLY} (Between Terminals 1 and 10)+7.0V	/
Input Voltage (Terminals 1, 2, 6, 7)+5.5V	/
Output Voltage	
Output "Off"+7V	/
Output "On" (Note 1)+10V	/

Thermal Information

Thermal Resistance (Typical, Note 2)	θ_{JA} (°C/W)
PDIP Package	100
Maximum Junction Temperature	150 ⁰ C
Maximum Storage Temperature Range6	5 ^o C to 150 ^o C
Maximum Lead Temperature (Soldering 10s)	300 ⁰ C

Operating Conditions

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

NOTES:

- 1. This is the maximum output voltage for any single output. The output voltage must be consistent with the maximum dissipation and derating curve for worst case conditions. Example: All segments "ON", 100% duty cycle.
- 2. θ_{JA} is measured with the component mounted on an evaluation PC board in free air.

Electrical Specifications T_A = 25°C

PARAMETER	TEST CONDITIONS	MIN	ТҮР	МАХ	UNITS	
V _{SUPPLY} Operating Range, V ⁺		4.5	5	5.5	V	
Supply Current, I ⁺ (All Inputs Hig		-	3.5	8	mA	
Output Current Low (V _O = 2V)		18	25	32	mA	
Output Current High (V _O = 5.5V)		-	-	250	μA	
Input Voltage High (Logic "1" Level)			2	-	-	V
Input Voltage Low (Logic "0" Level)			-	-	0.8	V
Input Current High (Logic "1")		2V	-30	-	-	μΑ
Input Current Low (Logic "0")		0V	-40	-	-	μA
Propagation Delay Time,	^t PHL		-	2.6	-	μs
	^t PLH		-	1.4	-	μs

CA3161

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BINARY STATE	2 ³	1NP 2 ²	UTS 2 ¹	2 ⁰	а	b) د ا	DUTPUT: d	S e	f	g	DISPLAY
0	L	L	L	L	L	L	L	L	L	L	H	
1	L	L	L	H	Н	L	L	Н	Н	Н	Н	
2	L	L	Н	L	L	L	Н	L	L	Н	L	
3	L	L	Н	Н	L	L	L	L	Н	Н	L	
4	L	н	L	L	Н	L	L	Н	Н	L	L	Ц
5	L	н	L	Н	L	Н	L	L	Н	L	L	5
6	L	н	Н	L	L	Н	L	L	L	L	L	5
7	L	Н	Н	Н	L	L	L	Н	Н	Н	H	7
8	Н	L	L	L	L	L	L	L	L	L	L	B
9	Н	L	L	H	L	L	L	L	Н	L	L	
10	Н	L	Н	L	H	Н	Н	H	H	Н	L	-
11	Н	L	Н	Н	L	Н	Н	L	L	L	L	E
12	Н	Н	L	L	Н	L	L	Н	L	L	L	H
13	Н	Н	L	Н	Н	Н	Н	L	L	L	H	/
14	Н	н	н	L	L	L	Н	Н	L	L	L	,
15	Н	Н	Н	Н	Н	Н	н	Н	Н	Н	Н	BLANK

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