



### DESCRIPTION

The AL245 is designed for asynchronous communication between two data buses. The logic levels of the direction-control (DIR) input and the output-enable ( $\overline{OE}$ ) input activate either the B-port outputs or the A-port outputs or place both output ports into the high-impedance mode.

The AL245 transmits data from the A bus to the B bus when the B-port outputs are activated, and from the B bus to the A bus when the A-port outputs are activated. The input circuitry on both A and B ports is always active and must have a logic High or Low level applied to prevent excess  $I_{CC}$  and  $I_{OZ}$ .

The  $V_{CC}$  isolation feature ensures that if either  $V_{CC}$  input is at GND, all outputs are in a high-impedance state. To ensure the high-impedance state during power up or power down, ( $\overline{OE}$ ) should be tied to  $V_{CC}$  through a pullup resistor, the minimum value of the resistor is determined by the current-sinking capability of the driver.

The AL245 is available in SOP20, DIP20 and TSSOP20 packages.

### ORDERING INFORMATION

Package Type	Part Number	
SOP20 SPQ: 1500pcs/Reel	M20	AL245M20R
		AL245M20VR
TSSOP20 SPQ:4,000pcs/Reel	TMX20	AL245TMX20R
		AL245TMX20VR
DIP20 SPQ: 18pcs /Tube 720pcs/Box	P20	AL245P20U
		AL245P20VU
Note	V: Halogen free Package R: Tape & Reel U: Tube	
AiT provides all RoHS products		

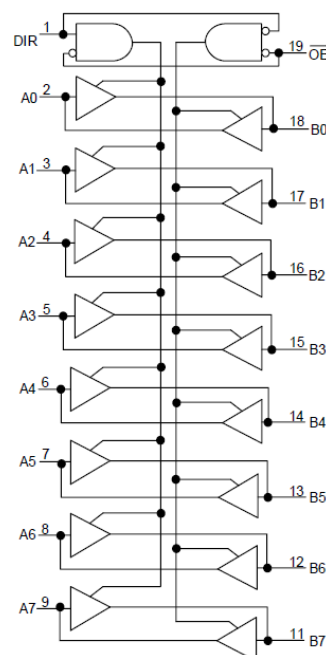
### FEATURES

- 2.0V to 6.0V Operation
- $\overline{OE}$  Isolation: If  $\overline{OE}$  is at level HIGH, Output ports are in the high Impedance OFF State
- Extended Temperature: -40°C to +125°C
- Octal Bidirectional bus Interface
- Non-inverting 3- state output.

### APPLICATION

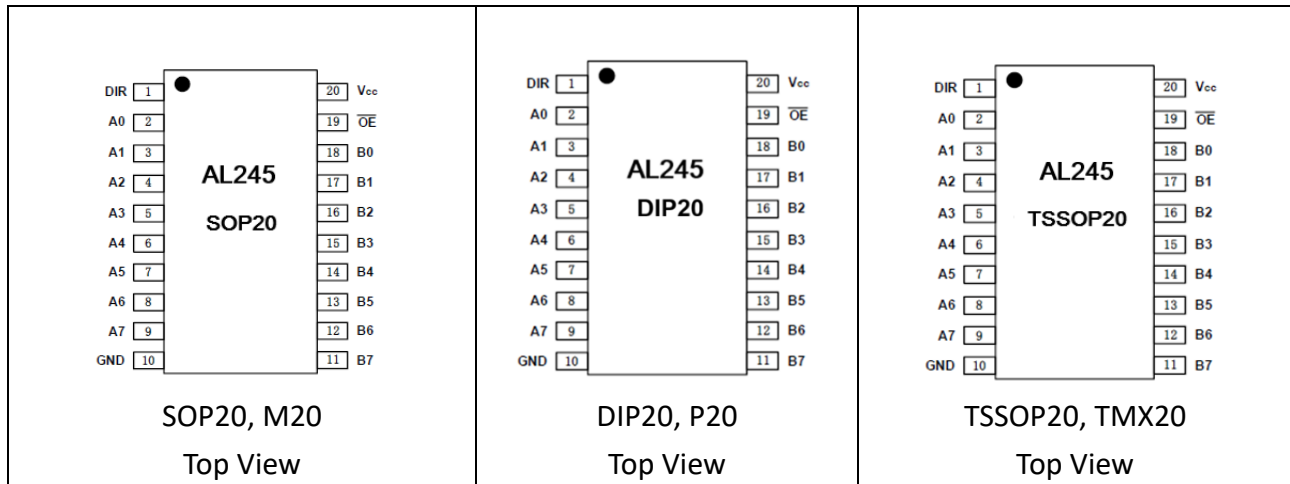
- Servers
- LED Displays
- Network Switches
- Telecom Infrastructure
- Motor Drivers
- I/O Expanders
- Handset
- Smartphone
- Tablet
- Desktop PC

### FUNCTIONAL BLOCK DIAGRAM





**PIN DESCRIPTION**



Pin #	Symbol	I/O	Function
<b>SOP20, TSSOP20, DIP20</b>			
1	DIR	I	Direction control
2	A0	I/O	Input/output
3	A1	I/O	Input/output
4	A2	I/O	Input/output
5	A3	I/O	Input/output
6	A4	I/O	Input/output
7	A5	I/O	Input/output
8	A6	I/O	Input/output
9	A7	I/O	Input/output
10	GND	G	Ground.
11	B7	I/O	Input/output
12	B6	I/O	Input/output
13	B5	I/O	Input/output
14	B4	I/O	Input/output
15	B3	I/O	Input/output
16	B2	I/O	Input/output
17	B1	I/O	Input/output
18	B0	I/O	Input/output
19	$\overline{OE}$	I	Output Enable (Active Low). Pull $\overline{OE}$ high to place all outputs in 3- state mode.
20	V <sub>CC</sub>	P	Supply voltage. 2.0V ≤ V <sub>CC</sub> ≤ 6.0V

**FUNCTION TABLE**



Input		Output		OPERATION
OE	DIR	A PORT	B PORT	
L	L	Enabled	Hi-Z	B data to A
L	H	Hi-Z	Enabled	A data to B
H	X	Hi-Z	Hi-Z	Isolation

H=HIGH voltage level    L=LOW voltage level    X=don't care    Z=high impedance OFF-state

### ABSOLUTE MAXIMUM RATINGS

over operating free-air temperature range, unless otherwise noted <sup>(1)</sup>

V <sub>I</sub> , Input Voltage Range <sup>(2)</sup>	-0.5V ~ 7.0V
I <sub>IK</sub> , Input Clamp Current	V <sub>I</sub> <-0.5 or V <sub>I</sub> >V <sub>CC</sub> +0.5V    ±20mA
I <sub>OK</sub> , Output Clamp Current	V <sub>O</sub> <-0.5 or V <sub>O</sub> >V <sub>CC</sub> +0.5V    ±20mA
I <sub>O</sub> , Continuous Output Current	-0.5< V <sub>O</sub> < V <sub>CC</sub> +0.5V    ±35mA
I <sub>CC</sub> , Continuous Current Through V <sub>CC</sub> or GND	±70mA
T <sub>J</sub> , Junction Temperature	150°C
T <sub>STG</sub> , Storage Temperature	-65°C ~ 150°C
P <sub>TOT</sub> , Total Power Dissipation	500mW
T <sub>L</sub> , Soldering Temperature (10s) SOP20, TSSOP20	260°C

(1) Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

(2) The input and output negative-voltage ratings may be exceeded if the input and output current ratings are observed.

(3) The value of V<sub>CC</sub> is provided in the Recommended Operating Conditions table.

### RECOMMENDED OPERATING CONDITIONS

V<sub>CC</sub> is the supply voltage associated with the input port and output port.<sup>(1)(2)</sup>

Parameter	Symbol	Conditions	Min.	Max.	Unit
Supply Voltage	V <sub>CC</sub>		2.0	6.0	V
Input voltage	V <sub>I</sub>		0	V <sub>CC</sub>	V
Output Voltage	V <sub>O</sub>		0	V <sub>CC</sub>	V
Low-level input voltage		V <sub>CC</sub> =2.0V	-	625	ns/V
Input transition rise	Δt/ΔV	V <sub>CC</sub> =4.5V	-	139	
or fall rate		V <sub>CC</sub> =6.0V	-	83	
Ambient Temperature		T <sub>amb</sub>		-40	125

(1) All unused or driven (floating) data inputs (I/Os) of the device must be held at logic High or Low preferably V<sub>CC</sub> or GND) to ensure proper device operation and minimize power.

(2) All unused control inputs must be held at V<sub>CC</sub> or GND to ensure proper device operation and minimize power consumption.

(3) For V<sub>CC</sub> values not specified in the data sheet, V<sub>IH min</sub> = V<sub>CC</sub> × 0.7 V, V<sub>IL max</sub> = V<sub>CC</sub> × 0.3 V.

### ELECTRICAL CHARACTERISTICS



**DC Characteristics 1**

T<sub>amb</sub>=25°C, Voltages are referenced to Ground ( GND=0V) , Unless Otherwise Specified.

Parameter		Conditions	Min.	Typ.	Max.	Unit
V <sub>IH</sub>	High -Level Input Voltage	V <sub>CC</sub> =2.0V	1.5	1.2	-	V
		V <sub>CC</sub> =4.5V	3.15	2.4	-	
		V <sub>CC</sub> =6.0V	4.2	3.2	-	
V <sub>IL</sub>	Low -Level Input Voltage	V <sub>CC</sub> =2.0V	-	0.8	0.5	V
		V <sub>CC</sub> =4.5V	-	2.1	1.35	
		V <sub>CC</sub> =6.0V	-	2.8	1.8	
V <sub>OH</sub>	High -Level output Voltage	I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	1.9	2.0	-	V
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	4.4	4.5	-	
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.9	6.0	-	
		I <sub>O</sub> = -60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	3.98	4.32	-	
		I <sub>O</sub> =-7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.48	5.81	-	
V <sub>OL</sub>	Low -Level Output Voltage	I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	-	0	0.1	V
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	0	0.1	
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	0	0.1	
		I <sub>O</sub> = 60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	0.15	0.26	
		I <sub>O</sub> =7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	0.16	0.26	
I <sub>I</sub>	Input Leakage Current	V <sub>I</sub> =V <sub>CC</sub> or GND; V <sub>CC</sub> =6.0V	-	-	±1.0	μA
I <sub>CC</sub>	Supply Current	V <sub>I</sub> =V <sub>CC</sub> or GND ; I <sub>O</sub> =0A; V <sub>CC</sub> =6.0V,	-	-	8.0	μA
I <sub>OZ</sub>	Off- State Output Current	V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>CC</sub> =6.0V ; V <sub>O</sub> =V <sub>CC</sub> or GND	-	-	±1.0-	μA
C <sub>I</sub>	Input Capacitance		-	3.5	-	pF
C <sub>I/O</sub>	Input/Output Capacitance		-	10	-	pF

**DC Characteristics 2**

T<sub>amb</sub>=-40°C to 85°C , Voltages are referenced to Ground ( GND=0V), Unless Otherwise Specified.



Parameter		Conditions	Min.	Typ.	Max.	Unit
V <sub>IH</sub>	High -Level Input Voltage	V <sub>CC</sub> =2.0V	1.5	-	-	V
		V <sub>CC</sub> =4.5V	3.15	-	-	
		V <sub>CC</sub> =6.0V	4.2	-	-	
V <sub>IL</sub>	Low -Level Input Voltage	V <sub>CC</sub> =2.0V	-	-	0.5	
		V <sub>CC</sub> =4.5V	-	-	1.35	
		V <sub>CC</sub> =6.0V	-	-	1.8	
V <sub>OH</sub>	High -Level output Voltage	I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	1.9	-	-	V
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	4.4	-	-	
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.9	-	-	
		I <sub>O</sub> = -60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	3.84	-	-	
		I <sub>O</sub> =-7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.34	-	-	
V <sub>OL</sub>	Low -Level Output Voltage	I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	-	-	0.1	V
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	-	0.1	
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	-	0.1	
		I <sub>O</sub> = 60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	-	0.33	
		I <sub>O</sub> =7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	-	0.33	
I <sub>I</sub>	Input Leakage Current	V <sub>I</sub> =V <sub>CC</sub> or GND; V <sub>CC</sub> =6.0V	-	-	±1.0	μA
I <sub>CC</sub>	Supply Current	V <sub>I</sub> =V <sub>CC</sub> or GND ; I <sub>O</sub> =0A; V <sub>CC</sub> =6.0V,	-	-	80	μA
I <sub>OZ</sub>	Off- State Output Current	V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>CC</sub> =6.0V ; V <sub>O</sub> =V <sub>CC</sub> or GND	-	-	±5.0-	μA
C <sub>I</sub>	Input Capacitance		-	3.5	-	pF
C <sub>I/O</sub>	Input/Output Capacitance		-	10	-	pF

**DC Characteristics 3**

T<sub>amb</sub>=-40°C to 125°C , Voltages are referenced to Ground ( GND=0V), Unless Otherwise Specified.



Parameter		Conditions	Min.	Typ.	Max.	Unit
V <sub>IH</sub>	High -Level Input Voltage	V <sub>CC</sub> =2.0V	1.5	-	-	V
		V <sub>CC</sub> =4.5V	3.15	-	-	
		V <sub>CC</sub> =6.0V	4.2	-	-	
V <sub>IL</sub>	Low -Level Input Voltage	V <sub>CC</sub> =2.0V	-	-	0.5	
		V <sub>CC</sub> =4.5V	-	-	1.35	
		V <sub>CC</sub> =6.0V	-	-	1.8	
V <sub>OH</sub>	High -Level output Voltage	I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	1.9	-	-	V
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	4.4	-	-	
		I <sub>O</sub> = -20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.9	-	-	
		I <sub>O</sub> = -60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	3.70	-	-	
		I <sub>O</sub> =-7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	5.20	-	-	
V <sub>OL</sub>	Low -Level Output Voltage	I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =2.0V	-	-	0.1	V
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	-	0.1	
		I <sub>O</sub> = 20μA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	-	0.1	
		I <sub>O</sub> = 60mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =4.5V	-	-	0.40	
		I <sub>O</sub> =7.8mA, V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> V <sub>CC</sub> =6.0V	-	-	0.40	
I <sub>I</sub>	Input Leakage Current	V <sub>I</sub> =V <sub>CC</sub> or GND; V <sub>CC</sub> =6.0V	-	-	±1.0	μA
I <sub>CC</sub>	Supply Current	V <sub>I</sub> =V <sub>CC</sub> or GND ; I <sub>O</sub> =0A; V <sub>CC</sub> =6.0V,	-	-	160	μA
I <sub>OZ</sub>	Off- State Output Current	V <sub>I</sub> =V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>CC</sub> =6.0V ; V <sub>O</sub> =V <sub>CC</sub> or GND	-	-	±10-	μA
C <sub>I</sub>	Input Capacitance		-	3.5	-	pF
C <sub>I/O</sub>	Input/Output Capacitance		-	10	-	pF

**AC Characteristics 1**

T<sub>amb</sub>=25°C, Voltages are referenced to Ground ( GND=0V ) , Unless Otherwise Specified.



Parameter	Form (Input)	TO (Output)	V <sub>CC</sub> =2.0V		V <sub>CC</sub> =4.5V		V <sub>CC</sub> =6.0V		Unit
			MIN	MAX	MIN	MAX	MIN	MAX	
t <sub>PLH</sub>	An	Bn	25	90	9	18	7	15	ns
t <sub>PHL</sub>	Bn	An	25	90	9	18	7	15	ns
t <sub>PHZ</sub>	$\overline{OE}$	An/ Bn Enable	30	150	11	30	9	26	ns
t <sub>PLZ</sub>	$\overline{OE}$	An/Bn Disable	41	150	15	30	12	26	ns
T <sub>THL</sub>	V <sub>OH</sub>	V <sub>OL</sub>	14	60	5	12	4	10	ns
T <sub>TLH</sub>	V <sub>OL</sub>	V <sub>OH</sub>	14	60	5	12	4	10	ns

**AC Characteristics 2**

T<sub>amb</sub>=-40°C~ 85°C Voltages are referenced to Ground ( GND=0V ) , Unless Otherwise Specified.

Parameter	Form (Input)	TO (Output)	V <sub>CC</sub> =2.0V		V <sub>CC</sub> =4.5V		V <sub>CC</sub> =6.0V		Unit
			MIN	MAX	MIN	MAX	MIN	MAX	
t <sub>PLH</sub>	An	Bn	-	115	-	23	-	20	ns
t <sub>PHL</sub>	Bn	An	-	115	-	23	-	20	ns
t <sub>PHZ</sub>	$\overline{OE}$	An/ Bn Enable	-	190	-	38	-	33	ns
t <sub>PLZ</sub>	$\overline{OE}$	An/Bn Disable	-	190	-	38	-	33	ns
T <sub>THL</sub>	V <sub>OH</sub>	V <sub>OL</sub>	-	75	-	15	-	13	ns
T <sub>TLH</sub>	V <sub>OL</sub>	V <sub>OH</sub>	-	75	-	15	-	13	ns

**AC Characteristics**

T<sub>amb</sub>=-40°C~ 125°C Voltages are referenced to Ground ( GND=0V ) , Unless Otherwise Specified.

Parameter	Form (Input)	TO (Output)	V <sub>CC</sub> =2.0V		V <sub>CC</sub> =4.5V		V <sub>CC</sub> =6.0V		Unit
			MIN	MAX	MIN	MAX	MIN	MAX	
t <sub>PLH</sub>	An	Bn	-	135	-	27	-	23	ns
t <sub>PHL</sub>	Bn	An	-	135	-	27	-	23	ns
t <sub>PHZ</sub>	$\overline{OE}$	An/ Bn Enable	-	225	-	45	-	38	ns
t <sub>PLZ</sub>	$\overline{OE}$	An/Bn Disable	-	225	-	45	-	38	ns
T <sub>THL</sub>	V <sub>OH</sub>	V <sub>OL</sub>	-	90	-	18	-	15	ns
T <sub>TLH</sub>	V <sub>OL</sub>	V <sub>OH</sub>	-	90	-	18	-	15	ns

**TYPICAL PERFORMANCE CHARACTERISTICS**



At  $T_A = 25^\circ\text{C}$   $V_{CC}=5\text{V}$ , (unless otherwise noted)

Fig1 Voltage vs Current

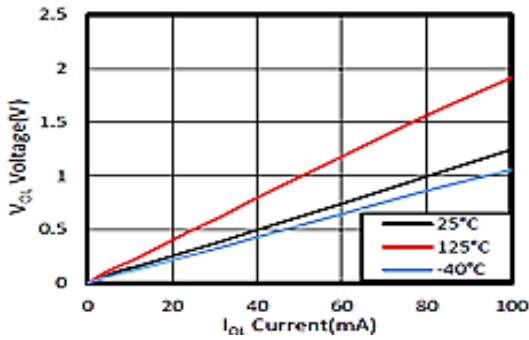
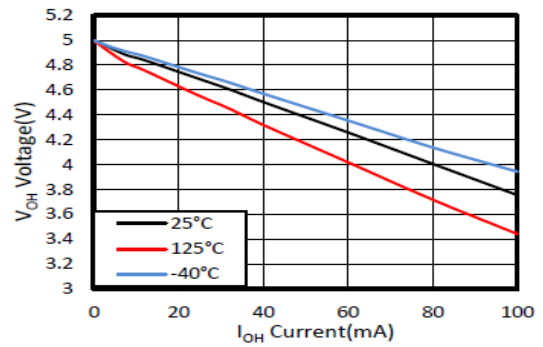


Fig2 Voltage vs Current

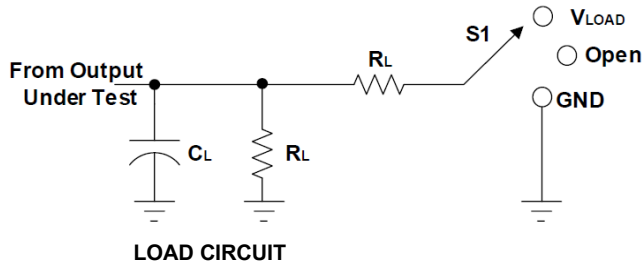


## AC ELECTRICAL CHARACTERISTICS

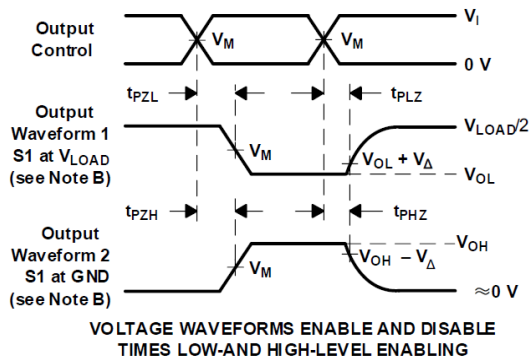
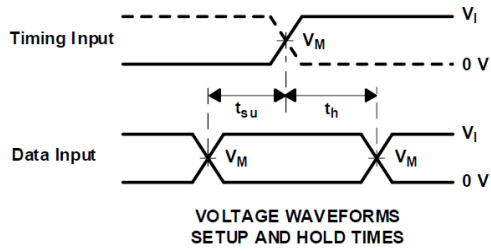
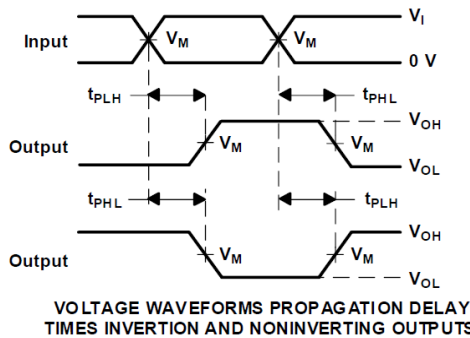
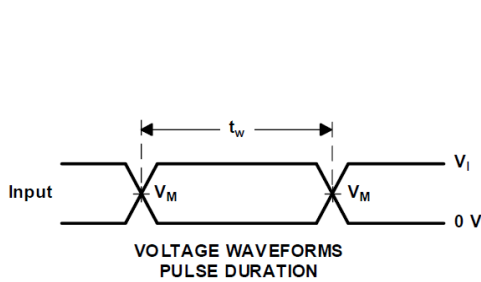
$T_{amb}=25^\circ\text{C}$ , Voltages are referenced to Ground ( GND=0V ) , Unless Otherwise Specified.

Parameter	Form (Input)	TO (Output)	V <sub>CC</sub> =2.0V		V <sub>CC</sub> =4.5V		V <sub>CC</sub> =5.0V		V <sub>CC</sub> =6.0V		Unit
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
t <sub>PLH</sub>	An	Bn	25	90	9	18	7	-	7	15	ns
t <sub>PHL</sub>	Bn	An	25	90	9	18	7	-	7	15	ns
t <sub>PHZ</sub>	$\overline{\text{OE}}$	An/ Bn Enable	30	150	11	30	-	-	9	26	ns
t <sub>PLZ</sub>	$\overline{\text{OE}}$	An/Bn Disable	41	150	15	30	-	-	12	26	ns
T <sub>THL</sub>	V <sub>OH</sub>	V <sub>OL</sub>	14	60	5	12	-	-	4	10	ns
T <sub>TLH</sub>	V <sub>OL</sub>	V <sub>OH</sub>	14	60	5	12	-	-	4	10	ns

## PARAMETER MEASUREMENT INFORMATION



TEST	S1
$t_{PLH}/t_{PHL}$	Open
$t_{PLZ}/t_{PZL}$	$V_{LOAD}$
$t_{PHZ}/t_{PZH}$	GND



NOTE A:  $C_L$  includes probe and jig capacitance.

B: Waveform 1 is for an output with internal conditions such that the output is low, except when disabled by the output control.

Waveform 2 is for an output with internal conditions such that the output is high, except when disabled by the output control.

C: All input pulses are supplied by generators having the following characteristics:  $PRR \leq 10$  MHz,  $Z_o = 50\Omega$ ,  $dv/dt \geq 1V/ns$ .

D: The outputs are measured one at a time, with one transition per measurement.

E:  $t_{PLZ}$  and  $t_{PHZ}$  are the same as  $t_{dis}$ .

F:  $t_{PZL}$  and  $t_{PZH}$  are the same as  $t_{en}$ .

G:  $t_{PLH}$  and  $t_{PHL}$  are the same as  $t_{pd}$ .

H: All parameters and waveforms are not applicable to all devices.

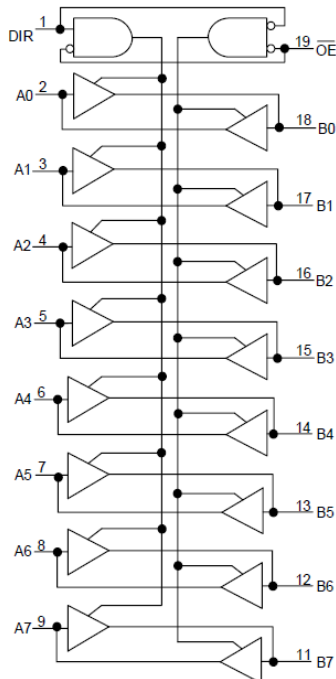
**Fig3. Load Circuit and Voltage Waveforms**

**Test Data Parameters**

Type	Input		Load		S1 Position		
	$V_i$	$t_r, t_f$	$C_L$	$R_L$	$t_{PHL}, t_{PLH}$	$t_{PZH}, t_{PHZ}$	$t_{PZL}, t_{PLZ}$
AL245	$V_{CC}$	6ns	15pF, 50pF	1K $\Omega$	Open	GND	$V_{CC}$

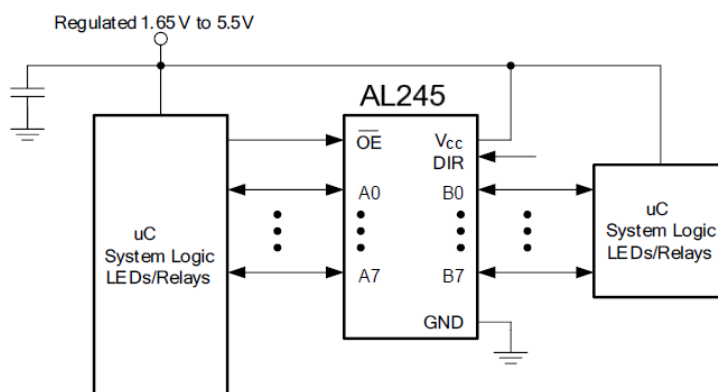


## BLOCK DIAGRAM



## APPLICATION INFORMATION

AL245 is a high drive CMOS device that can be used for a multitude of bus interface type applications where output drive or PCB trace length is a concern. The inputs can accept voltages to 5.5 V at any valid  $V_{CC}$  making it ideal for down translation.

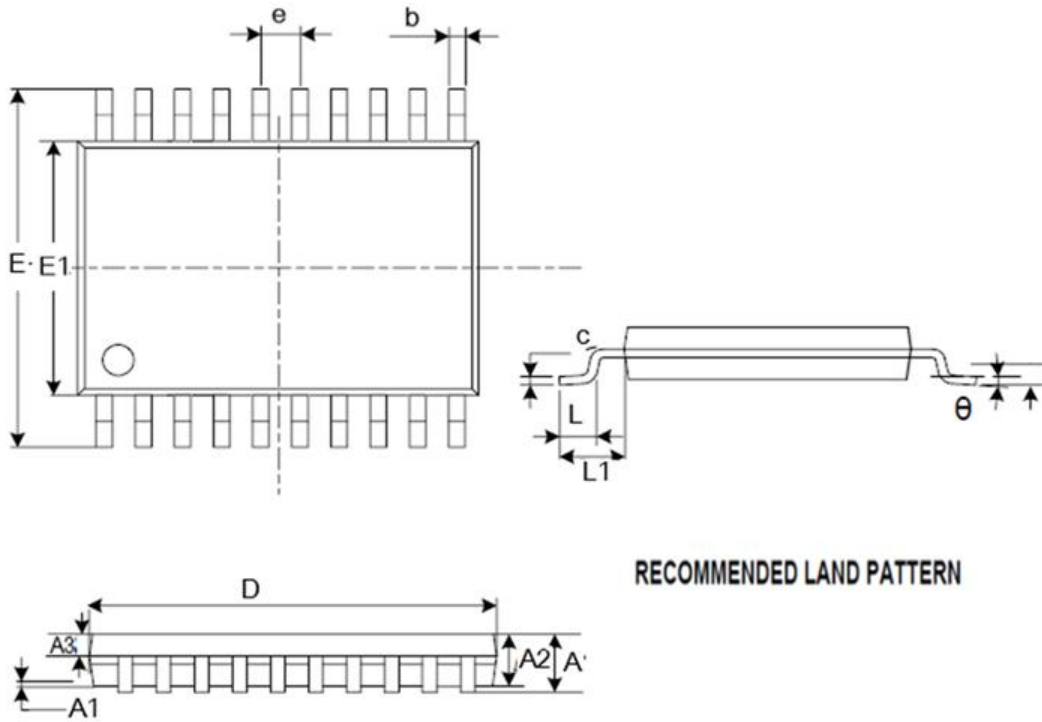


**Fig4 Typical Application Schematic**



**PACKAGE INFORMATION**

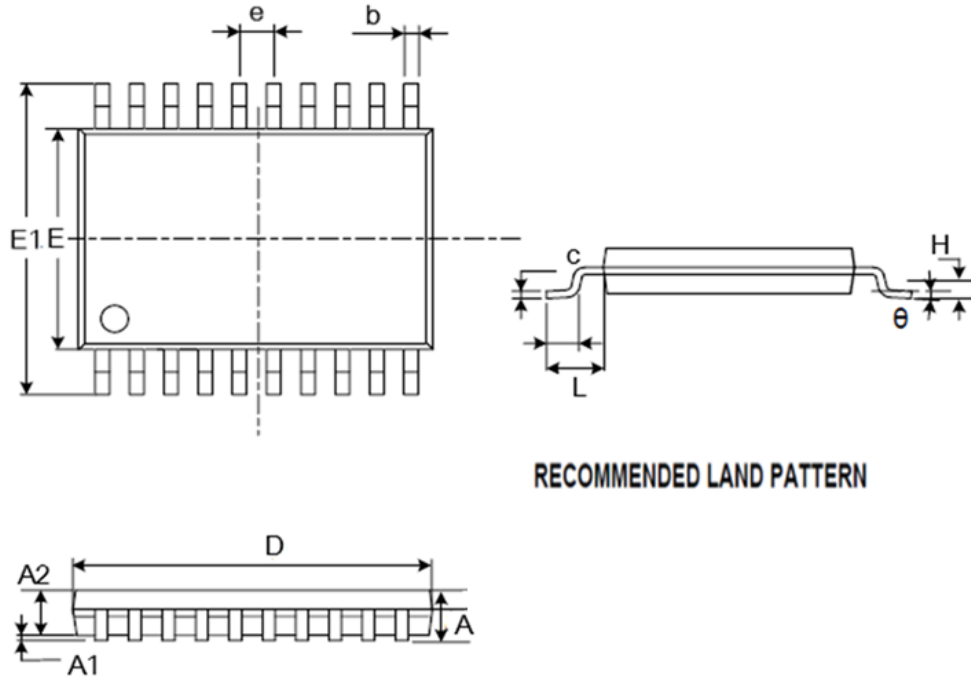
Dimension in SOP20 (Unit: mm)



Symbol	Millimeters	
	Min	Max
A	2.470	2.650
A1	0.050	0.300
A2	2.200	2.440
b	0.350	0.500
c	0.150	0.300
D	12.54	12.94
E	10.00	10.60
E1	7.300	7.700
e	1.270 BSC	
L	0.400	1.050
$\theta$	0°	8°
L1	1.300	1.500



Dimension in TSSOP20 (Unit: mm)

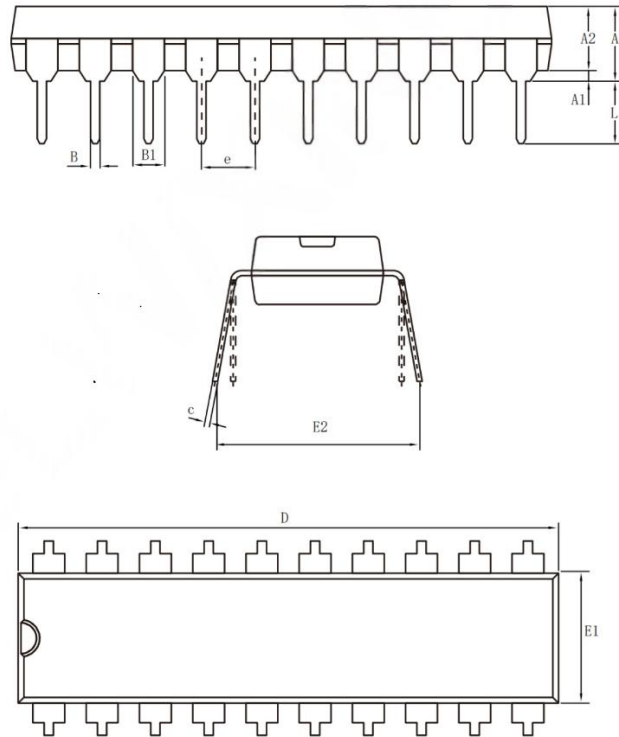


**RECOMMENDED LAND PATTERN**

Symbol	Millimeters	
	Min	Max
A	-	1.200
A1	0.050	0.150
A2	0.800	1.000
b	0.190	0.300
c	0.090	0.200
D	6.400	6.600
E	4.300	4.500
E1	6.200	6.600
e	0.650(BSC)	
L	0.500	0.700
H	0.250TYP	
θ	0°	7°
L	0.500	0.700



Dimension in DIP20 (Unit: mm)



Symbol	Millimeters	
	Min	Max
A	3.600	5.330
A1	0.510	
A2	3.200	3.600
B	0.360	0.530
B1	1.52 (BSC)	
C	0.204	0.360
D	25.70	26.54
E1	6.200	6.750
E2	7.620	9.300
e	2.54 (BSC)	
L	3.000	3.600



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