1.Description

The UMW SN74LVC1G04 is a non gate integrated circuit, which can realize the mathematical logic operation of Y=A.It is designed with advanced CMOS technology, which has the characteristics of low power consumption and high output driving ability. The chip can work normally when the voltage of VCC is between 1.65v and 5.5V.And 74lvc1g04 has a variety of small package shapes, which can be widely used in high-end precision instruments, miniaturized low-power handheld devices, and artificial intelligence and other fields.

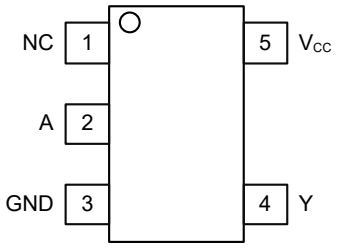
2.Features

- Low input current: typical value 0.1μA
- Low static power consumption: typical value 0.1μA
- High output:V_{CC}=4.5V,greaterthan32MA
- Wide operating voltage range: 1.65v to 5.5V
- Package form: SOT23-5/SC70-5/SOT-553 DFN/SON-6, DSBGA-5, X2SON-5

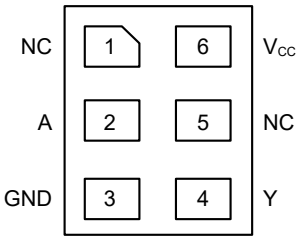
3.Product Use

- Portable audio interface
- digital television
- Wireless headphones, smart watches, etc.
- Blu-ray player and home theater
- Solid state drive
- Smart wearable devices

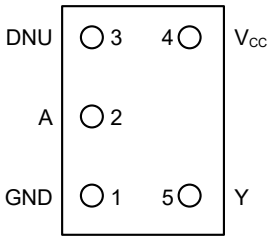
4.Pinning information



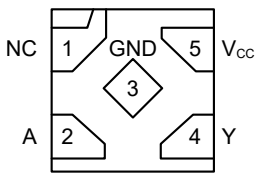
SOT23-5/SC70-5
SOT-553



DFN/SON-6



DSBGA-5



X2SON-5

5.Pin Function

Pin					Explain
Name	SOT23-5/SC70-5/SOT-553	DFN/SON-6	DSBGA-5	X2SON-5	
NC	1	1,5	A1, B2	1	Empty Feet
A	2	2	B1	2	Input
GND	3	3	C1	3	Power Ground
Y	4	4	C2	4	Output
V_{CC}	5	6	A2	5	Power Supply Positive

Notes: NC -- Empty feet, no internal connection line.

6.Limit Parameter

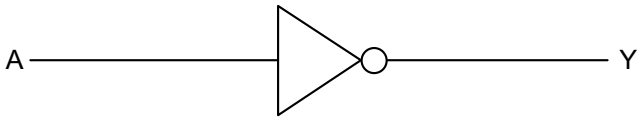
Parameter	Symbol	Limit Value	Unit
Working Voltage	V_{CC}	6.5	V
Input	V_{IN}	-0.5 ~ 6.5	V
Output Voltage (1)	V_{OUT}	-0.5 ~ 6.5	V
Single Pin Output Current	I_{OUT}	25	mA
VCC or Gnd Current	I_{CC}	50	mA
Storage Temperature	T_S	-65 to 150	°C
Pin Welding Temperature	T_W	260, 10s	°C
Working Temperature	T_A	-40 to 105	°C

Note:

1. When VCC=0V, the limit voltage that the output can withstand.

2. The limit value of any parameter can not be exceeded.If the limit value is exceeded, it may cause physical damage such as product deterioration;At the same time, the chip can not be guaranteed to work normally when it is close to the limit parameters.

7.Principle Logic Diagram



Function Table

Input	Output
A	**Y**
L	H
H	L

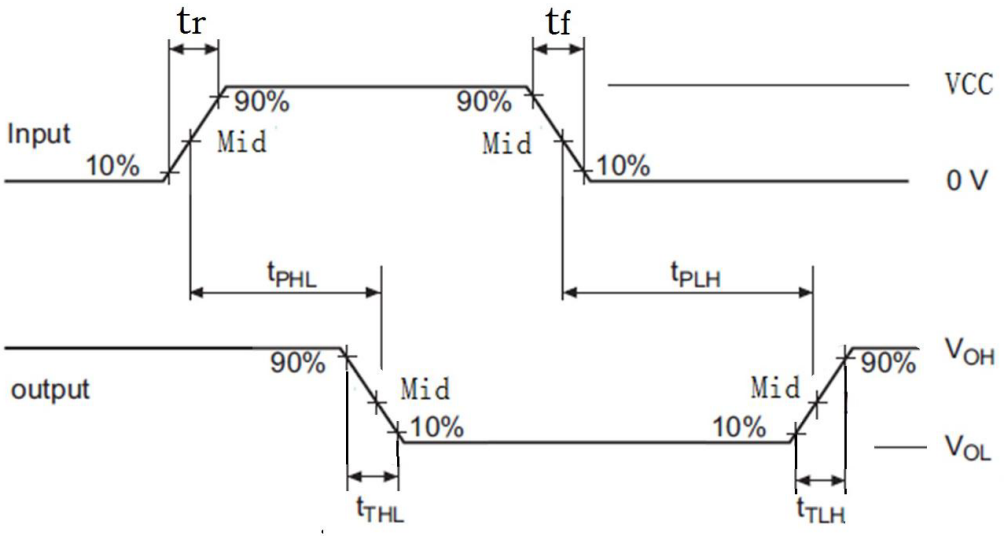
8.Electrical Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Working Voltage	V_{CC}		1.65		5.5	V
Input High Level Voltage	V_{IH}	V_C=1.65V~1.95V	0.65*V_{CC}			V
		V_C=2.3V~2.7V	1.7			V
		V_C=3V~5.5V	0.7*V_{CC}			V
Low-level Input Voltage	V_{IL}	V_C=1.65V~1.95V			0.35*V_{CC}	V
		V_C=2.3V~2.7V			0.7	V
		V_C=3V~5.5V			0.3*V_{CC}	V
Input Voltage	V_I				5.5	V
Output Voltage	V_O				V_{CC}	V
High Level Output Current	I_{OH}	V_C=1.65V			-4	mA
		V_C=2.3V			-8	mA
		V_C=3V			-16	mA
		V_C=4.5V			-32	mA
Low Level Output Current	I_{OL}	V_C=1.65V			4	mA
		V_C=2.3V			8	mA
		V_C=3V			16	mA
		V_C=4.5V			32	mA
High Level Load Voltage	V_{OH}	I_{OH}=-100μA, V_{CC}=1.65~5.5V	V_{CC}-0.1			V
		I_{OH}=-4mA, V_{CC}=1.65V	1.2			V
		I_{OH}=-8mA, V_{CC}=2.3V	1.9			V
		I_{OH}=-16mA, V_{CC}=3V	2.4			V
		I_{OH}=-32mA, V_{CC}=4.5V	3.8			V
Low Level Load Voltage	V_{OL}	I_{OH}=100μA, V_{CC}=1.65~5.5V			0.1	V
		I_{OH}=4mA, V_{CC}=1.65V			0.45	V
		I_{OH}=8mA, V_{CC}=2.3V			0.3	V
		I_{OH}=16mA, V_{CC}=3V			0.4	V
		I_{OH}=32mA, V_{CC}=4.5V			0.55	V

Parameter	Symbol		Conditions	Min.	Typ.	Max.	Unit
Input Current	I_I	A	V_I=5.5V or GND	0~5.5V	0.1	5	μA
Turn-off Current	I_{OFF}	V_I	V_I=5.5V	0	0.1	10	μA
		V_O	V_O=5.5V	0	0.1	10	μA
Working current	I_{CC}		V_I=5.5V, I_O=0	1.65V~5.5V	0.1	10	μA
			V_I=GND, I_O=0		0.1	10	μA
Working Current Variation	ΔI_{CC}		A=V_{CC} -0.6V	3V~5.5V	25	-	μA

TA=25°C, V_{CC}=5.0V, TR=≤20ns. See test method.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Maximum transmission	t_{PHL}	C=15pF		10		ns
delay time a, B to Y	t_{PLH}			10		ns

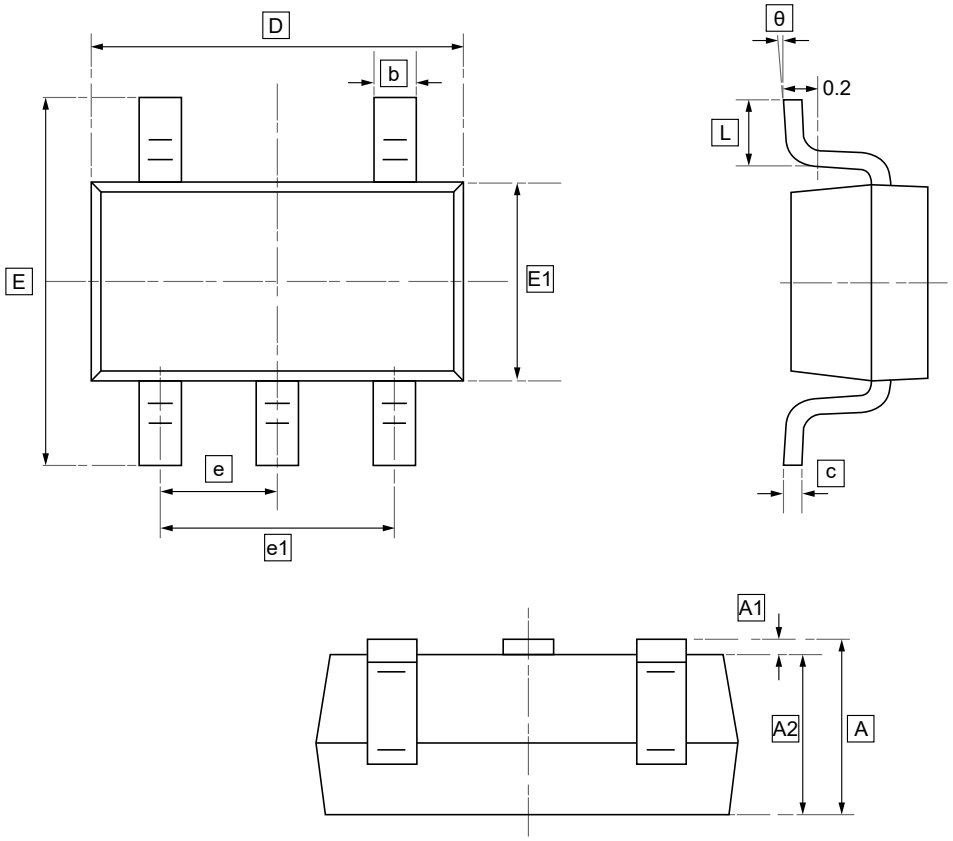


Note: 1. CL capacitor is external chip capacitor (0603), which is connected close to the output pin, and the capacitor ground is close to the chip GND;

2. Input: port input level, f=500kHz,D=50%; tr=tf≤20ns;

3. Output: y-end output test.

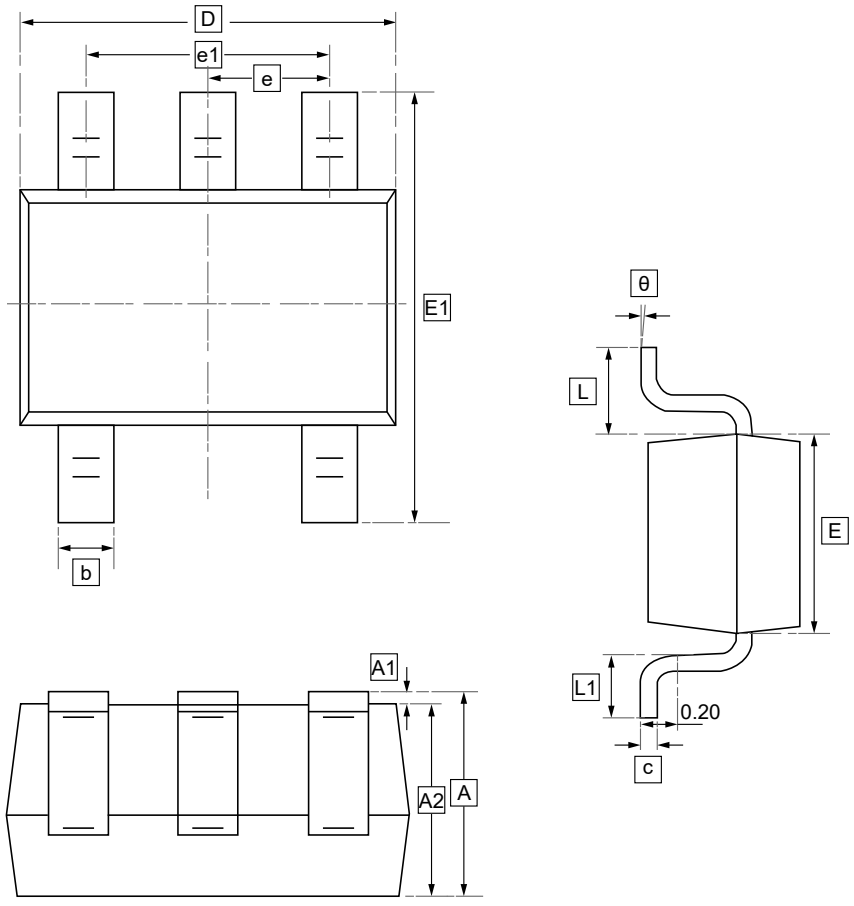
9.1 SOT23-5 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E1	E	e	e1	L	θ
Min	1.050	0.000	1.050	0.300	0.100	2.820	1.500	2.650	0.950	1.800	0.300	0°
Max	1.250	0.100	1.150	0.500	0.200	3.020	1.700	2.950	BSC	2.000	0.600	8°

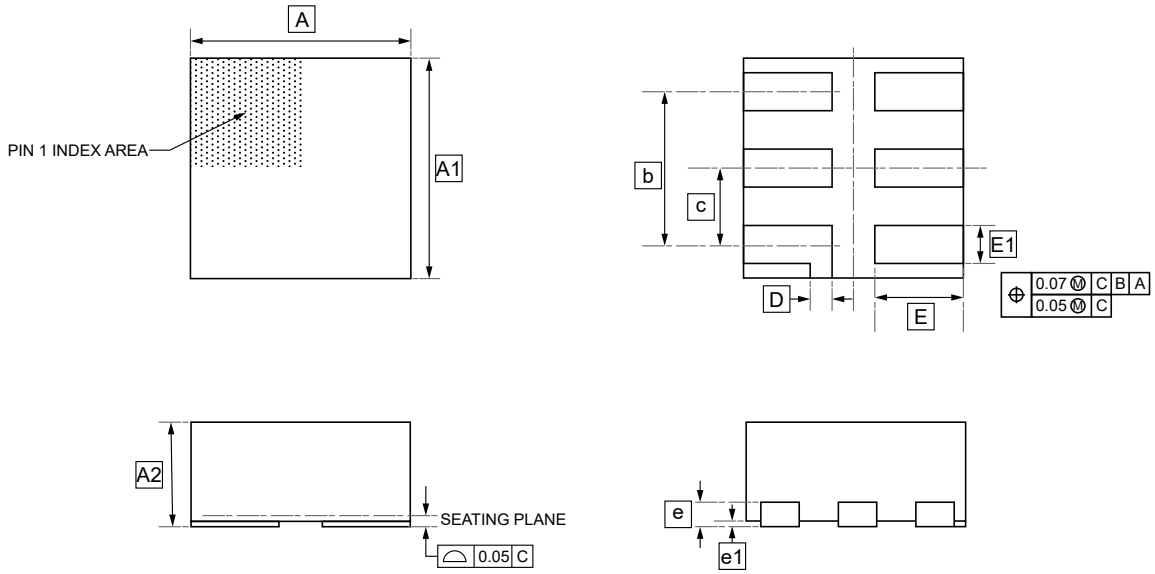
9.2 SC70-5 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1	L	θ
Min	0.90	0.00	0.90	0.15	0.08	1.80	1.15	2.15	0.65	1.20	0.26	7°
Max	1.10	0.10	1.00	0.35	0.15	2.25	1.35	2.45	TYP	1.40	0.46	REF.

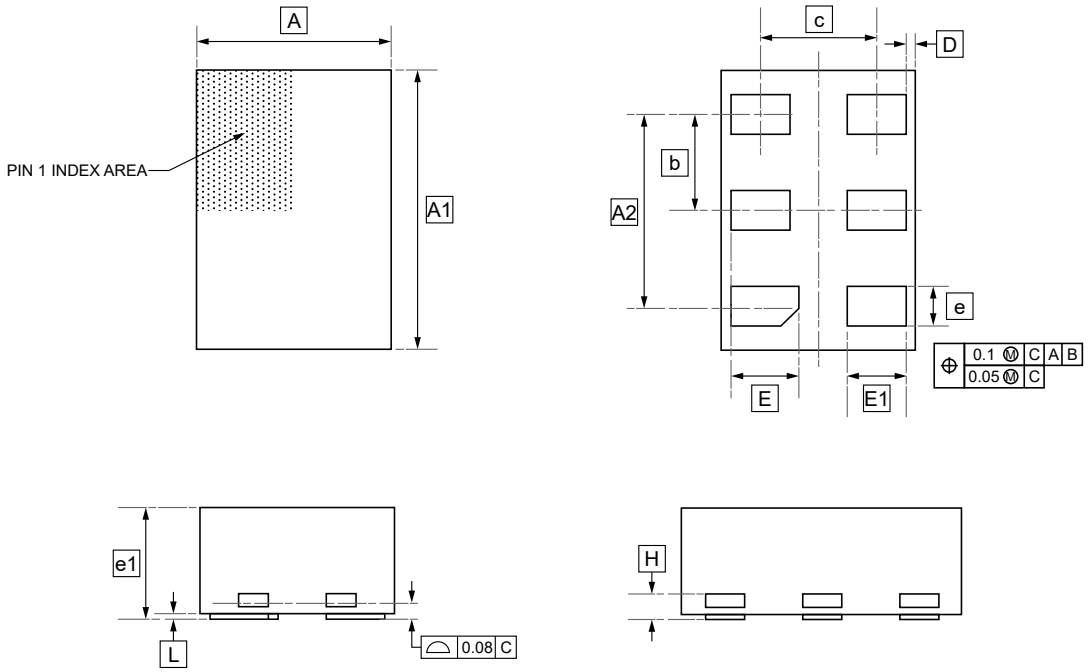
9.3 SON-6 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1
Min	0.95	0.95	-	0.7	0.35	0.1	0.35	0.12	0.11	0.00
Max	1.05	1.05	0.4				0.45	0.22	TYP	0.05

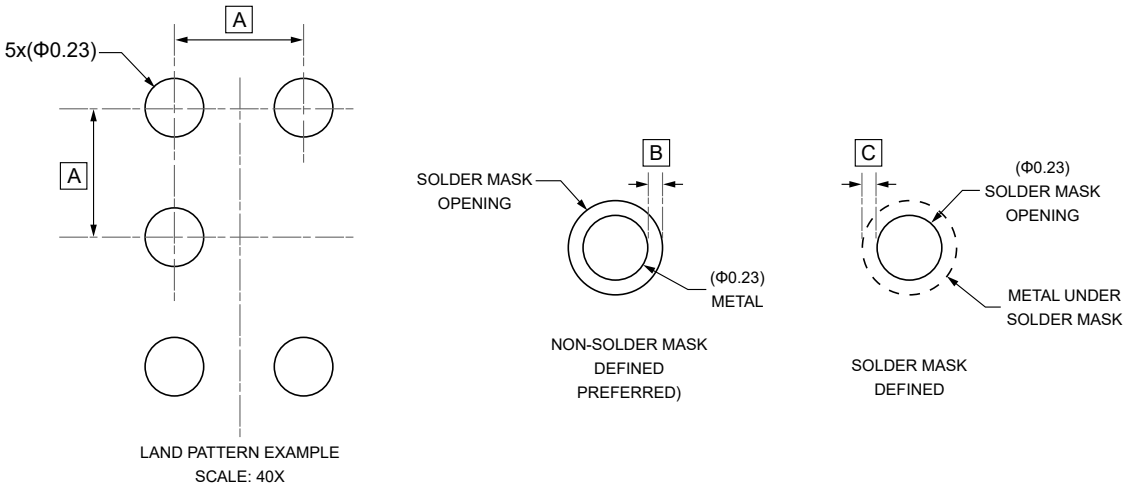
9.4 DFN(1*1.5) Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1	L	H
Min	0.95	1.4	1	0.5	0.6	0.05	0.3	0.25	0.15	-	0.00	0.127
Max	1.05	1.5				TYP	0.4	0.35	0.25	0.6	0.05	TYP

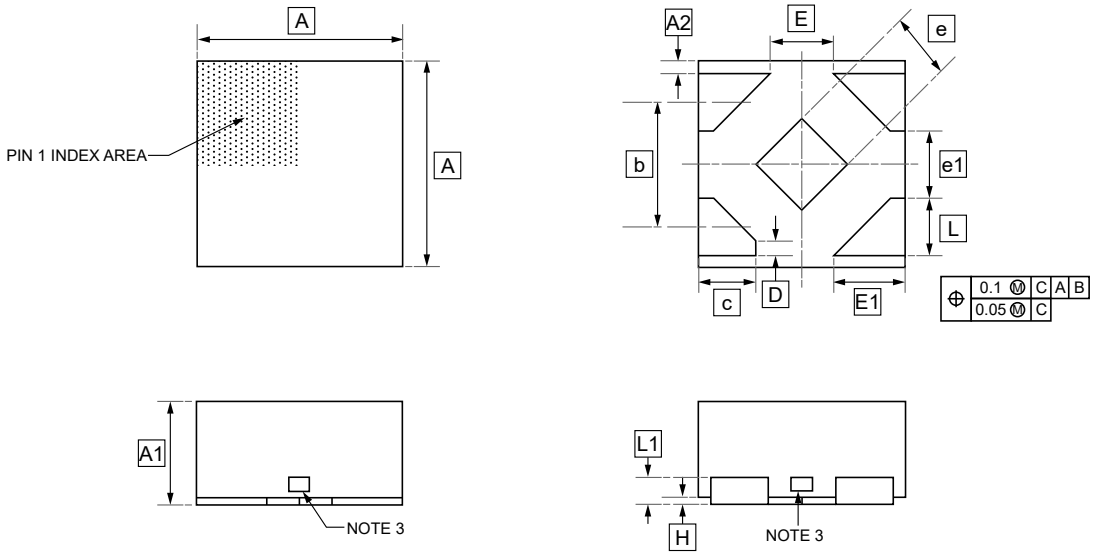
9.5 DSBGA-5 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	B	C
Min	0.5	-	0.05
Max	TYP	0.05	-

9.6 X2SON-5 Package Outline Dimensions

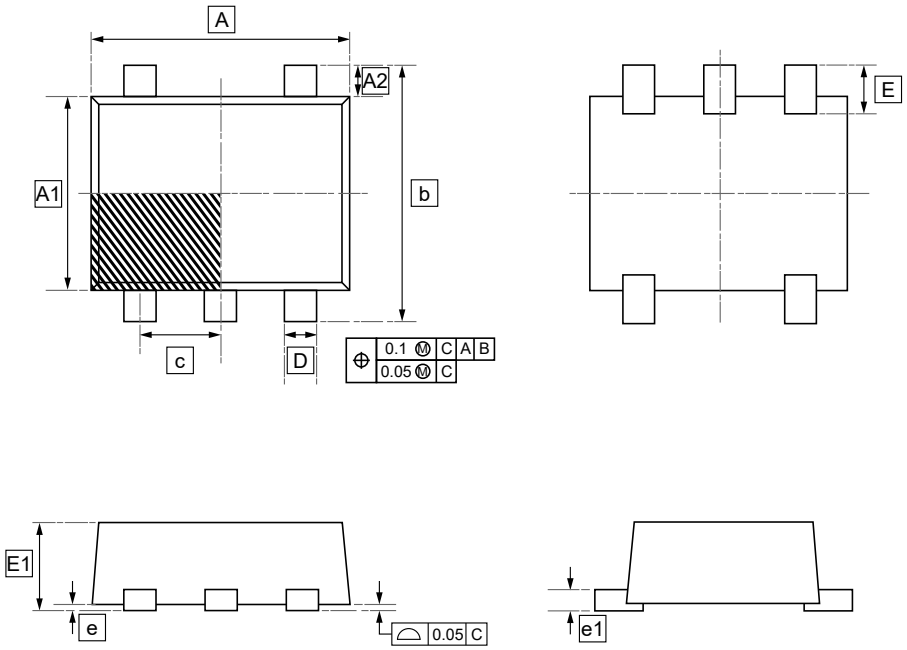


DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1	L	L1
Min	0.75	-	0.05	0.48	0.17	0.06	0.25	0.23	0.15	0.26	0.17	0.1
Max	0.85	0.4			0.27			0.32	0.35		0.27	

Symbol	H
Min	0.00
Max	0.05

9.7 SOT-553 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1
Min	1.50	1.10	0.13	1.50	0.50	0.15	0.20	0.50	0.00	0.08
Max	1.70	1.30	0.27	1.70		0.25	0.40	0.60	0.05	0.18

10.Ordering Information



yww: Batch Code

Order Code	Marking	Package	Base QTY	Delivery Mode
UMW SN74LVC1G04DBVR	C04F	SOT23-5	3000	Tape and reel
UMW SN74LVC1G04DCKR	CCF	SC70-5	3000	Tape and reel
UMW SN74LVC1G04YZPR	CC7	DSBGA-5	3000	Tape and reel
UMW SN74LVC1G04DPWR	K4	X2SON-5	3000	Tape and reel
UMW SN74LVC1G04DRLR	CC7	SOT-553	4000	Tape and reel
UMW SN74LVC1G04DRYR	CC	DFN(1*1.5)	5000	Tape and reel
UMW SN74LVC1G04DSFR	CC	DFN(1*1)	10000	Tape and reel

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