

## Description

The Advanced Ultra Low Power (AUP) CMOS logic family is designed for low power and extended battery life in portable applications.

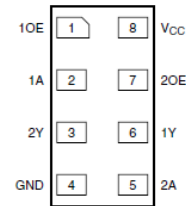
The 74AUP2G126 is a dual 3-State Buffer. Each buffer has an individual output enable pin while asserted LOW will place the output in a high impedance state. The device is designed for operation over a power supply range of 0.8V to 3.6V. The device is fully specified for partial power down applications using I<sub>OFF</sub>. The I<sub>OFF</sub> circuitry disables the output preventing damaging current backflow when the device is powered down.

## Features

- Advanced Ultra Low Power (AUP) CMOS
- Supply Voltage Range from 0.8V to 3.6V
- ±4mA Output Drive at 3.0V
- Low Static Power Consumption
- I<sub>CC</sub> < 0.9µA
- Low Dynamic Power Consumption
- C<sub>PD</sub> = 6pF Typical at 3.6V
- Schmitt Trigger Action at All Inputs Make the Circuit Tolerant for Slower Input Rise and Fall Time. The hysteresis is typically 250mV at V<sub>CC</sub> = 3.0V
- I<sub>OFF</sub> Supports Partial-Power-Down Mode Operation
- ESD Protection per JESD 22
  - Exceeds 200-V Machine Model (A115)
  - Exceeds 2000-V Human Body Model (A114)
  - Exceeds 1000-V Charged Device Model (C101)
- Latch-Up Exceeds 100mA per JESD 78, Class I
- Leadless Packages per JESD30E
  - DFN1210 Denoted as X2-DFN1210-8
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Pin Assignments

(Top View)



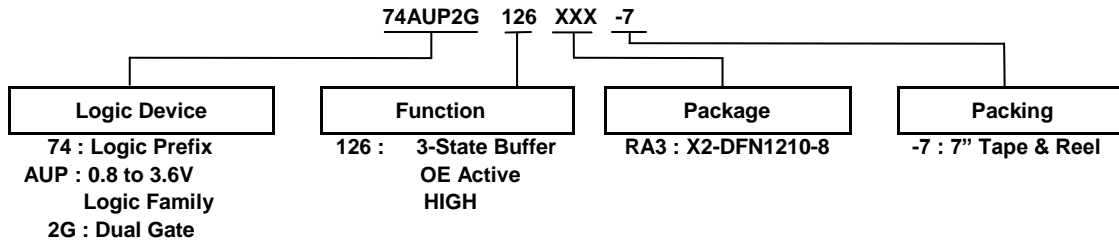
X2-DFN1210-8

## Applications

- Suited for Battery and Low Power Needs
- Wide Array of Products Such as:
  - Tablets, E-readers
  - Cell Phones, Personal Navigation / GPS
  - MP3 Players, Cameras, Video Recorders
  - PCs, Ultrabooks, Notebooks, Netbooks
  - Computer Peripherals, Hard Drives, SSD, CD/DVD ROM
  - TV, DVD, DVR, Set-Top Box

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Ordering Information



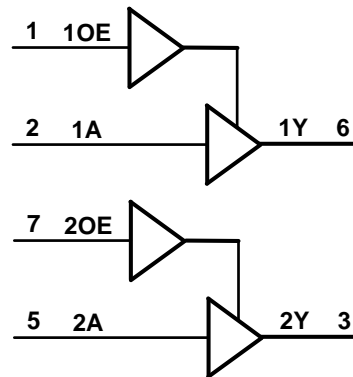
Device	Package Code	Package (Notes 4, 5)	Package Size	7" Tape and Reel	
				Quantity	Part Number Suffix
74AUP2G126RA3-7	RA3	X2-DFN1210-8	1.2mm X 1.0mm X 0.35mm 0.3mm Lead Pitch	5000/Tape & Reel	-7

Notes: 4. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>  
5. The taping orientation is located on our website at <http://www.diodes.com/datasheets/ap02007.pdf>

## Pin Descriptions

Pin NO.	Pin Name	Description
1	1OE	Output Enable Active HIGH
2	1A	Data Input
3	2Y	Data Output
4	GND	Ground
5	2A	Data Input
6	1Y	Data Output
7	2OE	Output Enable Active HIGH
8	V <sub>CC</sub>	Supply Voltage

## Logic Diagram



## Function Table

Inputs		Output
OE	A	Y
H	H	H
H	L	L
L	X	Z

**Absolute Maximum Ratings** (Notes 6, 7)

Symbol	Description	Rating	Unit
ESD HBM	Human Body Model ESD Protection	2	kV
ESD CDM	Charged Device Model ESD Protection	1	kV
$V_{CC}$	Supply Voltage Range	-0.5 to +4.6	V
$V_I$	Input Voltage Range	-0.5 to +4.6	V
$V_O$	Voltage Applied to Output in High or Low State	-0.5 to $V_{CC}+0.5$	V
$I_{IK}$	Input Clamp Current ( $V_I < 0$ )	50	mA
$I_{OK}$	Output Clamp Current ( $V_O < 0$ )	50	mA
$I_O$	Continuous Output Current ( $V_O = 0$ to $V_{CC}$ )	$\pm 20$	mA
$I_{CC}$	Continuous Current Through $V_{CC}$	50	mA
$I_{GND}$	Continuous Current Through GND	-50	mA
$T_J$	Operating Junction Temperature	-40 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$

- Notes:
- Stresses beyond the absolute maximum may result in immediate failure or reduced reliability. These are stress values and device operation should be within recommend values.
  - Forcing the maximum allowed voltage could cause a condition exceeding the maximum current or conversely forcing the maximum current could cause a condition exceeding the maximum voltage. The ratings of both current and voltage must be maintained within the controlled range.

**Recommended Operating Conditions** (Note 8)

Symbol	Parameter		Min	Max	Unit
$V_{CC}$	Operating Voltage		0.8	3.6	V
$V_I$	Input Voltage		0	3.6	V
$V_O$	Output Voltage		0	$V_{CC}$	V
$I_{OH}$	High-Level Output Current	$V_{CC} = 0.8V$	—	-20	$\mu A$
		$V_{CC} = 1.1V$	—	-1.1	mA
		$V_{CC} = 1.4V$	—	-1.7	
		$V_{CC} = 1.65V$	—	-1.9	
		$V_{CC} = 2.3V$	—	-3.1	
		$V_{CC} = 3.0V$	—	-4	
$I_{OL}$	Low-Level Output Current	$V_{CC} = 0.8V$	—	20	$\mu A$
		$V_{CC} = 1.1V$	—	1.1	mA
		$V_{CC} = 1.4V$	—	1.7	
		$V_{CC} = 1.65V$	—	1.9	
		$V_{CC} = 2.3V$	—	3.1	
		$V_{CC} = 3.0V$	—	4	
$\Delta t/\Delta V$	Input Transition Rise or Fall Rate	$V_{CC} = 0.8V$ to $3.6V$	—	200	ns/V
$T_A$	Operating Free-Air Temperature		-40	+125	$^{\circ}C$

- Note: 8. Unused inputs should be held at  $V_{CC}$  or Ground.

**Electrical Characteristics**
**NEW PRODUCT**

Symbol	Parameter	Test Conditions	V <sub>CC</sub>	T <sub>A</sub> = +25°C		T <sub>A</sub> = -40°C to +85°C		Unit
				Min	Max	Min	Max	
V <sub>IH</sub>	High-Level Input Voltage	—	0.8V to 1.65V	0.80 X V <sub>CC</sub>	—	0.80 X V <sub>CC</sub>	—	V
		—	1.65V to 1.95V	0.65 X V <sub>CC</sub>	—	0.65 X V <sub>CC</sub>	—	
		—	2.3V to 2.7V	1.6	—	1.6	—	
		—	3.0V to 3.6V	2.0	—	2.0	—	
V <sub>IL</sub>	Low-Level Input Voltage	—	0.8V to 1.65V	—	0.30 X V <sub>CC</sub>	—	0.30 X V <sub>CC</sub>	V
		—	1.65V to 1.95V	—	0.35 X V <sub>CC</sub>	—	0.35 X V <sub>CC</sub>	
		—	2.3V to 2.7V	—	0.7	—	0.7	
		—	3.0V to 3.6V	—	0.9	—	0.9	
V <sub>OH</sub>	High-Level Output Voltage	I <sub>OH</sub> = -20μA	0.8V to 3.6V	V <sub>CC</sub> - 0.1	—	V <sub>CC</sub> - 0.1	—	V
		I <sub>OH</sub> = -1.1mA	1.1V	0.75 X V <sub>CC</sub>	—	0.7 X V <sub>CC</sub>	—	
		I <sub>OH</sub> = -1.7mA	1.4V	1.11	—	1.03	—	
		I <sub>OH</sub> = -1.9mA	1.65V	1.32	—	1.3	—	
		I <sub>OH</sub> = -2.3mA	2.3V	2.05	—	1.97	—	
		I <sub>OH</sub> = -3.1mA		1.9	—	1.85	—	
		I <sub>OH</sub> = -2.7mA	3V	2.72	—	2.67	—	
		I <sub>OH</sub> = -4mA		2.6	—	2.55	—	
V <sub>OL</sub>	Low-Level Output Voltage	I <sub>OL</sub> = 20μA	0.8V to 3.6V	—	0.1	—	0.1	V
		I <sub>OL</sub> = 1.1mA	1.1V	—	0.3 X V <sub>CC</sub>	—	0.3 X V <sub>CC</sub>	
		I <sub>OL</sub> = 1.7mA	1.4V	—	0.31	—	0.37	
		I <sub>OL</sub> = 1.9mA	1.65V	—	0.31	—	0.35	
		I <sub>OL</sub> = 2.3mA	2.3V	—	0.31	—	0.33	
		I <sub>OL</sub> = 3.1mA		—	0.44	—	0.45	
		I <sub>OL</sub> = 2.7mA	3V	—	0.31	—	0.33	
		I <sub>OL</sub> = 4mA		—	0.44	—	0.45	
I <sub>I</sub>	Input Current	A or B Input V <sub>I</sub> = GND to 3.6V	0 to 3.6V	—	±0.1	—	±0.5	μA
I <sub>OZ</sub>	Z-State Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0 to 3.6V	—	0.2	—	±0.5	μA
I <sub>OFF</sub>	Power Down Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0V	—	±0.2	—	±0.5	μA
ΔI <sub>OFF</sub>	Delta Power Down Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0V to 0.2V	—	0.2	—	0.6	μA
I <sub>CC</sub>	Supply Current	V <sub>I</sub> = GND or V <sub>CC</sub> , I <sub>O</sub> = 0	0.8V to 3.6V	—	0.5	—	0.9	μA
ΔI <sub>CC</sub>	Additional Supply Current	Data Input at V <sub>CC</sub> -0.6V OE = GND, I <sub>O</sub> = 0A	3.3V	—	40	—	50	μA
		OE Input at V <sub>CC</sub> -0.6V Data Input = GND or V <sub>CC</sub> , I <sub>O</sub> = 0A	3.3V	—	110	—	120	μA
		OE Input at V <sub>CC</sub> Data Input = GND to 3.6V, I <sub>O</sub> = 0A	0.8V to 3.6V	—	1	—	1	μA

**Electrical Characteristics** (Cont.)

Symbol	Parameter	Test Conditions	V <sub>CC</sub>	T <sub>A</sub> = -40°C to +125°C		Unit
				Min	Max	
V <sub>IH</sub>	High-Level Input Voltage	—	0.8V to 1.65V	0.80 X V <sub>CC</sub>	—	V
		—	1.65V to 1.95V	0.70 X V <sub>CC</sub>	—	
		—	2.3V to 2.7V	1.6	—	
		—	3.0V to 3.6V	2.0	—	
V <sub>IL</sub>	Low-Level Input Voltage	—	0.8V to 1.65V	—	0.25 X V <sub>CC</sub>	V
		—	1.65V to 1.95V	—	0.30 X V <sub>CC</sub>	
		—	2.3V to 2.7V	—	0.7	
		—	3.0V to 3.6V	—	0.9	
V <sub>OH</sub>	High-Level Output Voltage	I <sub>OH</sub> = -20μA	0.8V to 3.6V	V <sub>CC</sub> - 0.11	—	V
		I <sub>OH</sub> = -1.1mA	1.1V	0.6 X V <sub>CC</sub>	—	
		I <sub>OH</sub> = -1.7mA	1.4V	0.93	—	
		I <sub>OH</sub> = -1.9mA	1.65V	1.17	—	
		I <sub>OH</sub> = -2.3mA	2.3V	1.77	—	
		I <sub>OH</sub> = -3.1mA		1.67	—	
		I <sub>OH</sub> = -2.7mA	3V	2.40	—	
		I <sub>OH</sub> = -4mA		2.30	—	
V <sub>OL</sub>	Low-Level Output Voltage	I <sub>OL</sub> = 20μA	0.8V to 3.6V	—	0.11	V
		I <sub>OL</sub> = 1.1mA	1.1V	—	0.33 X V <sub>CC</sub>	
		I <sub>OL</sub> = 1.7mA	1.4V	—	0.41	
		I <sub>OL</sub> = 1.9mA	1.65V	—	0.39	
		I <sub>OL</sub> = 2.3mA	2.3V	—	0.36	
		I <sub>OL</sub> = 3.1mA		—	0.50	
		I <sub>OL</sub> = 2.7mA	3V	—	0.36	
		I <sub>OL</sub> = 4mA		—	0.50	
I <sub>I</sub>	Input Current	A or B Input, V <sub>I</sub> = GND to 3.6V	0 to 3.6V	—	±0.75	μA
I <sub>oz</sub>	Z-State Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0 to 3.6V	—	±1.5	μA
I <sub>OFF</sub>	Power Down Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0	—	±3.5	μA
ΔI <sub>OFF</sub>	Delta Power Down Leakage Current	V <sub>I</sub> or V <sub>O</sub> = 0V to 3.6V	0V to 0.2V	—	±2.5	μA
I <sub>CC</sub>	Supply Current	V <sub>I</sub> = GND or V <sub>CC</sub> , I <sub>O</sub> = 0	0.8V to 3.6V	—	3.0	μA
ΔI <sub>CC</sub>	Additional Supply Current	Data Input at V <sub>CC</sub> -0.6V OE = GND, I <sub>O</sub> =0A	3.3V	—	75	μA
		OE Input at V <sub>CC</sub> -0.6V Data Input = GND or V <sub>CC</sub> , I <sub>O</sub> =0A	3.3V	—	180	μA
		OE Input at V <sub>CC</sub> Data Input = GND to 3.6V, I <sub>O</sub> = 0A	0.8V to 3.6V	—	1	μA

**NEW PRODUCT**

**Operating and Package Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Parameter		Test Conditions		V <sub>CC</sub>	Typ	Unit
C <sub>PD</sub>	Power Dissipation Capacitance per Gate	f = 1MHz Output Enabled No Load		0.8V	6.5	pF
				1.2V ± 0.1V	6.3	
				1.5V ± 0.1V	6.3	
				1.8V ± 0.15V	6.2	
				2.5V ± 0.2V	6.2	
				3.3V ± 0.3V	6.1	
C <sub>I</sub>	Input Capacitance	V <sub>I</sub> = V <sub>CC</sub> or GND		0V or 3.3V	1.5	pF
C <sub>O</sub>	Output Capacitance	Output Enabled V <sub>O</sub> = GND		0V	2.9	pF
		Output Disabled V <sub>O</sub> = GND or V <sub>CC</sub>		0V or 3.6V	2.1	pF
θ <sub>JA</sub>	Thermal Resistance Junction-to-Ambient	X2-DFN1210-8	(Note 9)	—	395	°C/W
θ <sub>JC</sub>	Thermal Resistance Junction-to-Case	X2-DFN1210-8	(Note 9)	—	236	°C/W

Note: 9. Test condition, X2-DFN1210-8 device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

**Switching Characteristics**
 $C_L = 5pF$  see Figure 1

Parameter	From Input	To Output	V <sub>cc</sub>	T <sub>A</sub> = +25°C			T <sub>A</sub> = -40°C to +85°C		T <sub>A</sub> = -40°C to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t <sub>PD</sub>	A	Y	0.8V	—	20.6	—	—	—	—	—	ns
			1.2V ± 0.1V	2.8	5.5	12.6	2.5	14	2.5	17	
			1.5V ± 0.1V	2.2	3.9	7.3	2.0	7.6	2.0	8.1	
			1.8V ± 0.15V	1.9	3.2	4.1	1.7	6.1	1.7	6.7	
			2.5V ± 0.2V	1.6	2.6	3.6	1.4	4.3	1.4	4.9	
			3.3V ± 0.3V	1.4	2.4	3.1	1.2	3.9	1.2	4.4	
t <sub>EN</sub>	OE	Y	0.8V	—	71.6	—	—	—	—	—	ns
			1.2V ± 0.1V	2.8	6.2	14.9	2.6	19.6	2.6	19.8	
			1.5V ± 0.1V	2.3	4.2	8.3	2.2	8.8	2.2	9.2	
			1.8V ± 0.15V	1.9	3.3	6.4	1.7	7.1	1.7	7.4	
			2.5V ± 0.2V	1.5	2.4	4.3	1.4	4.6	1.4	4.9	
			3.3V ± 0.3V	1.3	2.0	3.8	1.2	4.2	1.2	4.4	
t <sub>DIS</sub>	OE	Y	0.8V	—	10.3	—	—	—	—	—	ns
			1.2V ± 0.1V	2.6	4.2	8.9	2.9	9.2	2.9	9.4	
			1.5V ± 0.1V	2.1	3.2	6.4	2.2	6.6	2.2	6.7	
			1.8V ± 0.15V	2.1	3.1	5.6	1.7	5.8	1.7	6.1	
			2.5V ± 0.2V	1.7	2.4	4.0	1.4	4.3	1.4	4.5	
			3.3V ± 0.3V	2.1	2.8	4.9	1.2	5.0	1.2	5.1	

 $C_L = 10pF$  see Figure 1

Parameter	From Input	To Output	V <sub>cc</sub>	T <sub>A</sub> = +25°C			T <sub>A</sub> = -40°C to +85°C		T <sub>A</sub> = -40°C to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t <sub>PD</sub>	A	Y	0.8V	—	24.0	—	—	—	—	—	ns
			1.2V ± 0.1V	3.2	6.4	14.8	3.0	16.6	3.0	18.3	
			1.5V ± 0.1V	2.1	4.5	8.8	1.9	9.1	1.9	9.4	
			1.8V ± 0.15V	1.9	3.8	5.5	1.7	6.8	1.7	7.6	
			2.5V ± 0.2V	2.1	3.2	4.2	1.6	5.3	1.6	5.9	
			3.3V ± 0.3V	1.8	3.0	3.8	1.6	4.6	1.6	5.2	
t <sub>EN</sub>	OE	Y	0.8V	—	75.3	—	—	—	—	—	ns
			1.2V ± 0.1V	3.2	7.1	16.9	3.0	22.2	3.0	22.4	
			1.5V ± 0.1V	2.2	4.8	9.6	2.1	10.0	2.1	10.3	
			1.8V ± 0.15V	1.8	3.9	7.1	1.7	7.8	1.7	8.2	
			2.5V ± 0.2V	1.5	2.9	5.0	1.4	5.4	1.4	5.8	
			3.3V ± 0.3V	1.4	2.6	4.7	1.3	4.9	1.3	5.2	
t <sub>DIS</sub>	OE	Y	0.8V	—	12.2	—	—	—	—	—	ns
			1.2V ± 0.1V	3.5	5.3	10.9	3.3	11.4	3.3	11.6	
			1.5V ± 0.1V	2.2	4.1	8.0	2.1	8.2	2.1	8.5	
			1.8V ± 0.15V	2.4	4.2	7.1	1.7	7.4	1.7	7.6	
			2.5V ± 0.2V	1.9	3.2	5.1	1.4	5.5	1.4	5.7	
			3.3V ± 0.3V	2.4	4.1	6.8	1.3	7.1	1.3	7.2	

**Switching Characteristics (Cont.)**
 $C_L = 15\text{pF}$  see Figure 1

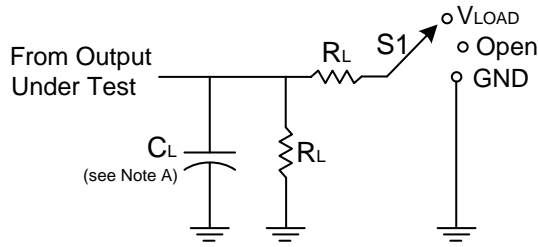
Parameter	From Input	To Output	V <sub>CC</sub>	T <sub>A</sub> = +25°C			T <sub>A</sub> = -40°C to +85°C		T <sub>A</sub> = -40°C to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t <sub>PD</sub>	A	Y	0.8V	—	27.4	—	—	—	—	—	ns
			1.2V ± 0.1V	3.6	7.2	15.5	3.3	22.4	3.3	22.5	
			1.5V ± 0.1V	3.0	5.1	8.8	2.5	9.8	2.5	10.9	
			1.8V ± 0.15V	2.2	4.3	6.3	2.0	7.9	2.0	8.8	
			2.5V ± 0.2V	2.0	3.7	4.9	1.8	6.0	1.8	6.7	
			3.3V ± 0.3V	2.0	3.5	4.4	1.8	5.4	1.8	6.1	
t <sub>EN</sub>	$\overline{\text{OE}}$	Y	0.8V	—	79.2	—	—	—	—	—	ns
			1.2V ± 0.1V	3.6	7.8	19.0	3.3	21.8	3.3	22	
			1.5V ± 0.1V	3.0	5.4	10.6	2.9	11.3	2.9	11.6	
			1.8V ± 0.15V	2.1	4.3	8.0	2.0	8.8	2.0	9.2	
			2.5V ± 0.2V	1.8	3.4	5.8	1.7	6.2	1.7	6.7	
			3.3V ± 0.3V	1.6	3.1	5.3	1.5	5.9	1.5	6.1	
t <sub>DIS</sub>	$\overline{\text{OE}}$	Y	0.8V	—	14.9	—	—	—	—	—	ns
			1.2V ± 0.1V	4.3	6.4	13.9	3.7	15.5	3.7	15.7	
			1.5V ± 0.1V	3.0	5.0	8.8	2.5	9.7	2.5	9.9	
			1.8V ± 0.15V	3.1	5.4	8.8	2.0	10.3	2.0	10.5	
			2.5V ± 0.2V	2.4	4.0	8.2	1.7	8.4	1.7	8.6	
			3.3V ± 0.3V	3.2	5.3	8.6	1.5	9.2	1.5	9.4	

 $C_L = 30\text{pF}$  see Figure 1

Parameter	From Input	To Output	V <sub>CC</sub>	T <sub>A</sub> = +25°C			T <sub>A</sub> = -40°C to +85°C		T <sub>A</sub> = -40°C to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t <sub>PD</sub>	A	Y	0.8V	—	37.4	—	—	—	—	—	ns
			1.2V ± 0.1V	4.8	9.5	20.7	4.4	27.6	4.4	27.8	
			1.5V ± 0.1V	4.0	6.7	10.8	3.0	13.0	3.0	14.5	
			1.8V ± 0.15V	2.9	5.6	8.4	2.6	10.3	2.6	11.5	
			2.5V ± 0.2V	2.7	4.8	6.3	2.5	7.8	2.5	8.7	
			3.3V ± 0.3V	2.7	4.6	5.8	2.5	7.0	2.5	8.3	
t <sub>EN</sub>	$\overline{\text{OE}}$	Y	0.8V	—	90.6	—	—	—	—	—	ns
			1.2V ± 0.1V	4.7	10.0	24.5	4.3	26.4	4.3	26.6	
			1.5V ± 0.1V	3.0	6.9	13.6	3.7	14.4	3.7	15.0	
			1.8V ± 0.15V	2.6	5.6	10.3	3.2	11.4	3.2	12.1	
			2.5V ± 0.2V	2.3	4.5	7.6	2.9	8.2	2.9	8.8	
			3.3V ± 0.3V	2.2	4.2	7.5	2.7	8.3	2.7	8.7	
t <sub>DIS</sub>	$\overline{\text{OE}}$	Y	0.8V	—	51.6	—	—	—	—	—	ns
			1.2V ± 0.1V	6.0	9.8	16.3	4.7	18.7	4.7	18.9	
			1.5V ± 0.1V	4.5	7.7	12.6	3.0	12.8	3.0	13.2	
			1.8V ± 0.15V	5.2	8.8	13.7	2.6	13.8	2.6	13.9	
			2.5V ± 0.2V	3.9	6.4	8.9	2.3	10.8	2.3	12.2	
			3.3V ± 0.3V	5.5	9.0	13.9	2.2	14.0	2.2	15.6	

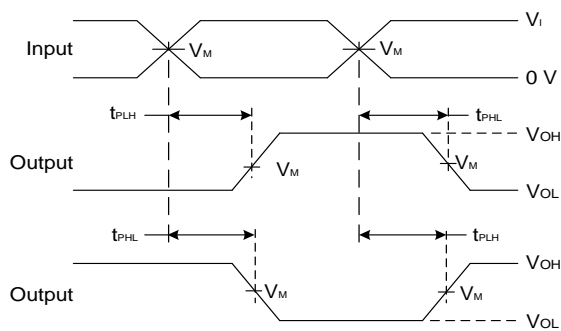
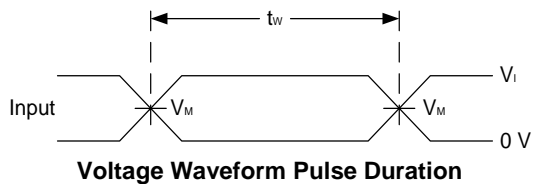


**Parameter Measurement Information**

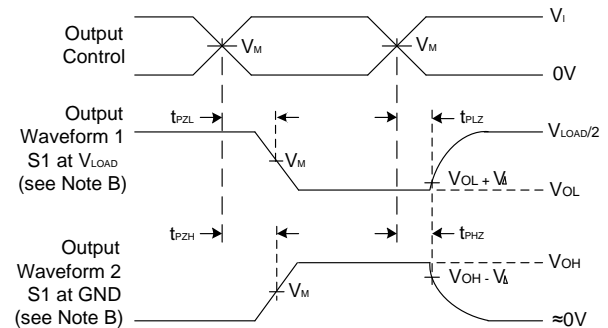


TEST	S1	$R_L$
$t_{PLH}/t_{PHL}$	Open	1M $\Omega$
$t_{PLZ}/t_{PZL}$	$V_{LOAD}$	5K $\Omega$
$t_{PHZ}/t_{PZH}$	GND	5K $\Omega$

$V_{CC}$	Inputs		$V_M$	$V_{LOAD}$	$C_L$	$V_{\Delta}$
	$V_I$	$t_r/t_f$				
0.8V	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.1V
1.2V $\pm 0.1V$	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.1V
1.5V $\pm 0.1V$	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.1V
1.8V $\pm 0.15V$	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.15V
2.5V $\pm 0.2V$	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.15V
3.3V $\pm 0.3V$	$V_{CC}$	$\leq 3ns$	$V_{CC}/2$	$2 \times V_{CC}$	5, 10, 15, 30pF	0.3V



**Voltage Waveform Propagation Delay Times  
Inverting and Non Inverting Outputs**



**Voltage Waveform Enable and Disable Times  
Low and High Level Enabling**

**Figure 1. Load Circuit and Voltage Waveforms**


- Notes:
- A. Includes test lead and test apparatus capacitance.
  - B. All pulses are supplied at pulse repetition rate  $\leq 10MHz$ .
  - C. Inputs are measured separately one transition per measurement.
  - D.  $t_{PLZ}$  and  $t_{PHZ}$  are the same as  $t_{DIS}$ .
  - E.  $t_{PZL}$  and  $t_{PZH}$  are the same as  $t_{EN}$ .
  - F.  $t_{PLH}$  and  $t_{PHL}$  are the same as  $t_{PD}$ .

NEW PRODUCT

**Marking Information**

X2-DFN1210-8

(Top View)

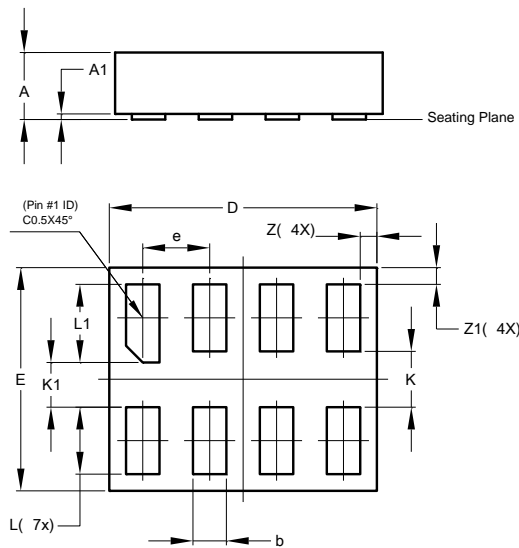


XX : Identification Code  
Y : Year : 0~9  
W : Week : A~Z : 1~26 Week  
           a~z: 27~52 Week  
           z Represents 52 and 53 Week  
X : Week : A~Z : Internal Code

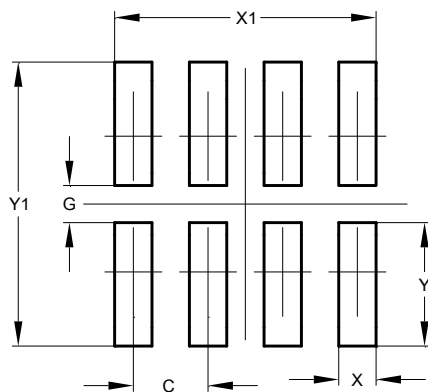
Part Number	Package	Identification Code
74AUP2G126RA3-7	X2-DFN1210-8	KT

**X2-DFN1210-8 Package Outline Dimensions and Suggested Pad Layout**

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



X2-DFN1210-8			
Dim	Min	Max	Typ
A	-	0.35	0.30
A1	0	0.03	0.02
b	0.10	0.20	0.15
D	1.15	1.25	1.20
E	0.95	1.05	1.00
e	-	-	0.30
K	-	-	0.25
K1	-	-	0.20
L	0.25	0.35	0.30
L1	0.30	0.40	0.35
Z	0.050	0.100	0.075
Z1	0.050	0.100	0.075
All Dimensions in mm			



Dimensions	Value (in mm)
C	0.300
G	0.150
X	0.150
X1	1.050
Y	0.500
Y1	1.150

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B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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