

Single Buffer/Line Driver; 3-state

Features

- * Symmetrical Output Impedance
- * Low Power Dissipation
- * Balanced Propagation Delays
- * The AHC Device has CMOS Input Switching and Operating Range of 2V to 5.5V
- * The AHCT Device has TTL Input Switching and Operating Range of 4.5V to 5.5V
- * -40°C to +105°C Operating Temperature Range
- * Packaging information: SOT23-5/SC70-5(SOT353)

Applications

- * General Purpose Logic
- * Wide array of products such as:
 - PCs, networking, notebooks, netbooks, PDAs
 - TV, DVD, DVR, set top box
 - Phones, Personal Navigation / GPS
 - MP3 players ,Cameras, Video Recorders

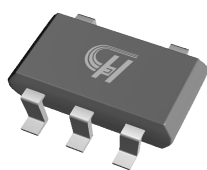
General Description

The HCR74AHC1G125 and HCR74AHCT1G125 are high-speed Si-gate CMOS devices. They provide one-inverting buffer/line driver with 3-state output.

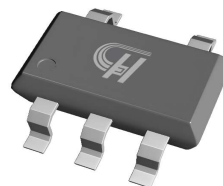
The 3-state output is controlled by the output enable input($\overline{OE}$). A HIGH at $\overline{OE}$ causes the output to assume a high-impedance OFF-state.

The HCR74AHC1G125 device has CMOS input switching levels and supply voltage range 2V to 5.5V. The HCR74AHCT1G125 device has TTL input switching levels and supply voltage range 4.5V to 5.5V.

The HCR74AHC1G125 and HCR74AHCT1G125 are available in Green SOT23-5 and SC70-5(SOT353) packages. It operates over an ambient temperature range of -40°C to +105°C.



SC70-5(SOT-353)



SOT-23-5

Figure 1. Package Type of HCR74AHC1G125/HCR74AHCT1G125

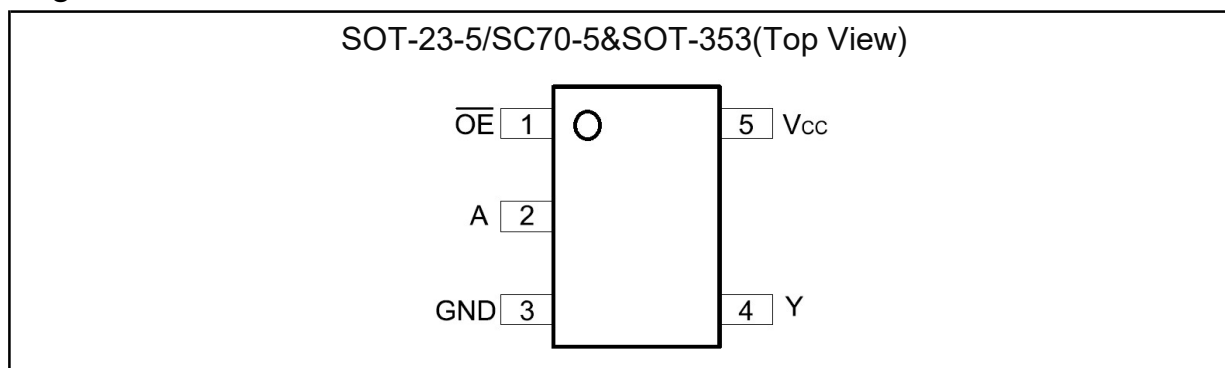
Single Buffer/Line Driver; 3-state
Pin Configuration


Figure 2. Pin Configuration of HCR74AHC1G125/HCR74AHCT1G125 (Top View)

Pin Function Table

Pin No.	NAME	FUNCTION
1	$\overline{OE}$	Output enable Input.
2	A	Data Input.
3	GND	Ground.(0V)
4	Y	Data Output.
5	VCC	Supply Voltage.

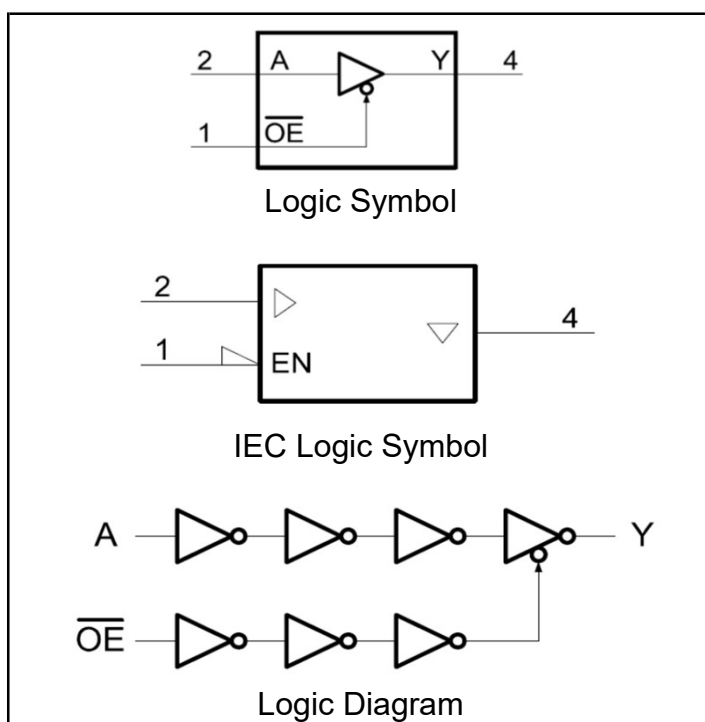
Logic Symbol


Figure 3. Logic Symbol

Function Table

Inputs		Output
$\overline{OE}$	A	Y
L	L	L
L	H	H
H	X	Z

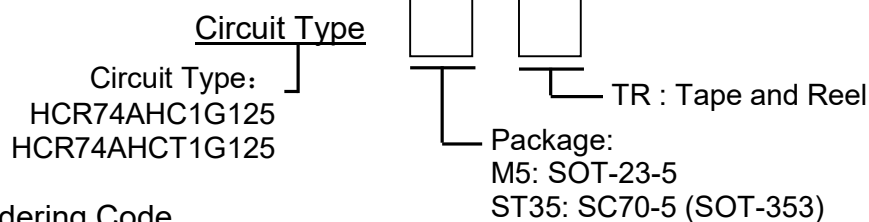
Note:

H=HIGH Voltage Level

L=LOW Voltage Level

X=don't care

Z=high-impedance OFF-state

Single Buffer/Line Driver; 3-state
Ordering Information

Ordering Code

Part Number	Marking ^[1]	Temperature Range	Package	Quantity per Reel
HCR74AHC1G125M5TR	DFXX	-40°C to +105°C	SOT23-5	3000pcs/TR
HCR74AHC1G125ST35TR	DFXX	-40°C to +105°C	SC70-5 (SOT353)	3000pcs/TR
HCR74AHCT1G125M5TR	DGXX	-40°C to +105°C	SOT23-5	3000pcs/TR
HCR74AHCT1G125ST35TR	DGXX	-40°C to +105°C	SC70-5 (SOT353)	3000pcs/TR

note [1]. X = Date Code-Year, X = Date code-Month.

Absolute Maximum Ratings ^[2]

Parameter	Conditions	Symbol	Value	Unit
Supply Voltage	-	V _{CC}	-0.5 to 7.0	V
Input Voltage	-	V _{IN}	-0.5 to 7.0	V
Input Clamping Current	V _I < -0.5V	I _{IK}	-20	mA
Output Clamping Current	V _O < -0.5V or V _O > V _{CC} + 0.5V	I _{OK}	±20	mA
Output Current	0.5V < V _O < V _{CC} + 0.5V	I _O	±25	mA
Supply Current	-	I _{CC}	75	mA
Ground Current	-	I _{GND}	-75	mA
Total Power Dissipation		P _{tot}	250	mW
Operating Temperature Range		T _A	-40 to +85	°C
Junction Temperature Range		T _J	150	°C
Storage Temperature Range		T _{STG}	-65 to +150	°C
Lead Temperature (Soldering, 10s)		T _{LEAD}	+250	°C

Recommend Operating Conditions ^[3]

Parameter		Symbol	Min.	Typ.	Max.	Unit
Input Voltage Range	HCR74AHC1G125	V _{CC1}	2.0	5.0	5.5	V
Input Voltage Range	HCR74AHCT1G125	V _{CC2}	4.5	5.0	5.5	V
Input Voltage		V _I	0	-	5.5	V
Output Voltage		V _O	0	-	V _{CC}	V
Ambient Temperature		T _{amb}	-40	-	+85	°C
Input Transition rise and fall rate(HCR74AHC1G125)	V _{CC} =3.3V±0.3V	Δt/ΔV ₁	-	-	100	ns/V
	V _{CC} =5.0V±0.5V		-	-	20	ns/V
Input Transition rise and fall rate(HCR74AHCT1G125)	V _{CC} =3.3V±0.3V	Δt/ΔV ₂	-	-	-	ns/V
	V _{CC} =5.0V±0.5V		-	-	20	ns/V

Note [2]: Stresses beyond those listed under "Absolute maximum Ratings" may damage the device.

[3]: The device is not guaranteed to function outside the recommended operating conditions.

Single Buffer/Line Driver; 3-state
Electrical Characteristics
DC Characteristics-1

 ($T_{amb}=25^{\circ}C$, voltages are referenced to GND(ground=0V), unless otherwise specified.)

Parameter	Symbol	Test Condition		VCC(V)	Min	Type	Max	Unit
HCR74AHC1G125								
HIGH-Level Input Voltage	V _{IH}			2.0	1.5	-	-	V
				3.0	2.1	-	-	
				5.5	3.85	-	-	
LOW-Level Input Voltage	V _{IL}			2.0	-	-	0.5	V
				3.0	-	-	0.9	
				5.5	-	-	1.65	
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _O =-50uA	2.0	1.90	2.00	-	V
			I _O =-50uA	3.0	2.90	3.00	-	
			I _O =-50uA	4.5	4.40	4.50	-	
			I _O =-4mA	3.0	2.58	-	-	
			I _O =-8mA	4.5	3.94	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _O =50uA	2.0	-	0.00	0.1	V
			I _O =50uA	3.0	-	0.00	0.1	
			I _O =50uA	4.5	-	0.00	0.1	
			I _O =4mA	3.0	-	-	0.36	
			I _O =8mA	4.5	-	-	0.36	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	0.25	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	0.1	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND,I _O =0A		5.5	-	-	1.0	uA
Input Capacitance	C _I	-		-	-	1.5	10	pF
HCR74AHCT1G125								
HIGH-Level Input Voltage	V _{IH}	-		4.5 to 5.5	2.0	-	-	V
LOW-Level Input Voltage	V _{IL}	-		4.5 to 5.5	-	-	0.8	V
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _O =-50uA	4.5	4.4	4.5	-	V
			I _O =-8mA	4.5	3.94	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _O =50uA	4.5	-	0.00	0.1	V
			I _O =8mA	4.5	-	-	0.36	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	0.25	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	0.1	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND,I _O =0A		5.5	-	-	1.0	uA
Additional Supply Current	ΔI _{CC}	per input pin; V _I =3.4V other inputs at V _{CC} or GND,I _O =0A		5.5	-	-	1.35	mA
Input Capacitance	C _I	-		-	-	1.5	10	pF

Single Buffer/Line Driver; 3-state
Electrical Characteristics (Con.)
DC Characteristics-2

(Tamb= -40°C to +85°C, voltages are referenced to GND(ground=0V), unless otherwise specified.)

Parameter	Symbol	Test Condition		Vcc(V)	Min	Type	Max	Unit
HCR74AHC1G125								
HIGH-Level Input Voltage	V _{IH}			2.0	1.5	-	-	V
				3.0	2.1	-	-	
				5.5	3.85	-	-	
LOW-Level Input Voltage	V _{IL}			2.0	-	-	0.5	V
				3.0	-	-	0.9	
				5.5	-	-	1.65	
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _O =-50uA	2.0	1.90	-	-	V
			I _O =-50uA	3.0	2.90	-	-	
			I _O =-50uA	4.5	4.40	-	-	
			I _O =-4mA	3.0	2.48	-	-	
			I _O =-8mA	4.5	3.8	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _O =50uA	2.0	-	-	0.1	V
			I _O =50uA	3.0	-	-	0.1	
			I _O =50uA	4.5	-	-	0.1	
			I _O =4mA	3.0	-	-	0.44	
			I _O =8mA	4.5	-	-	0.44	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	2.5	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	1.0	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND, I _O =0A		5.5	-	-	10	uA
Input Capacitance	C _I	-		-	-	-	10	pF
HCR74AHCT1G125								
HIGH-Level Input Voltage	V _{IH}	-		4.5 to 5.5	2.0	-	-	V
LOW-Level Input Voltage	V _{IL}	-		4.5 to 5.5	-	-	0.8	V
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _O =-50uA	4.5	4.4	-	-	V
			I _O =-8mA	4.5	3.8	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _O =50uA	4.5	-	-	0.1	V
			I _O =8mA	4.5	-	-	0.44	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	2.5	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	1.0	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND, I _O =0A		5.5	-	-	10	uA
Additional Supply Current	ΔI _{CC}	per input pin; V _I =3.4V other inputs at V _{CC} or GND, I _O =0A		5.5	-	-	1.5	mA
Input Capacitance	C _I	-		-	-	-	10	pF

Single Buffer/Line Driver; 3-state
Electrical Characteristics (Con.)
DC Characteristics-3

(Tamb= -40°C to +105°C, voltages are referenced to GND(ground=0V), unless otherwise specified.)

Parameter	Symbol	Test Condition		Vcc(V)	Min	Type	Max	Unit
HCR74AHC1G125								
HIGH-Level Input Voltage	V _{IH}			2.0	1.5	-	-	V
				3.0	2.1	-	-	
				5.5	3.85	-	-	
LOW-Level Input Voltage	V _{IL}			2.0	-	-	0.5	V
				3.0	-	-	0.9	
				5.5	-	-	1.65	
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _o =-50uA	2.0	1.90	-	-	V
			I _o =-50uA	3.0	2.90	-	-	
			I _o =-50uA	4.5	4.40	-	-	
			I _o =-4mA	3.0	2.4	-	-	
			I _o =-8mA	4.5	3.7	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _o =50uA	2.0	-	-	0.1	V
			I _o =50uA	3.0	-	-	0.1	
			I _o =50uA	4.5	-	-	0.1	
			I _o =4mA	3.0	-	-	0.55	
			I _o =8mA	4.5	-	-	0.55	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	10	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	2.0	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND,I _o =0A		5.5	-	-	40	uA
Input Capacitance	C _I	-		-	-	-	10	pF
HCR74AHCT1G125								
HIGH-Level Input Voltage	V _{IH}	-		4.5 to 5.5	2.0	-	-	V
LOW-Level Input Voltage	V _{IL}	-		4.5 to 5.5	-	-	0.8	V
HIGH-Level Output Voltage	V _{OH}	V _I =V _{IH} or V _{IL}	I _o =-50uA	4.5	4.4	-	-	V
			I _o =-8mA	4.5	3.7	-	-	
LOW-Level Output Voltage	V _{OL}	V _I =V _{IH} or V _{IL}	I _o =50uA	4.5	-	-	0.1	V
			I _o =8mA	4.5	-	-	0.55	
OFF-state output Current	I _{OZ}	V _I =V _{CC} or GND		5.5	-	-	10	uA
Input Leakage Current	I _I	V _I =5.5V or GND		0 to 5.5	-	-	2.0	uA
Supply Current	I _{CC}	V _I =V _{CC} or GND,I _o =0A		5.5	-	-	40	uA
Additional Supply Current	ΔI _{CC}	per input pin; V _I =3.4V other inputs at V _{CC} or GND,I _o =0A		5.5	-	-	1.5	mA
Input Capacitance	C _I	-		-	-	-	10	pF

Single Buffer/Line Driver; 3-state
AC Characteristics-1

($T_{amb}=25^{\circ}C$, $GND=0V$, unless otherwise specified.)

Parameter	Symbol	Test Condition		Min	Type	Max	Unit
HCR74AHC1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	4.7	8.0	ns
			CL=50pF	-	6.6	11.5	
		A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	3.4	5.5	ns
			CL=50pF	-	4.8	7.5	
Enable Delay	t _{en}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	5.0	8.0	ns
			CL=50pF	-	6.9	11.5	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	3.6	5.1	ns
			CL=50pF	-	4.9	7.5	
Disable time	t _{dis}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	6.0	9.7	ns
			CL=50pF	-	8.3	13.2	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	4.1	6.8	ns
			CL=50pF	-	5.7	7.5	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	9	-	pF
HCR74AHCT1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	3.4	5.5	ns
			CL=50pF	-	4.8	7.5	
Enable time	t _{en}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	3.9	5.1	ns
			CL=50pF	-	5.1	7.5	
Disable time	t _{dis}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	4.5	6.8	ns
			CL=50pF	-	6.1	8.8	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	11	-	pF

Note: (1) t_{pd} is the same as t_{PLH} and t_{PHL} .

t_{en} is the same as t_{PZL} and t_{PZH} .

t_{dis} is the same as t_{PLZ} and t_{PHZ} .

(2) Typical values are measured at $V_{CC}=3.3V$.

(3) Typical values are measured at $V_{CC}=5.0V$.

(4) CPD is used to determine the dynamic power dissipation (P_D in uW).

$P_D = CPD \times V_{CC}^2 \times f_i + \sum (CL \times V_{CC}^2 \times f_o)$ where:

f_i =input frequency in MHz;

f_o =output frequency in MHz;

CL=output load capacitance in pF;

V_{CC} =supply voltage in Volts.

Single Buffer/Line Driver; 3-state

AC Characteristics-2

(T_{amb} = -40°C to +85°C, GND=0V, unless otherwise specified.)

Parameter	Symbol	Test Condition		Min	Type	Max	Unit
HCR74AHC1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	9.5	ns
			CL=50pF	-	-	13.0	
		A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.5	ns
			CL=50pF	-	-	8.5	
Enable Delay	t _{en}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	9.5	ns
			CL=50pF	-	-	13.0	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.0	ns
			CL=50pF	-	-	8.5	
Disable time	t _{dis}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	11.5	ns
			CL=50pF	-	-	15.0	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	8.0	ns
			CL=50pF	-	-	10.0	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	-	-	pF
HCR74AHCT1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.5	ns
			CL=50pF	-	-	8.5	
Enable time	t _{en}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.0	ns
			CL=50pF	-	-	8.5	
Disable time	t _{dis}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	8.0	ns
			CL=50pF	-	-	10.0	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	-	-	pF

Note: (1) t_{pd} is the same as t_{PLH} and t_{PHL} .

 t_{en} is the same as t_{PZL} and t_{PZH} .

 t_{dis} is the same as t_{PLZ} and t_{PHZ} .

(2) Typical values are measured at $V_{CC}=3.3V$.

(3) Typical values are measured at $V_{CC}=5.0V$.

(4) CPD is used to determine the dynamic power dissipation (P_D in uW).

 $P_D = CPD \times V_{CC}^2 \times f_i + \sum (CL \times V_{CC}^2 \times f_o)$ where:

 f_i =input frequency in MHz;

 f_o =output frequency in MHz;

CL=output load capacitance in pF;

 V_{CC} =supply voltage in Volts.

Single Buffer/Line Driver; 3-state
AC Characteristics-3

($T_{amb} = -40^{\circ}\text{C}$ to $+105^{\circ}\text{C}$, $GND=0V$, unless otherwise specified.)

Parameter	Symbol	Test Condition		Min	Type	Max	Unit
HCR74AHC1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	11.5	ns
			CL=50pF	-	-	14.5	
		A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	7.0	ns
			CL=50pF	-	-	9.5	
Enable Delay	t _{en}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	11.5	ns
			CL=50pF	-	-	14.5	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.5	ns
			CL=50pF	-	-	9.5	
Disable time	t _{dis}	$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =3.0V to 3.6V ⁽²⁾	CL=15pF	-	-	12.5	ns
			CL=50pF	-	-	16.5	
		$\overline{OE}$ to Y;see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	8.5	ns
			CL=50pF	-	-	11.0	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	-	-	pF
HCR74AHCT1G125							
Propagation Delay	t _{pd}	A to Y; see Figure 6 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	7.0	ns
			CL=50pF	-	-	9.5	
Enable time	t _{en}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	6.5	ns
			CL=50pF	-	-	9.5	
Disable time	t _{dis}	$\overline{OE}$ to Y; see Figure 7 ⁽¹⁾ V _{CC} =4.5V to 5.5V ⁽³⁾	CL=15pF	-	-	8.5	ns
			CL=50pF	-	-	11.0	
Power dissipation capacitance	CPD	per buffer; CL=50pF; f=1MHz; V _I =GND to V _{CC} ⁽⁴⁾		-	-	-	pF

Note: (1) t_{pd} is the same as t_{PLH} and t_{PHL} .

t_{en} is the same as t_{PZL} and t_{PZH} .

t_{dis} is the same as t_{PLZ} and t_{PHZ} .

(2) Typical values are measured at $V_{CC}=3.3V$.

(3) Typical values are measured at $V_{CC}=5.0V$.

(4) CPD is used to determine the dynamic power dissipation (P_D in μW).

$P_D = CPD \times V_{CC}^2 \times f_i + \sum (CL \times V_{CC}^2 \times f_o)$ where:

f_i =input frequency in MHz;

f_o =output frequency in MHz;

CL=output load capacitance in pF;

V_{CC} =supply voltage in Volts.

Single Buffer/Line Driver; 3-state

Testing Circuit

AC Testing Circuit

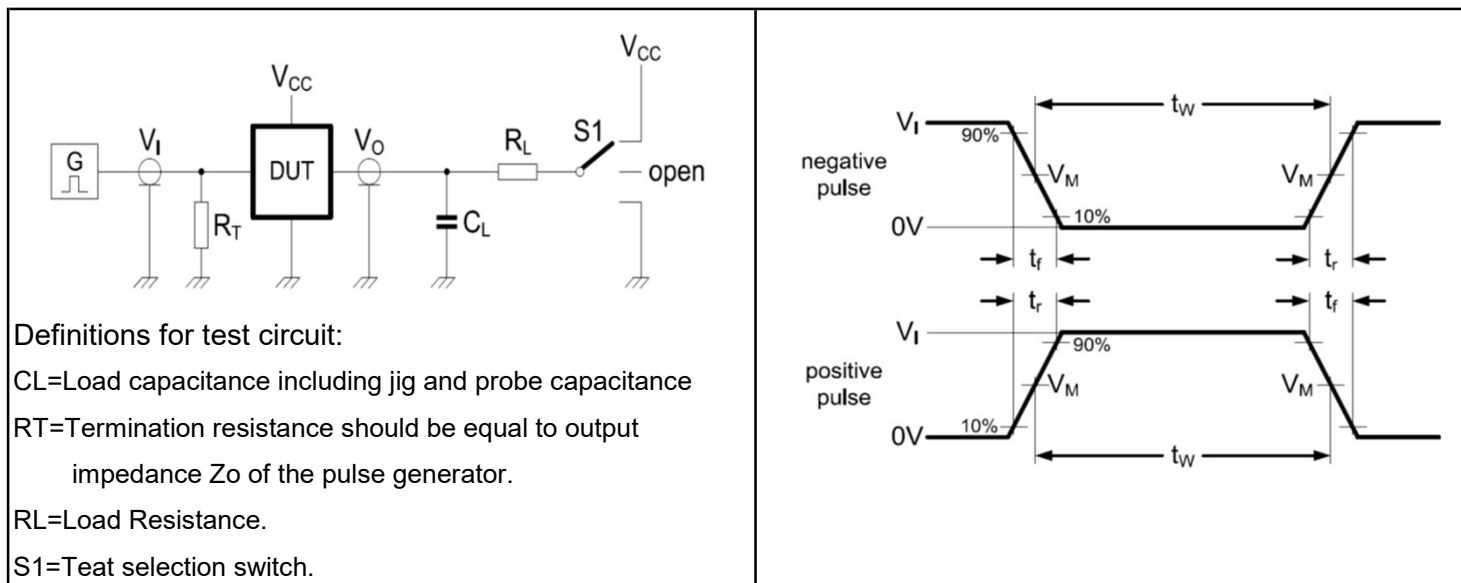


Figure 5. Test Circuit for Measuring switching times

AC Testing Waveforms

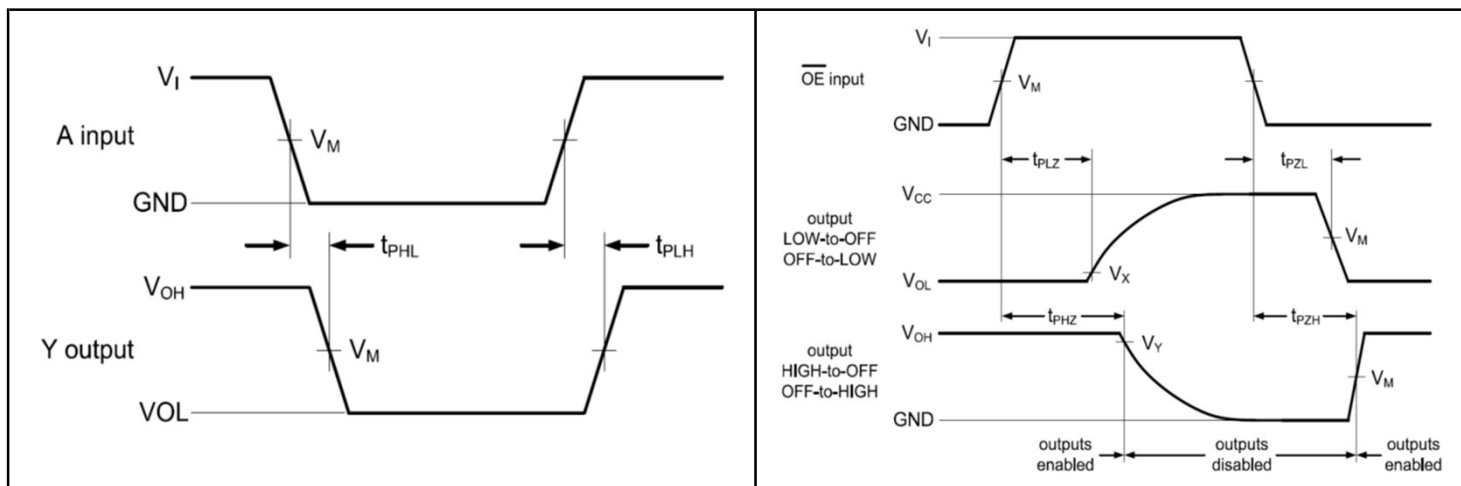


Figure 6. Input(A) to output (Y) propagation delays

Figure 7. Enable and disable times

Measurement Points

Type number	Inputs		Outputs		
	VI	VM	VM	VX	VY
HCR74AHC1G125	GND to VCC	0.5 X VCC	0.5XVCC	VOL+0.3V	VOH-0.3V
HCR74AHCT1G125	GND to 3.0V	1.5V	0.5XVCC	VOL+0.3V	VOH-0.3V

Test Data

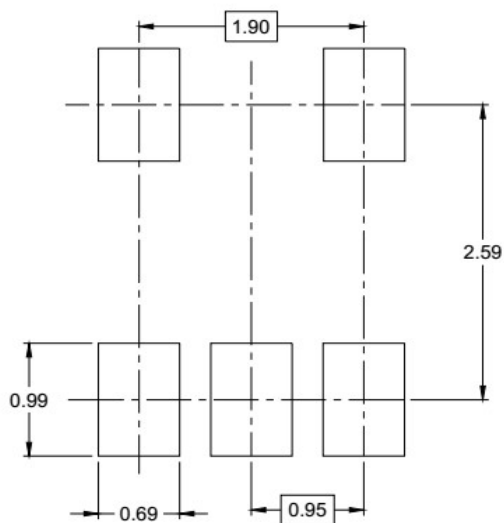
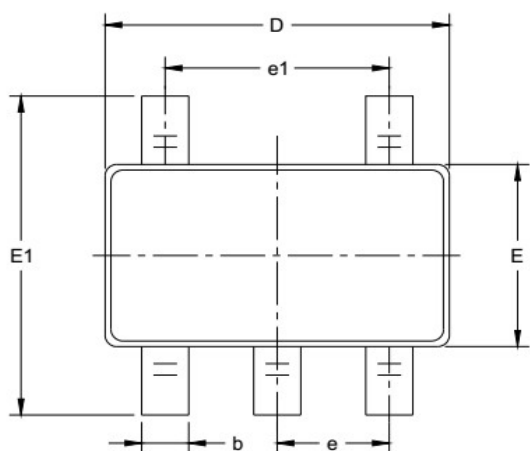
Type number	Input		Load		S1 Position		
	VI	tr, tf	CL	RL	tPHL, tPLH	tPZH, tPHZ	tPZL, tPLZ
HCR74AHC1G125	VCC	≤3ns	15pF, 50pF	1KΩ	open	GND	VCC
HCR74AHCT1G125	3.0V	≤3ns	15pF, 50pF	1KΩ	open	GND	VCC

Single Buffer/Line Driver; 3-state

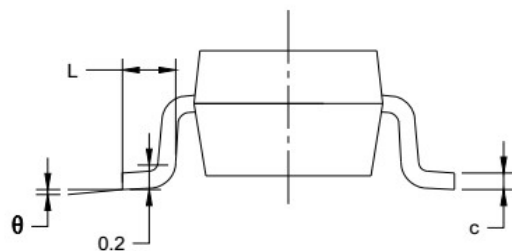
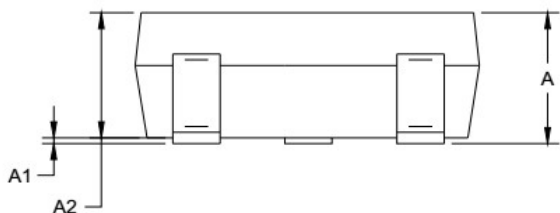
Mechanical Dimensions

PKG: SOT23-5 (M5)

Unit: mm(inch)



RECOMMENDED LAND PATTERN (Unit: mm)

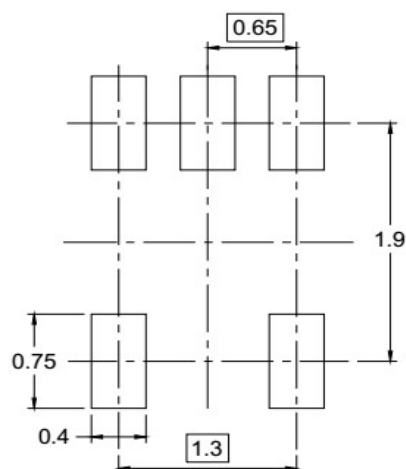
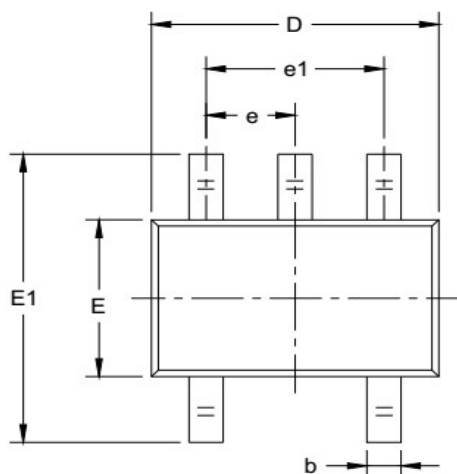
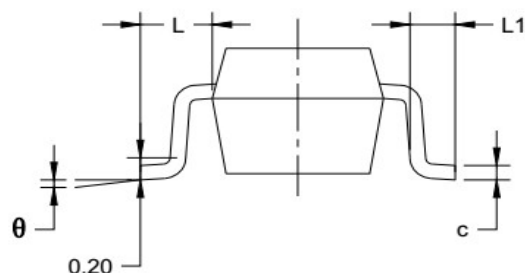
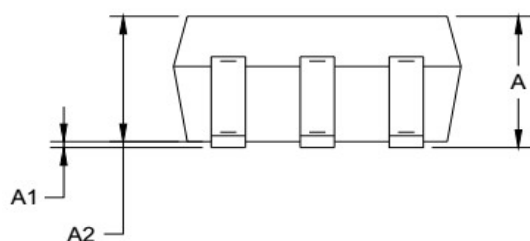


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Single Buffer/Line Driver; 3-state
Mechanical Dimensions(Con.)

PKG: SC70-5(SOT353)

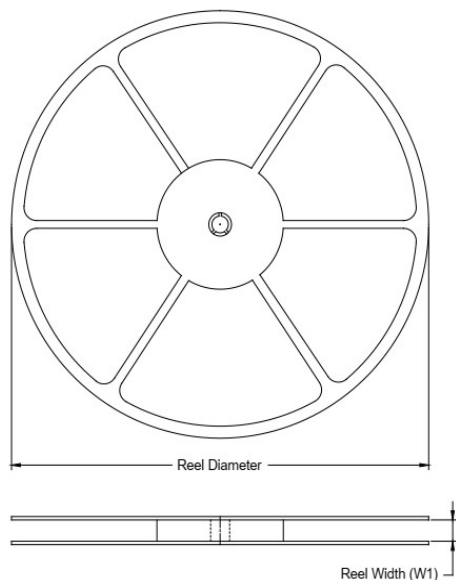
Unit: mm(inch)


RECOMMENDED LAND PATTERN (Unit: mm)


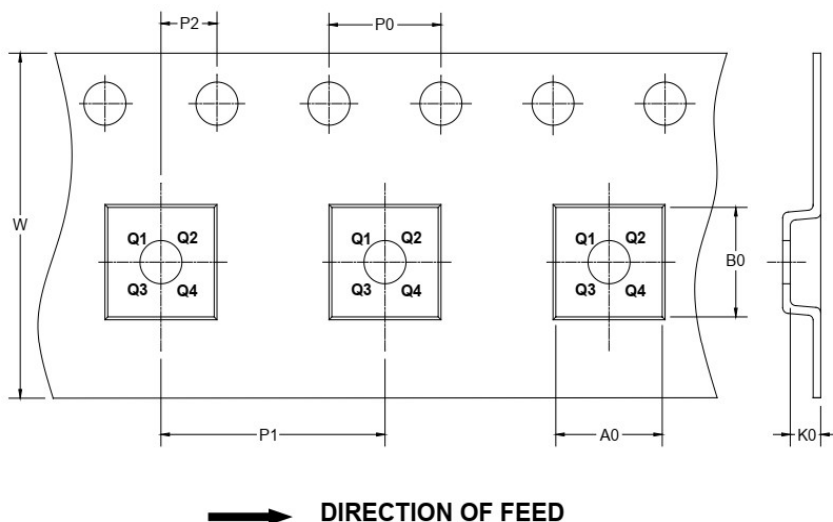
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.65 TYP		0.026 TYP	
e1	1.300 BSC		0.051 BSC	
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

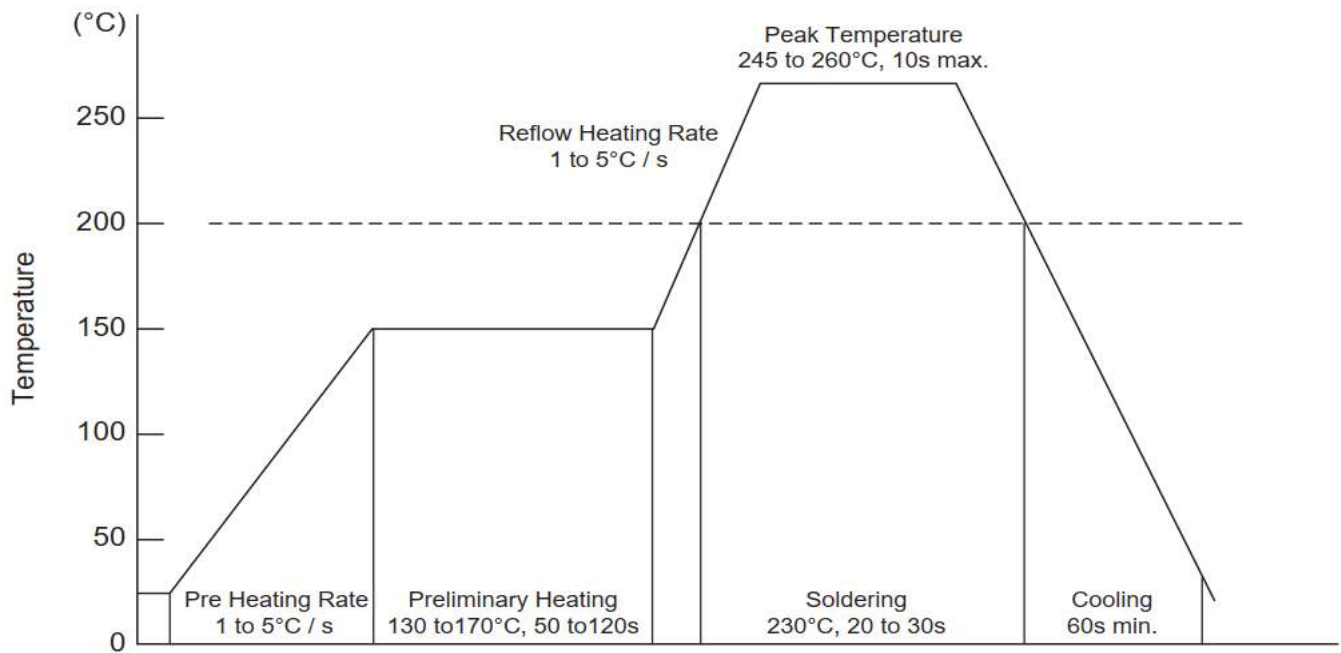
KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
SOT-23-5	7"	9.5	3.20	3.20	1.40	4.0	4.0	2.0	8.0	Q3
SC70-5	7"	9.5	2.25	2.55	1.20	4.0	4.0	2.0	8.0	Q3

Single Buffer/Line Driver; 3-state

Conditins of Soldering and Storage

• Recommended condition of reflow soldering



Recommended peak temperature is over 245°C, if peak temperature is below 245°C, you may adjust the following parameters:

- * Time length of peak temperature (longer)
- * Time length of soldering (longer)
- * Thickness of solder paste (thicker)

• Conditions of hand soldering

- * Temperature : 300°C
- * Time : 3s max
- * Times : one time

• Storage conditions

- * Temperature
5 to 40°C
- * Humidity
30 to 80% RH
- * Recommended period
One year after manufacturing