Segment identification

Resulting display

Description:
This device converts BCD input data into control signals for 7-segment displays.

Mode of operation:
The BCD code is fed to inputs A through D, and after decoding in the IC, provides 7-segment display (a - f) segment control data. The outputs are open-collector, but with an internal 2kΩ pull-up resistor. The decoder outputs are active-high and have a maximum low-level output sink current of 6 mA. If higher currents are required, especially for multiplex operation, additional external transistors are required.
There is no internal latch.
The top horizontal segment (a) of the number 6 and the bottom horizontal segment (d) of the number 9 are not displayed. For normal operation, the pins LT (lamp test, pin 3) and BI/RBO (ripple blanking output, pin 4) are pulled high (RBI = ripple blanking input, can be either level).
All segments can be checked by taking LT low. This should activate all segments, i.e. a figure 8 should be displayed. Leading zeros in multi-digit displays are suppressed by linking the BI/RBO output of one digit with the RBI input of the place below it. As suppression of the zero in the least significant digit is not normally desirable, the RBI of this stage is left open. Trailing zeros after the decimal point can be suppressed in a similar manner. As all segments are switched off when BI/RBO is low, a display intensity control can be implemented by applying a pulse-modulated signal to this pin.

Application:
Control of 7-segment displays, especially in multiplexing.

Data:								
Propagation delay ns	100						100	
Maximum collector current mA	55						25	

Families:	Std	ALS	AS	F	H	L	LS	S
	●						●	

BCD-TO-7-SEGMENT DECODER/DRIVER

7448