

74141 BCD-to-Decimal Decoder/Driver

	Schottky TTL				High-Speed TTL				Low-Power Schottky TTL				Standard TTL				Low-Power TTL				
	Device Type	Package				Device Type	Package				Device Type	Package				Device Type	Package				
		C	P	M	CF		C	P	M	CF		C	P	M	CF		C	P	M	CF	
T.I.													SN74141	J	Q	N	Q				
FAIRCHILD													FC74141/FC93141	D	Q	P	Q				
MOTOROLA													MC74141			P	Q				
N. S. C.													DM74141			N	Q				
PHILIPS																					
SIGNETICS																					
SIEMENS													N74141			B	Q				
FUJITSU													FLL101			Q					
HITACHI																					
MITSUBISHI													HD74141/HD2558	Q		P	Q				
NEC																					
TOSHIBA													μ PB2141			D	Q				

Electrical Characteristics SN74141

absolute maximum ratings over operating free-air temperature range

Supply voltage, V_{CC}	7V	Operating free-air temperature range	SN74	0°C to 70°C
Input voltage	5.5V	Storage temperature range		-65°C to 150°C
Current into any output (off-state)	2mA			

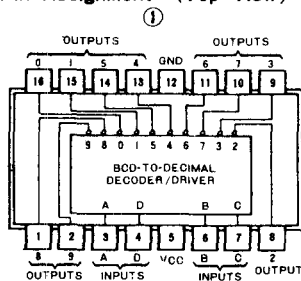
recommended operating conditions

	SN74141			UNIT
	MIN	NOM	MAX	
Supply voltage, V_{CC}	4.75	5	5.25	V
Off-state output voltage			60	V
Operating free-air temperature, T_A	0		70	°C

electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS †	MIN	TYP ‡	MAX	UNIT
V_{IH} High-level input voltage		2			V
V_{IL} Low-level input voltage			0.8		V
V_I Input clamp voltage	$V_{CC} = \text{MIN.}$, $I_I = -5\text{mA}$		-1.5		V
$V_{O(on)}$ On-state output voltage	$V_{CC} = \text{MIN.}$, $I_O = 7\text{mA}$		2.5		V
$V_{O(off)}$ Off-state output voltage	$V_{CC} = \text{MAX.}$, $I_O = 0.5\text{mA}$	60			V
$I_{O(off)}$ Off-state reverse current	$V_{CC} = \text{MAX.}$, $V_O = 5\text{V}$		50		μA
$I_{O(off)}$ Off-state reverse current for input counts 10 thru 15	$V_{CC} = \text{MAX.}$, $T_A = 70^\circ\text{C}$, $V_O = 30\text{V}$		15		μA
I_I Input current at medium input voltage	$V_{CC} = \text{MAX.}$, $V_I = 5.5\text{V}$		1		mA
I_{IH} High-level input current	$V_{CC} = \text{MAX.}$, $V_I = 2.4\text{V}$		40		μA
I_{IL} Low-level input current	$V_{CC} = \text{MAX.}$, $V_I = 0.4\text{V}$		-1.6		mA
I_{CC} Supply current	$V_{CC} = \text{MAX.}$, See Note	16	25		mA

Pin Assignment (Top View)



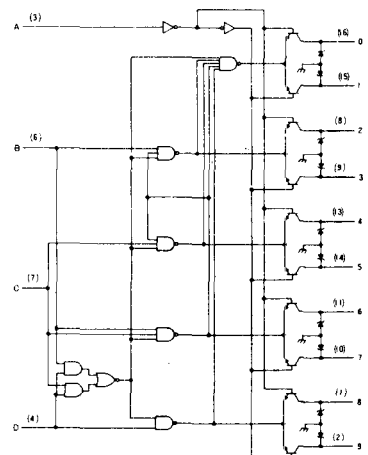
positive logic: see function table

Function Table '141

INPUT	OUTPUT
D C B A	ON †
L L L L	0
L L L H	1
L L H L	2
L L H H	3
L H L L	4
L H L H	5
L H H L	6
L H H H	7
H L L L	8
H L L H	9
H L H L	NONE
H L H H	NONE
H H L L	NONE
H H L H	NONE
H H H L	NONE
H H H H	NONE

H = high level, L = low level
† All other outputs are off

Functional Block Diagram



'141 BCD-TO-DECIMAL DECODER/DRIVER

NOTE: I_{CC} is measured with all inputs grounded and outputs open.

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ This typical value is at $V_{CC} = 5\text{V}$, $T_A = 25^\circ\text{C}$.