General Description

SN74LVC1G00 is A 2 - input and non-gate integrated circuit, which can realize the mathematical logic operation of $Y=\overline{A+B}$ and $Y=\overline{A}*\overline{B}$. Advanced CMOS process design, with low power consumption and high output driving capability, the power supply voltage VCC between 1.65V and 5.5V chip can work normally. 74LVC1G00 has a variety of small encapsulation shapes, which can be widely used in high-end precision instruments, miniaturized and low-power hand-held devices, as well as artificial intelligence and other fields.

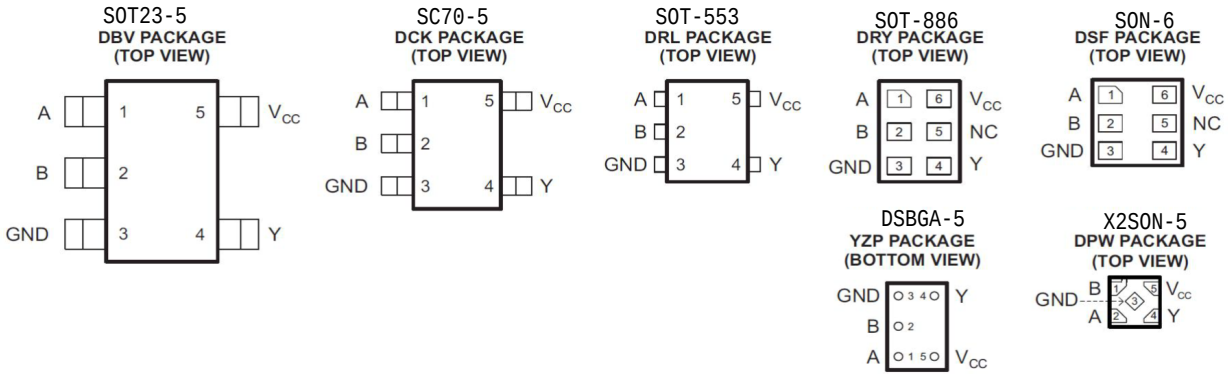
Features

- Low input current.
- Low static power consumption.Icc=0.1uA.
- High output drive.VCC=4.5V.
- Wide operating voltage range.1.65V-5.5V
- Packaging form:DBV/DRL/YZP/DCK DRP/DSF/DPW

Applications

- Portable audio interface
- Blu-ray players and home theaters
- Solid state drives
- Digital TV
- Wireless headphones, smart watches, etc
- Smart wearable Devices

Pinning and Package



Pin Functions

PIN				DESCRIPTION
NAME	DBV, DCK, DRL, YZP	DRY, DSF	DPW	
A	1	1	2	Input
B	2	2	1	Input
GND	3	3	3	Ground
Y	4	4	4	Output
V_{CC}	5	6	5	Power pin
NC		5		Not connected

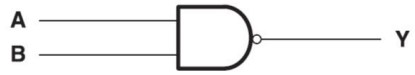
Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted)

			MIN	MAX	UNIT
V_{CC}	Supply voltage range		–0.5	6.5	V
V_I	Input voltage range		–0.5	6.5	V
V_O	Voltage range applied to any output in the high-impedance or power-off state(2)		–0.5	6.5	V
V_O	Voltage range applied to any output in the high or low state(2)(3)		–0.5	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			±50	mA
	Continuous current through V_{CC} or GND			±100	mA

(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_{CC} is provided in the *Recommended Operating Conditions* table.

Functional Block Diagram



Device Functional Modes

Inputs		Output
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

Recommended Operating Conditions

			MIN	MAX	UNIT
V_{CC}	Supply voltage	Operating	1.65	5.5	V
		Data retention only	1.5		
V_{IH}	High-level input voltage	V_{CC} = 1.65 V to 1.95 V	0.65 × V_{CC}		V
		V_{CC} = 2.3 V to 2.7 V	1.7		
		V_{CC} = 3 V to 3.6 V	2		
		V_{CC} = 4.5 V to 5.5 V	0.7 × V_{CC}		
V_{IL}	Low-level input voltage	V_{CC} = 1.65 V to 1.95 V		0.35 × V_{CC}	V
		V_{CC} = 2.3 V to 2.7 V		0.7	
		V_{CC} = 3 V to 3.6 V		0.8	
		V_{CC} = 4.5 V to 5.5 V		0.3 × V_{CC}	
V_I	Input voltage		0	5.5	V
V_O	Output voltage		0	V_{CC}	V
I_{OH}	High-level output current	V_{CC} = 1.65 V		–4	mA
		V_{CC} = 2.3 V		–8	
		V_{CC} = 3 V		–16	
		V_{CC} = 4.5 V		–32	
I_{OL}	Low-level output current	V_{CC} = 1.65 V		4	mA
		V_{CC} = 2.3 V		8	
		V_{CC} = 3 V		16	
		V_{CC} = 4.5 V		32	

Electrical Characteristics

over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER		TEST CONDITIONS	Vcc	TYP	MAX	UNIT
V_{OH}		I_{OH} =-100uA	1.65V~5.5V	1.64	-	V
		I_{OH} =-4 mA	1.65V	1.47	-	
		I_{OH} =-8 mA	2.3V	2.15	-	
		I_{OH} =-16 mA	3V	2.73	-	
		I_{OH} =-32 mA	4.5V	4.0		
V_{OL}		I_{OH} =100uA	1.65V~5.5V	0.01	-	V
		I_{OH} =4 mA	1.65V	0.11	-	
		I_{OH} =8 mA	2.3V	0.11	-	
		I_{OH} =16 mA	3V	0.2	-	
		I_{OH} =32 mA	4.5V	0.35	-	
I_I	A	V_I =5.5V or GND	0~5.5V	0.01	±5	uA
	B			0.01	±5	
I_{OFF}	V_I	V_I =5.5V	0	0.01	±10	uA
	V_O	V_O =5.5V	0	0.01	±10	
I_{CC}		V_I =5.5V, I_O =0	1.65V~5.5V	0.01	10	uA
		V_I =GND , I_O =0		0.01	10	
ΔI_{CC}		A=V_{CC} -0.6V	3V~5.5V	25	-	uA
		B=V_{CC} or GND				
		B=V_{CC} -0.6V A= V_{CC} or GND		25	-	uA

(1) All typical values are at V_{CC} = 3.3 V, T_A = 25°C.

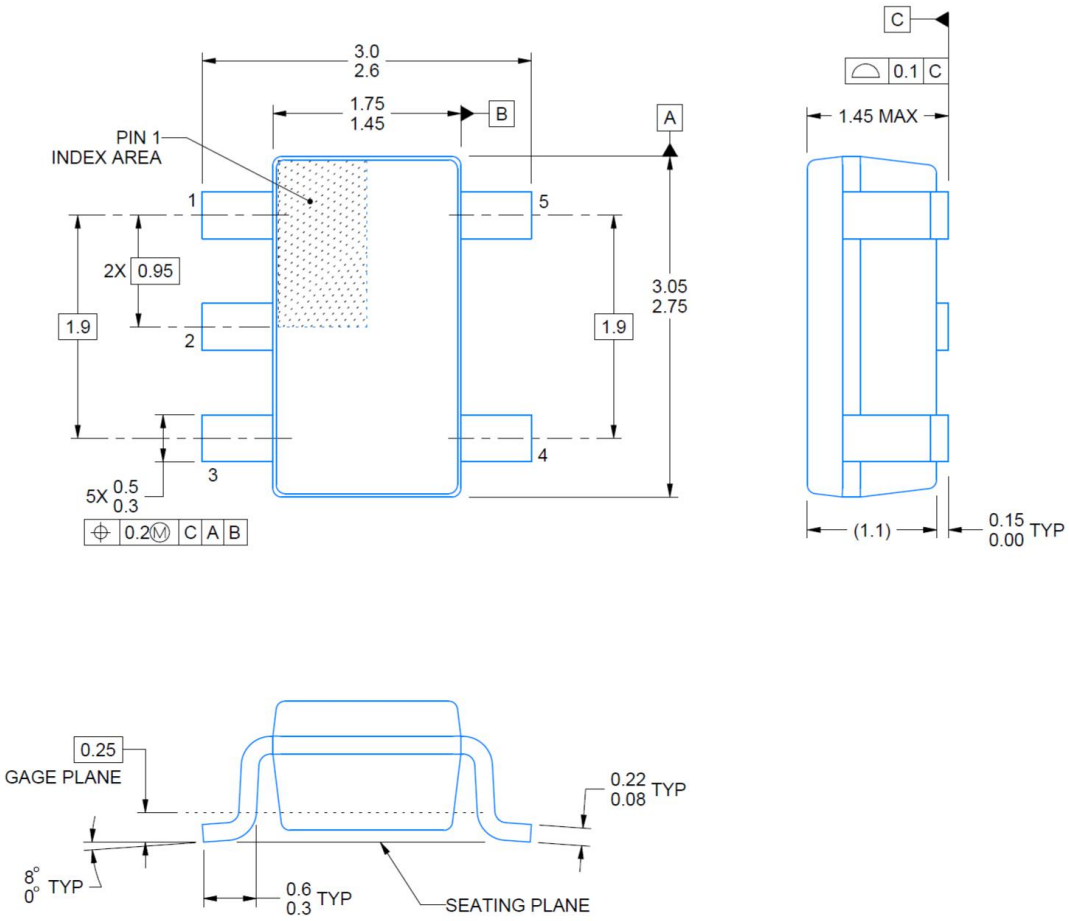
Switching Characteristics, C_L = 15 pF

over recommended operating free-air temperature range (unless otherwise noted) (see

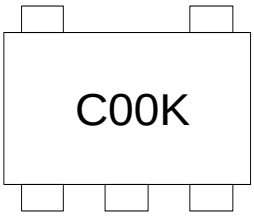
PARAMETER	FROM (INPUT)	TO (OUTPUT)	–40°C to 85°C								UNIT
			V_{CC} = 1.8 V ± 0.15 V		V_{CC} = 2.5 V ± 0.2 V		V_{CC} = 3.3 V ± 0.3 V		V_{CC} = 5 V ± 0.5 V		
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A or B	Y	1.5	7.2	0.7	4.4	0.8	3.6	0.8	3.4	ns

Package Outline

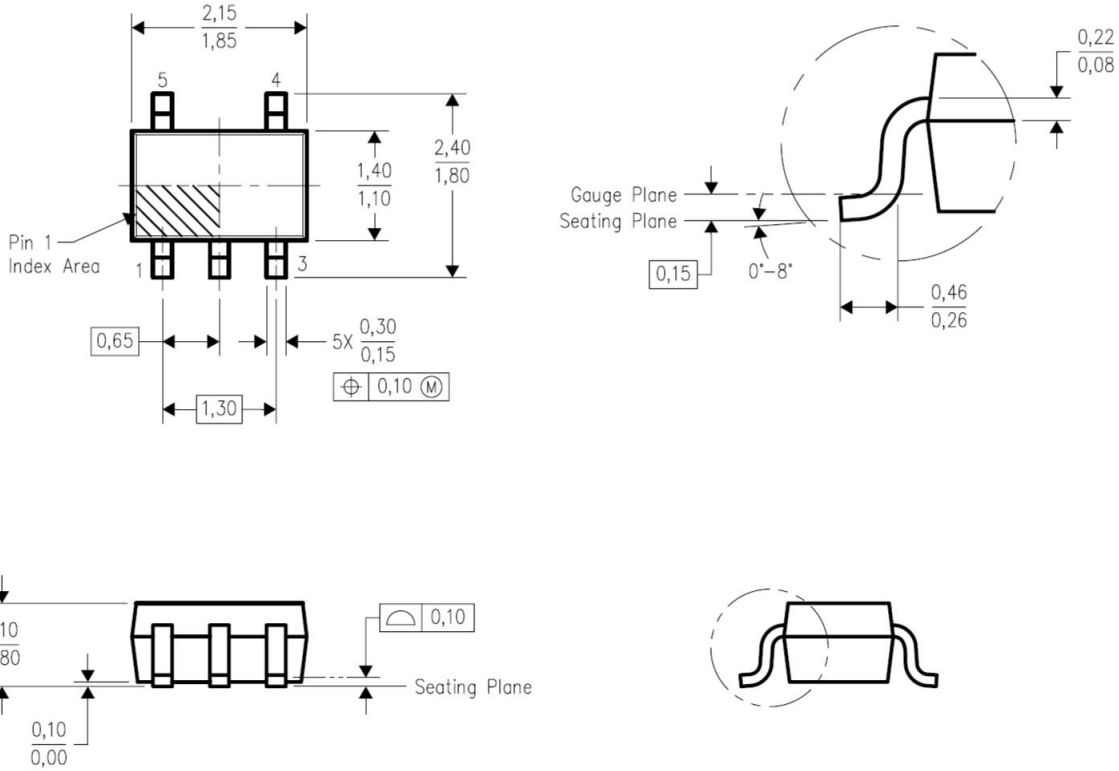
DBV(SOT23-5)



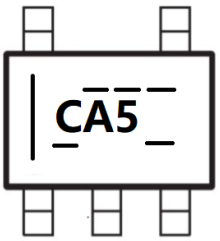
Marking



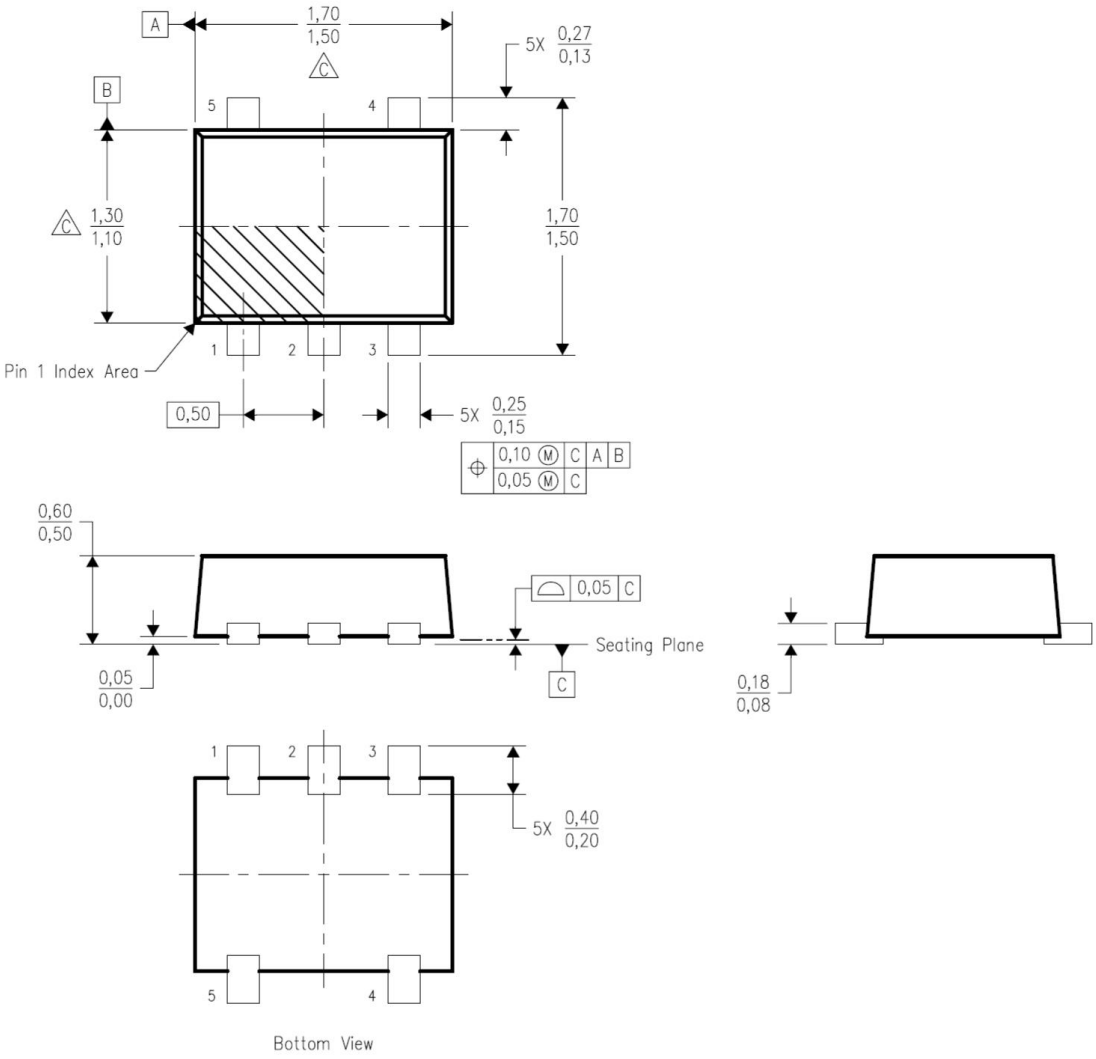
DCK(SC70-5)



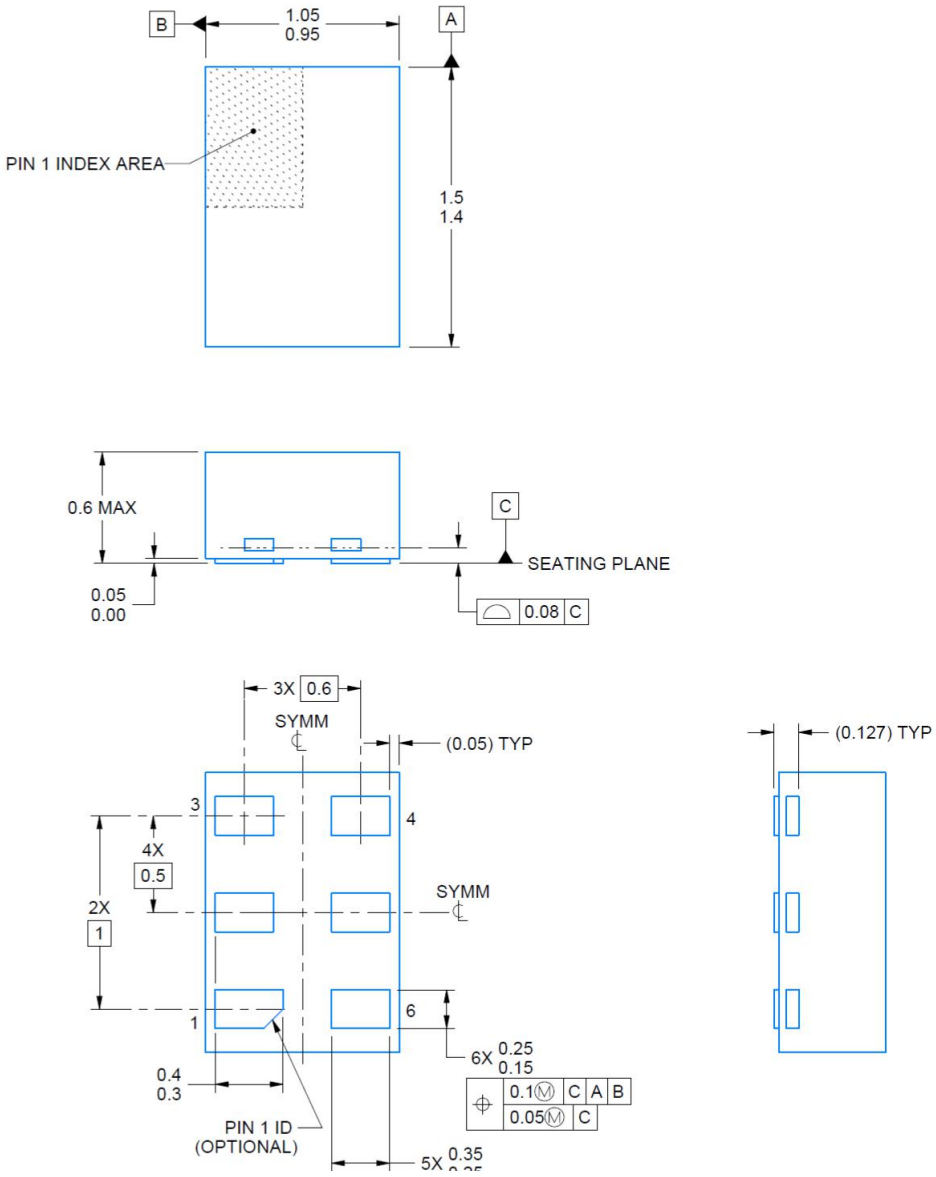
Marking



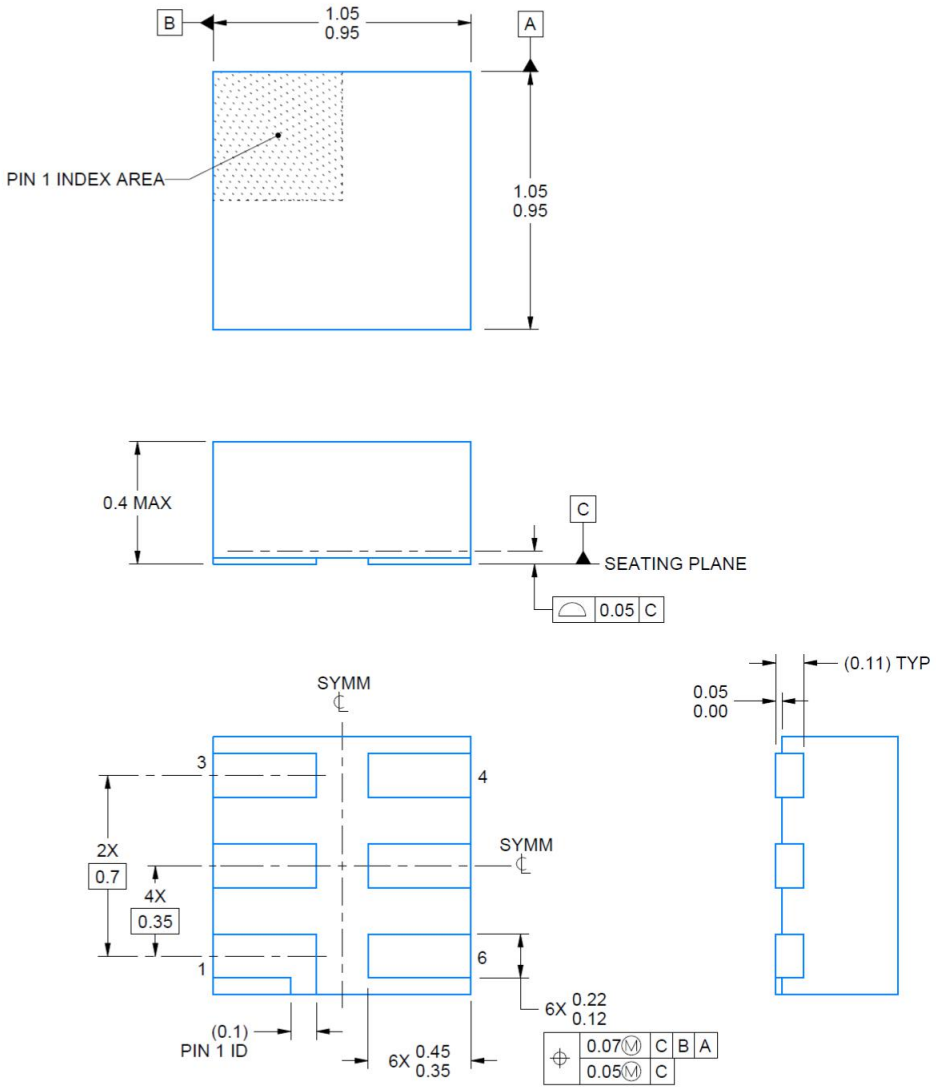
DRL (SOT-553)


A
B
C
1,70
1,50
5X 0,27
0,13
1,30
1,10
1,70
1,50
Pin 1 Index Area
0,50
5X 0,25
0,15
0,10 M C A B
0,05 M C
0,60
0,50
0,05 C
Seating Plane
0,05
0,00
0,18
0,08
5X 0,40
0,20
Bottom View

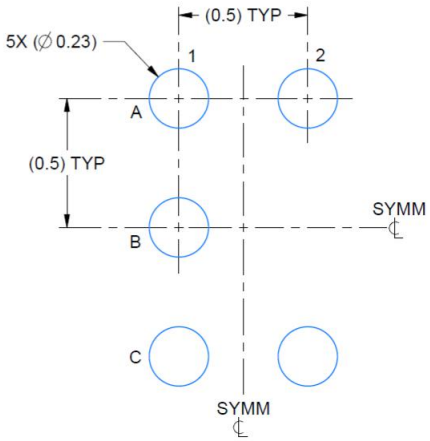
DRY (SOT-886)


B
1.05
0.95
A
PIN 1 INDEX AREA
1.5
1.4
0.6 MAX
C
SEATING PLANE
0.05
0.00
0.08 C
3X 0.6
SYMM
(0.05) TYP
(0.127) TYP
3
4
4X
0.5
SYMM
2X
1
1
6
6X 0.25
0.15
0.1 M C A B
0.05 M C
0.4
0.3
PIN 1 ID
(OPTIONAL)
5X 0.35

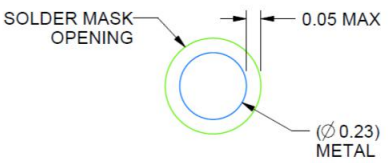
DSF(SON-6)


B
1.05
0.95
A
PIN 1 INDEX AREA
1.05
0.95
0.4 MAX
C
SEATING PLANE
0.05 C
SYMM
(0.11) TYP
0.05
0.00
3
4
2X
0.7
4X
0.35
SYMM
1
6
6X 0.22
0.12
(0.1)
PIN 1 ID
6X 0.45
0.35
0.07 M C B A
0.05 M C

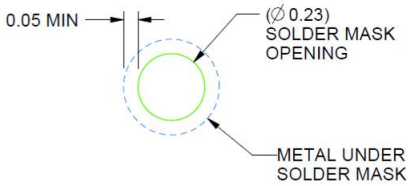
YZP (DSBGA-5)



LAND PATTERN EXAMPLE
SCALE:40X

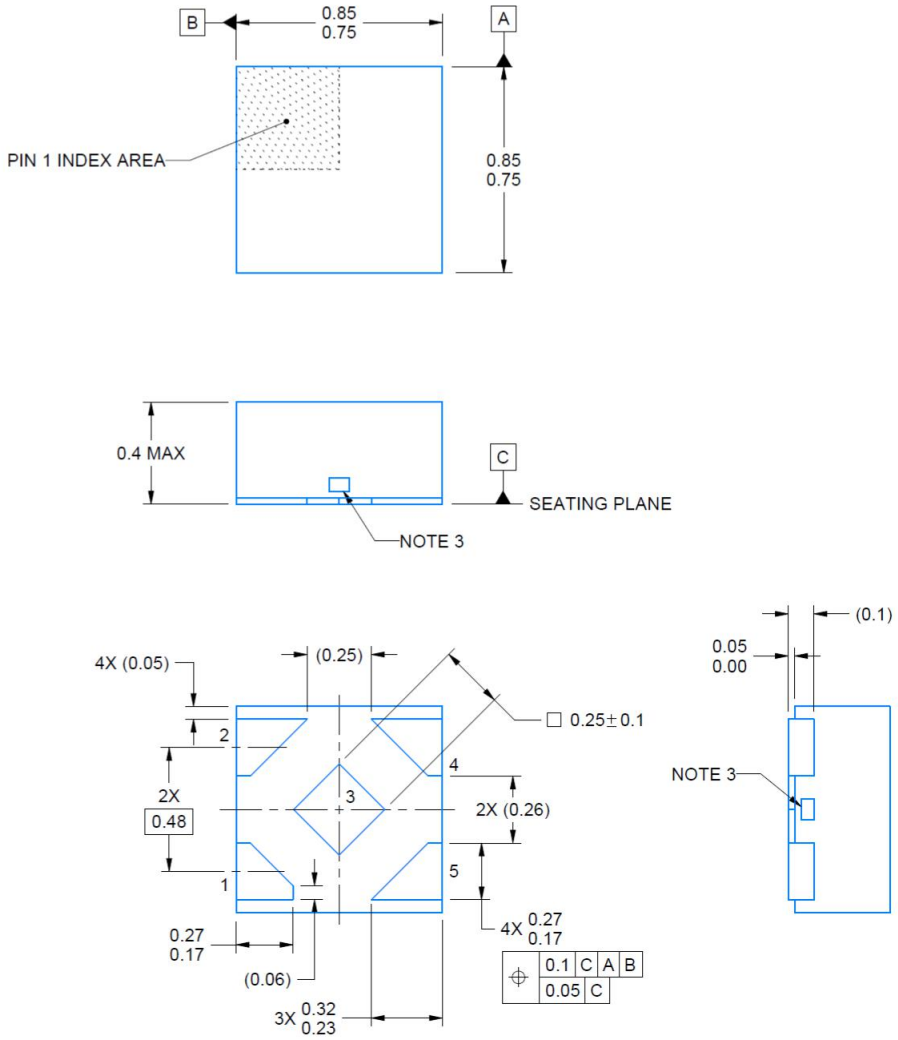


NON-SOLDER MASK
DEFINED
(PREFERRED)



SOLDER MASK
DEFINED

DPW(X2SON-5)


B
0.85
0.75
A
PIN 1 INDEX AREA
0.85
0.75
0.4 MAX
C
SEATING PLANE
NOTE 3
4X (0.05)
(0.25)
0.25±0.1
2
2X
0.48
1
3
4
2X (0.26)
5
4X 0.27
0.17
0.27
0.17
(0.06)
3X 0.32
0.23
0.1 C A B
0.05 C
(0.1)
0.05
0.00
NOTE 3

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Logic Gates ***category:***

Click to view products by TWGMC ***manufacturer:***

Other Similar products are found below :

74HC85N NL17SG08P5T5G NL17SG32DFT2G NLVHC1G08DFT1G CD4068BE TC7SET32FU(T5L,JF) NL17SG86DFT2G NLV14001UBDR2G NLX1G11AMUTCG NLX1G97MUTCG 74LS38 74LVC1G08Z-7 74LVC32ADTR2G CD4025BE MC74HCT20ADTR2G NLV17SZ00DFT2G NLV17SZ02DFT2G NLV17SZ126DFT2G NLV27WZ17DFT2G NLV74HC02ADR2G 74HC32S14-13 74LS133 74LVC1G32Z-7 74LVC1G86Z-7 NLV74HC14ADR2G NLV74HC20ADR2G NLX2G86MUTCG NLU1G00AMUTCG 74LVC2G32RA3-7 74LVC2G00HD4-7 NL17SG02P5T5G 74LVC2G86HK3-7 NL17SG08DFT2G NLVVHC1G14DFT2G NLX1G99DMUTWG NLVX1G11AMUTCG NLVVHC1G00DFT2G NLV7SZ57DFT2G NLV74VHC04DTR2G NLV27WZ86USG NLV27WZ00USG NLU1G86CMUTCG NLU1G08CMUTCG NL17SZ32P5T5G NL17SZ00P5T5G NL17SH02P5T5G 74AUP2G00RA3-7 NLVVHC1GT00DFT2G NLV74HC02ADTR2G NLX1G332CMUTCG