

# Single 2-Input OR Gate

## NL17SZ32

The NL17SZ32 is a single 2-input OR Gate in tiny footprint packages.

### Features

- Designed for 1.65 V to 5.5 V  $V_{CC}$  Operation
- 2.4 ns  $t_{PD}$  at  $V_{CC} = 5$  V (typ)
- Inputs/Outputs Overvoltage Tolerant up to 5.5 V
- $I_{OFF}$  Supports Partial Power Down Protection
- Source/Sink 24 mA at 3.0 V
- Available in SC-88A, SC-74A, SOT-553 and SOT-953 Packages
- Chip Complexity < 100 FETs
- -Q Suffix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

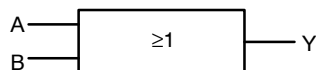
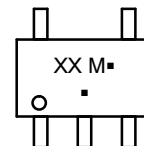


Figure 1. Logic Symbol

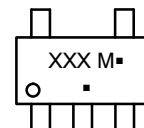
### MARKING DIAGRAMS



SC-88A  
DF SUFFIX  
CASE 419A



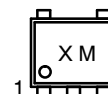
SC-74A  
DBV SUFFIX  
CASE 318BQ



SOT-553  
XV5 SUFFIX  
CASE 463B



SOT-953  
P5 SUFFIX  
CASE 527AE



XX = Specific Device Code  
M = Date Code\*  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

\* Date Code orientation and/or position may vary depending upon manufacturing location.

### ORDERING INFORMATION

See detailed ordering and shipping information on page 6 of this data sheet.

NL17SZ32



Figure 2. Pinout (Top View)

PIN ASSIGNMENT  
(SC-88A/SOT-553/SC-74A)

| Pin | Function        |
|-----|-----------------|
| 1   | B               |
| 2   | A               |
| 3   | GND             |
| 4   | Y               |
| 5   | V <sub>CC</sub> |

PIN ASSIGNMENT (SOT-953)

| Pin | Function        |
|-----|-----------------|
| 1   | A               |
| 2   | GND             |
| 3   | B               |
| 4   | Y               |
| 5   | V <sub>CC</sub> |

FUNCTION TABLE

| Input |   | Output<br>Y = A + B |
|-------|---|---------------------|
| A     | B | Y                   |
| L     | L | L                   |
| L     | H | H                   |
| H     | L | H                   |
| H     | H | H                   |

## MAXIMUM RATINGS

| Symbol                | Characteristics                                                                                                      | Value                                                  | Unit |
|-----------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------|
| $V_{CC}$              | DC Supply Voltage                                                                                                    | -0.5 to +6.5                                           | V    |
| $V_{IN}$              | DC Input Voltage                                                                                                     | -0.5 to +6.5                                           | V    |
| $V_{OUT}$             | DC Output Voltage<br>Active-Mode (High or Low State)<br>Tri-State Mode (Note 1)<br>Power-Down Mode ( $V_{CC} = 0$ V) | -0.5 to $V_{CC} + 0.5$<br>-0.5 to +6.5<br>-0.5 to +6.5 | V    |
| $I_{IK}$              | DC Input Diode Current<br>$V_{IN} < GND$                                                                             | -50                                                    | mA   |
| $I_{OK}$              | DC Output Diode Current<br>$V_{OUT} < GND$                                                                           | -50                                                    | mA   |
| $I_{OUT}$             | DC Output Source/Sink Current                                                                                        | $\pm 50$                                               | mA   |
| $I_{CC}$ or $I_{GND}$ | DC Supply Current per Supply Pin or Ground Pin                                                                       | $\pm 100$                                              | mA   |
| $T_{STG}$             | Storage Temperature Range                                                                                            | -65 to +150                                            | °C   |
| $T_L$                 | Lead Temperature, 1 mm from Case for 10 secs                                                                         | 260                                                    | °C   |
| $T_J$                 | Junction Temperature Under Bias                                                                                      | +150                                                   | °C   |
| $\theta_{JA}$         | Thermal Resistance (Note 2)<br>SC-88A<br>SC-74A<br>SOT-553<br>SOT-953                                                | 377<br>320<br>324<br>254                               | °C/W |
| $P_D$                 | Power Dissipation in Still Air<br>SC-88A<br>SC-74A<br>SOT-553<br>SOT-953                                             | 332<br>390<br>386<br>491                               | mW   |
| MSL                   | Moisture Sensitivity                                                                                                 | Level 1                                                | -    |
| $F_R$                 | Flammability Rating<br>Oxygen Index: 28 to 34                                                                        | UL 94 V-0 @ 0.125 in                                   | -    |
| $V_{ESD}$             | ESD Withstand Voltage (Note 3)<br>Human Body Model<br>Charged Device Model                                           | 2000<br>1000                                           | V    |
| $I_{Latchup}$         | Latchup Performance (Note 4)                                                                                         | $\pm 100$                                              | mA   |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected. Operating the device outside its recommended conditions, but still within its maximum rated limits may not cause immediate damage. However, doing so can lead to reduced performance, unpredictable behavior, and potentially shorten the device's lifespan or reliability.

1. Applicable to devices with outputs that may be tri-stated.
2. Measured with minimum pad spacing on an FR4 board, using 10mm-by-1inch, 2 ounce copper trace no air flow per JESD51-7.
3. HBM tested to ANSI/ESDA/JEDEC JS-001-2017. CDM tested to EIA/JESD22-C101-F. JEDEC recommends that ESD qualification to EIA/JESD22-A115-A (Machine Model) be discontinued per JEDEC/JEP172A.
4. Tested to EIA/JESD78 Class II.

## RECOMMENDED OPERATING CONDITIONS

| Symbol     | Characteristics                                                                                                                                | Min              | Max                    | Unit |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|------|
| $V_{CC}$   | Positive DC Supply Voltage                                                                                                                     | 1.65             | 5.5                    | V    |
| $V_{IN}$   | DC Input Voltage                                                                                                                               | 0                | 5.5                    | V    |
| $V_{OUT}$  | DC Output Voltage<br>Active-Mode (High or Low State)<br>Tri-State Mode (Note 1)<br>Power-Down Mode ( $V_{CC} = 0$ V)                           | 0<br>0<br>0      | $V_{CC}$<br>5.5<br>5.5 | V    |
| $T_A$      | Operating Temperature Range                                                                                                                    | -55              | +125                   | °C   |
| $t_r, t_f$ | Input Rise and Fall Time<br>$V_{CC} = 1.65$ V to 1.95 V<br>$V_{CC} = 2.3$ V to 2.7 V<br>$V_{CC} = 3.0$ V to 3.6 V<br>$V_{CC} = 4.5$ V to 5.5 V | 0<br>0<br>0<br>0 | 20<br>20<br>10<br>5    | ns/V |

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

## DC ELECTRICAL CHARACTERISTICS

| Symbol           | Parameter                 | Condition                                            | V <sub>CC</sub><br>(V) | T <sub>A</sub> = 25 °C |                 |                        | -55 °C ≤ T <sub>A</sub> ≤ 125 °C |                        | Units |
|------------------|---------------------------|------------------------------------------------------|------------------------|------------------------|-----------------|------------------------|----------------------------------|------------------------|-------|
|                  |                           |                                                      |                        | Min                    | Typ             | Max                    | Min                              | Max                    |       |
| V <sub>IH</sub>  | High-Level Input Voltage  |                                                      | 1.65 to 1.95           | 0.65 x V <sub>CC</sub> | –               | –                      | 0.65 x V <sub>CC</sub>           | –                      | V     |
|                  |                           |                                                      | 2.3 to 5.5             | 0.70 x V <sub>CC</sub> | –               | –                      | 0.70 x V <sub>CC</sub>           | –                      |       |
| V <sub>IL</sub>  | Low-Level Input Voltage   |                                                      | 1.65 to 1.95           | –                      | –               | 0.35 x V <sub>CC</sub> | –                                | 0.35 x V <sub>CC</sub> | V     |
|                  |                           |                                                      | 2.3 to 5.5             | –                      | –               | 0.30 x V <sub>CC</sub> | –                                | 0.30 x V <sub>CC</sub> |       |
| V <sub>OH</sub>  | High-Level Output Voltage | V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | 1.65 to 5.5            | V <sub>CC</sub> – 0.1  | V <sub>CC</sub> | –                      | V <sub>CC</sub> – 0.1            | –                      | V     |
|                  |                           | I <sub>OH</sub> = –100 μA                            | 1.65                   | 1.29                   | 1.4             | –                      | 1.29                             | –                      |       |
|                  |                           | I <sub>OH</sub> = –4 mA                              | 2.3                    | 1.9                    | 2.1             | –                      | 1.9                              | –                      |       |
|                  |                           | I <sub>OH</sub> = –8 mA                              | 2.7                    | 2.2                    | 2.4             | –                      | 2.2                              | –                      |       |
|                  |                           | I <sub>OH</sub> = –12 mA                             | 3.0                    | 2.4                    | 2.7             | –                      | 2.4                              | –                      |       |
|                  |                           | I <sub>OH</sub> = –16 mA                             | 3.0                    | 2.3                    | 2.5             | –                      | 2.3                              | –                      |       |
|                  |                           | I <sub>OH</sub> = –24 mA                             | 4.5                    | 3.8                    | 4.0             | –                      | 3.8                              | –                      |       |
|                  |                           | I <sub>OH</sub> = –32 mA                             |                        |                        |                 |                        |                                  |                        |       |
| V <sub>OL</sub>  | Low-Level Output Voltage  | V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> | 1.65 to 5.5            | –                      | –               | 0.1                    | –                                | 0.1                    | V     |
|                  |                           | I <sub>OL</sub> = 100 μA                             | 1.65                   | –                      | 0.08            | 0.24                   | –                                | 0.24                   |       |
|                  |                           | I <sub>OL</sub> = 4 mA                               | 2.3                    | –                      | 0.2             | 0.3                    | –                                | 0.3                    |       |
|                  |                           | I <sub>OL</sub> = 8 mA                               | 2.7                    | –                      | 0.22            | 0.4                    | –                                | 0.4                    |       |
|                  |                           | I <sub>OL</sub> = 12 mA                              | 3.0                    | –                      | 0.28            | 0.4                    | –                                | 0.4                    |       |
|                  |                           | I <sub>OL</sub> = 16 mA                              | 3.0                    | –                      | 0.38            | 0.55                   | –                                | 0.55                   |       |
|                  |                           | I <sub>OL</sub> = 24 mA                              | 4.5                    | –                      | 0.42            | 0.55                   | –                                | 0.55                   |       |
|                  |                           | I <sub>OL</sub> = 32 mA                              |                        |                        |                 |                        |                                  |                        |       |
| I <sub>IN</sub>  | Input Leakage Current     | V <sub>IN</sub> = 5.5 V or GND                       | 1.65 to 5.5            | –                      | –               | ±0.1                   | –                                | ±1.0                   | μA    |
| I <sub>OFF</sub> | Power Off Leakage Current | V <sub>IN</sub> = 5.5 V or V <sub>OUT</sub> = 5.5 V  | 0                      | –                      | –               | 1.0                    | –                                | 10                     | μA    |
| I <sub>CC</sub>  | Quiescent Supply Current  | V <sub>IN</sub> = V <sub>CC</sub> or GND             | 5.5                    | –                      | –               | 1.0                    | –                                | 10                     | μA    |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

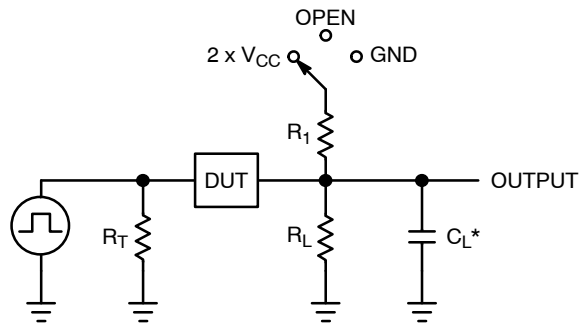
## AC ELECTRICAL CHARACTERISTICS

| Symbol                                 | Parameter                                                | Condition                                      | V <sub>CC</sub><br>(V) | T <sub>A</sub> = 25 °C |     |     | -55 °C ≤ T <sub>A</sub> ≤ 125 °C |      | Units |
|----------------------------------------|----------------------------------------------------------|------------------------------------------------|------------------------|------------------------|-----|-----|----------------------------------|------|-------|
|                                        |                                                          |                                                |                        | Min                    | Typ | Max | Min                              | Max  |       |
| t <sub>PLH</sub> ,<br>t <sub>PHL</sub> | Propagation Delay,<br>(A or B) to Y<br>(Figures 3 and 4) | R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF  | 1.65 to 1.95           | –                      | 5.5 | 12  | –                                | 12.7 | ns    |
|                                        |                                                          | R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF  | 2.3 to 2.7             | –                      | 3.0 | 7.0 | –                                | 7.5  |       |
|                                        |                                                          | R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF  | 3.0 to 3.6             | –                      | 2.6 | 4.7 | –                                | 5.0  |       |
|                                        |                                                          | R <sub>L</sub> = 500 Ω, C <sub>L</sub> = 50 pF |                        | –                      | 3.0 | 5.2 | –                                | 5.5  |       |
|                                        |                                                          | R <sub>L</sub> = 1 MΩ, C <sub>L</sub> = 15 pF  | 4.5 to 5.5             | –                      | 2.2 | 4.1 | –                                | 4.4  |       |
|                                        |                                                          | R <sub>L</sub> = 500 Ω, C <sub>L</sub> = 50 pF |                        | –                      | 2.4 | 4.5 | –                                | 4.8  |       |

## CAPACITIVE CHARACTERISTICS

| Symbol           | Parameter                                 | Condition                                                                 | Typical | Units |
|------------------|-------------------------------------------|---------------------------------------------------------------------------|---------|-------|
| C <sub>IN</sub>  | Input Capacitance                         | V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 0 V or V <sub>CC</sub>         | 2.5     | pF    |
| C <sub>OUT</sub> | Output Capacitance                        | V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 0 V or V <sub>CC</sub>         | 2.5     | pF    |
| C <sub>PD</sub>  | Power Dissipation Capacitance<br>(Note 5) | 10 MHz, V <sub>CC</sub> = 3.3 V, V <sub>IN</sub> = 0 V or V <sub>CC</sub> | 9       | pF    |
|                  |                                           | 10 MHz, V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 0 V or V <sub>CC</sub> | 11      |       |

5. C<sub>PD</sub> is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation: I<sub>CC(OPR)</sub> = C<sub>PD</sub> • V<sub>CC</sub> • f<sub>in</sub> + I<sub>CC</sub>. C<sub>PD</sub> is used to determine the no-load dynamic power consumption; P<sub>D</sub> = C<sub>PD</sub> • V<sub>CC</sub><sup>2</sup> • f<sub>in</sub> + I<sub>CC</sub> • V<sub>CC</sub>.



$C_L$  includes probe and jig capacitance  
 $R_T$  is  $Z_{OUT}$  of pulse generator (typically 50  $\Omega$ )  
 $f = 1$  MHz

Figure 3. Test Circuit

| Test                | Switch Position   | $C_L$ , pF                   | $R_L$ , $\Omega$ | $R_1$ , $\Omega$ |
|---------------------|-------------------|------------------------------|------------------|------------------|
| $t_{PLH} / t_{PHL}$ | Open              | See AC Characteristics Table |                  |                  |
| $t_{PLZ} / t_{PZL}$ | $2 \times V_{CC}$ | 50                           | 500              | 500              |
| $t_{PHZ} / t_{PZH}$ | GND               | 50                           | 500              | 500              |

X = Don't Care

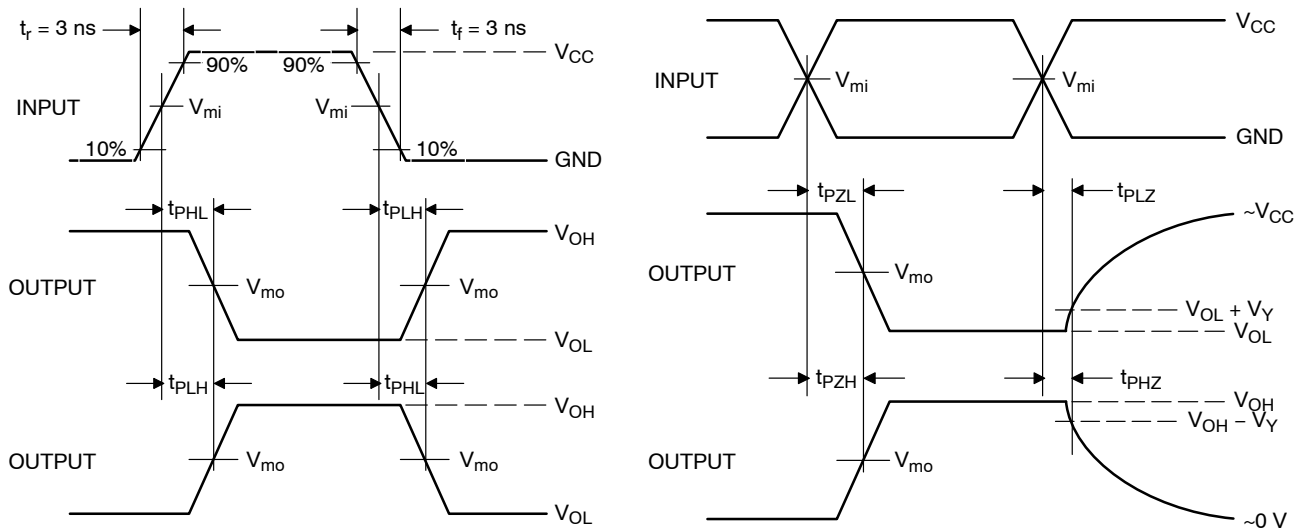


Figure 4. Switching Waveforms

| $V_{CC}$ , V | $V_{mi}$ , V | $V_{mo}$ , V       |                                      | $V_Y$ , V |
|--------------|--------------|--------------------|--------------------------------------|-----------|
|              |              | $t_{PLH}, t_{PHL}$ | $t_{PZL}, t_{PLZ}, t_{PZH}, t_{PHZ}$ |           |
| 1.65 to 1.95 | $V_{CC}/2$   | $V_{CC}/2$         | $V_{CC}/2$                           | 0.15      |
| 2.3 to 2.7   | $V_{CC}/2$   | $V_{CC}/2$         | $V_{CC}/2$                           | 0.15      |
| 3.0 to 3.6   | $V_{CC}/2$   | $V_{CC}/2$         | $V_{CC}/2$                           | 0.3       |
| 4.5 to 5.5   | $V_{CC}/2$   | $V_{CC}/2$         | $V_{CC}/2$                           | 0.3       |

# NL17SZ32

## DEVICE ORDERING INFORMATION

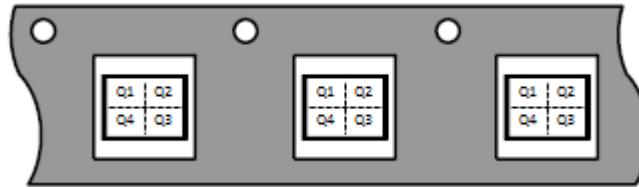
| Device           | Packages | Specific Device Code   | Pin 1 Orientation<br>(See below) | Shipping <sup>†</sup> |
|------------------|----------|------------------------|----------------------------------|-----------------------|
| NL17SZ32DFT2G    | SC-88A   | L4                     | Q4                               | 3000 / Tape & Reel    |
| NL17SZ32DFT2G-Q* | SC-88A   | L4                     | Q4                               | 3000 / Tape & Reel    |
| NL17SZ32DBVT1G   | SC-74A   | AN                     | Q4                               | 3000 / Tape & Reel    |
| NL17SZ32XV5T2G   | SOT-553  | L4                     | Q4                               | 4000 / Tape & Reel    |
| NL17SZ32P5T5G    | SOT-953  | K<br>(Rotated 180° CW) | Q2                               | 8000 / Tape & Reel    |

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

\* -Q Suffix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable.

## PIN 1 ORIENTATION IN TAPE AND REEL

Direction of Feed

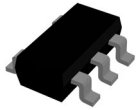


## REVISION HISTORY

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 23 | <ul style="list-style-type: none"><li>– Updated device Features information and removed marking diagrams Case 517-AQ and Case 517BX from page 1.</li><li>– Deleted unused UDFN6 picture and pin assignment table from Figure 2.</li><li>– Removed non-existent OPNs NL17SZ32MU1TCG and NL17SZ32MU3TCG from the Ordering Information table.</li><li>– Removed obsolete UDFN6 references from the Maximum Ratings table.</li></ul> | 1/27/2026 |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|

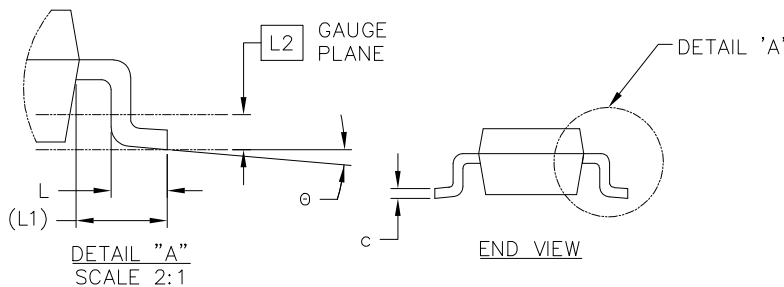
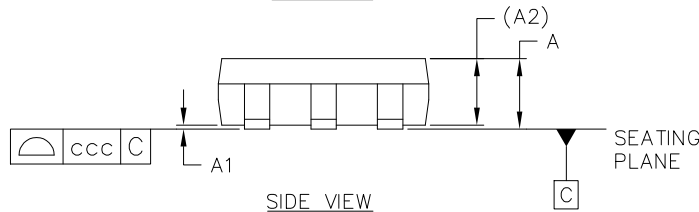
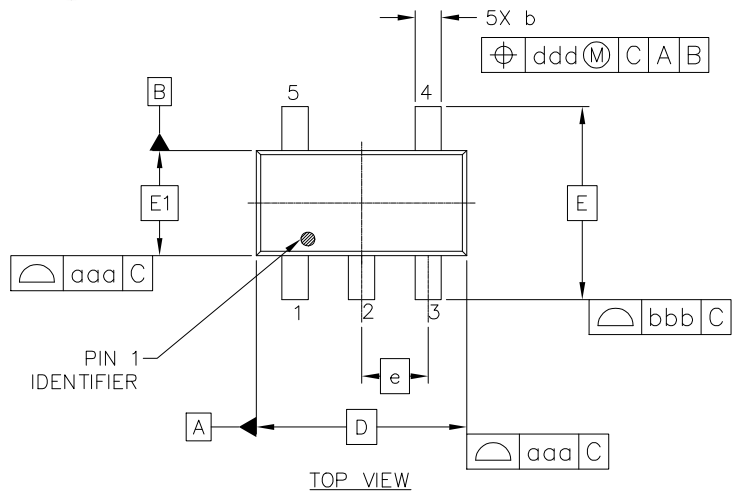
This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.





**SC-74A-5 3.00x1.50x0.95, 0.95P**  
**CASE 318BQ**  
**ISSUE D**

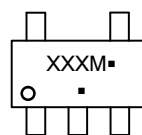
DATE 13 APR 2026



**NOTES:**

1. DIMENSIONING AND TOLERANCING AS PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.15mm PER SIDE.

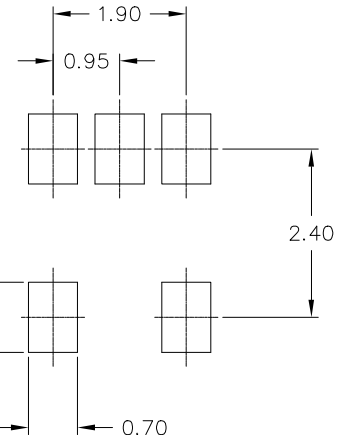
**GENERIC MARKING DIAGRAM\***



XXX = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

| MILLIMETERS                 |          |      |      |
|-----------------------------|----------|------|------|
| DIM                         | MIN      | NOM  | MAX  |
| A                           | 0.90     | 1.00 | 1.10 |
| A1                          | 0.01     | 0.05 | 0.10 |
| A2                          | 0.95 REF |      |      |
| b                           | 0.25     | 0.37 | 0.50 |
| c                           | 0.10     | 0.18 | 0.26 |
| D                           | 3.00 BSC |      |      |
| E                           | 2.75 BSC |      |      |
| E1                          | 1.50 BSC |      |      |
| e                           | 0.95 BSC |      |      |
| L                           | 0.20     | 0.40 | 0.60 |
| L1                          | 0.60 REF |      |      |
| L2                          | 0.25 BSC |      |      |
| θ                           | 0°       | 5°   | 10°  |
| TOLERANCE FORM AND POSITION |          |      |      |
| aaa                         | 0.15     |      |      |
| bbb                         | 0.15     |      |      |
| ccc                         | 0.05     |      |      |
| ddd                         | 0.20     |      |      |



**RECOMMENDED MOUNTING FOOTPRINT**

\*For additional information in our Pb-Free Strategy and Soldering details, Please download the onsemi Soldering and Mounting Techniques Reference manual. SOLDERRM/D.

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

|                         |                                       |                                                                                                                                                                                  |
|-------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| <b>DESCRIPTION:</b>     | <b>SC-74A-5 3.00x1.50x0.95, 0.95P</b> | <b>PAGE 1 OF 1</b>                                                                                                                                                               |

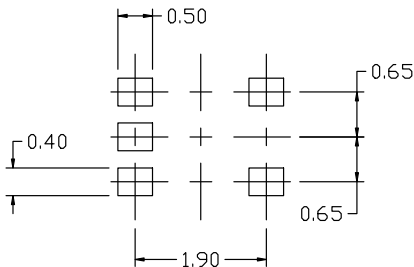
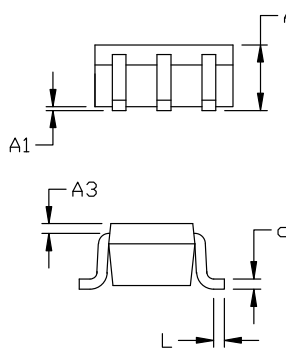
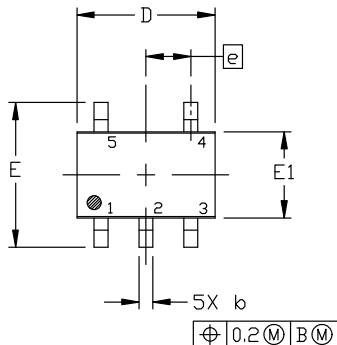
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SCALE 2:1

**SC-88A (SC-70-5/SOT-353)**  
CASE 419A-02  
ISSUE M

DATE 11 APR 2023

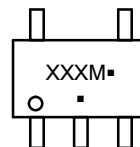

**RECOMMENDED  
MOUNTING FOOTPRINT**

\* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

## NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
3. 419A-01 OBSOLETE. NEW STANDARD 419A-02
4. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.1016MM PER SIDE.

| DIM | MILLIMETERS |      |      |
|-----|-------------|------|------|
|     | MIN.        | NOM. | MAX. |
| A   | 0.80        | 0.95 | 1.10 |
| A1  | ---         | ---  | 0.10 |
| A3  | 0.20 REF    |      |      |
| b   | 0.10        | 0.20 | 0.30 |
| c   | 0.10        | ---  | 0.25 |
| D   | 1.80        | 2.00 | 2.20 |
| E   | 2.00        | 2.10 | 2.20 |
| E1  | 1.15        | 1.25 | 1.35 |
| e   | 0.65 BSC    |      |      |
| L   | 0.10        | 0.15 | 0.30 |

**GENERIC MARKING  
DIAGRAM\***


\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

XXX = Specific Device Code

M = Date Code

▪ = Pb-Free Package

(Note: Microdot may be in either location)

**STYLE 1:**

- PIN 1. BASE
2. EMITTER
3. BASE
4. COLLECTOR
5. COLLECTOR

**STYLE 2:**

- PIN 1. ANODE
2. EMITTER
3. BASE
4. COLLECTOR
5. CATHODE

**STYLE 3:**

- PIN 1. ANODE 1
2. N/C
3. ANODE 2
4. CATHODE 2
5. CATHODE 1

**STYLE 4:**

- PIN 1. SOURCE 1
2. DRAIN 1/2
3. SOURCE 1
4. GATE 1
5. GATE 2

**STYLE 5:**

- PIN 1. CATHODE
2. COMMON ANODE
3. CATHODE 2
4. CATHODE 3
5. CATHODE 4

**STYLE 6:**

- PIN 1. EMITTER 2
2. BASE 2
3. EMITTER 1
4. COLLECTOR
5. COLLECTOR 2/BASE 1

**STYLE 7:**

- PIN 1. BASE
2. EMITTER
3. BASE
4. COLLECTOR
5. COLLECTOR

**STYLE 8:**

- PIN 1. CATHODE
2. COLLECTOR
3. N/C
4. BASE
5. EMITTER

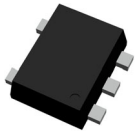
**STYLE 9:**

- PIN 1. ANODE
2. CATHODE
3. ANODE
4. ANODE
5. ANODE

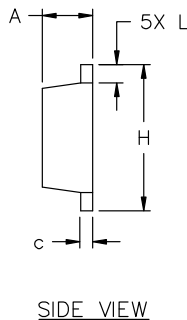
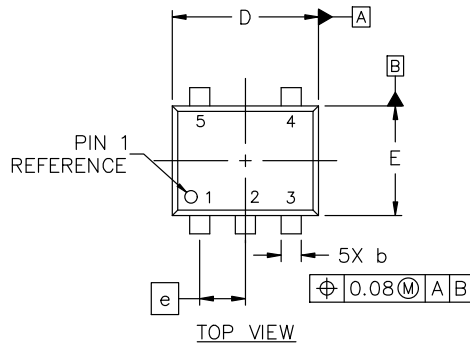
Note: Please refer to datasheet for style callout. If style type is not called out in the datasheet refer to the device datasheet pinout or pin assignment.

|                         |                                 |                                                                                                                                                                                  |
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**SOT-553-5 1.60x1.20x0.55, 0.50P**  
**CASE 463B**  
**ISSUE D**

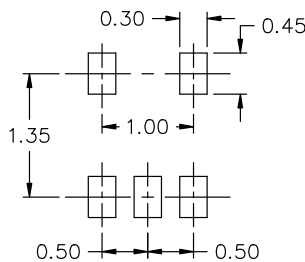
DATE 21 FEB 2024



## NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
2. ALL DIMENSION ARE IN MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

| DIM | MILLIMETERS |      |      |
|-----|-------------|------|------|
|     | MIN.        | NOM. | MAX. |
| A   | 0.50        | 0.55 | 0.60 |
| b   | 0.17        | 0.22 | 0.27 |
| c   | 0.08        | 0.13 | 0.18 |
| D   | 1.55        | 1.60 | 1.65 |
| E   | 1.15        | 1.20 | 1.25 |
| e   | 0.50 BSC    |      |      |
| H   | 1.55        | 1.60 | 1.65 |
| L   | 0.10        | 0.20 | 0.30 |



## RECOMMENDED MOUNTING FOOTPRINT\*

- \* FOR ADDITIONAL INFORMATION ON OUR Pb-FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERM/D.

**GENERIC MARKING DIAGRAM\***


XX = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. BASE  
4. COLLECTOR  
5. COLLECTOR

STYLE 2:  
PIN 1. CATHODE  
2. COMMON ANODE  
3. CATHODE 2  
4. CATHODE 3  
5. CATHODE 4

STYLE 3:  
PIN 1. ANODE 1  
2. N/C  
3. ANODE 2  
4. CATHODE 2  
5. CATHODE 1

STYLE 4:  
PIN 1. SOURCE 1  
2. DRAIN 1/2  
3. SOURCE 1  
4. GATE 1  
5. GATE 2

STYLE 5:  
PIN 1. ANODE  
2. EMITTER  
3. BASE  
4. COLLECTOR  
5. CATHODE

STYLE 6:  
PIN 1. EMITTER 2  
2. BASE 2  
3. EMITTER 1  
4. COLLECTOR 1  
5. COLLECTOR 2/BASE 1

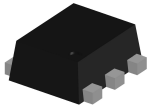
STYLE 7:  
PIN 1. BASE  
2. EMITTER  
3. BASE  
4. COLLECTOR  
5. COLLECTOR

STYLE 8:  
PIN 1. CATHODE  
2. COLLECTOR  
3. N/C  
4. BASE  
5. EMITTER

STYLE 9:  
PIN 1. ANODE  
2. CATHODE  
3. ANODE  
4. ANODE  
5. ANODE

|                         |                                        |                                                                                                                                                                                  |
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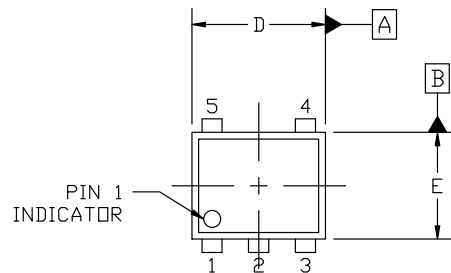


**SOT-953 1.00x0.80x0.37, 0.35P**  
**CASE 527AE**  
**ISSUE F**

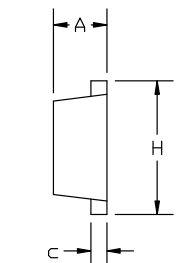
DATE 17 JAN 2024

**NOTES:**

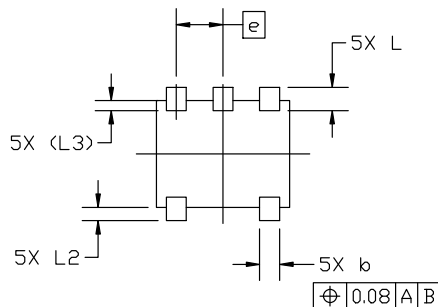
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF THE BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.



TOP VIEW

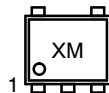


SIDE VIEW



BOTTOM VIEW

**GENERIC MARKING DIAGRAM\***

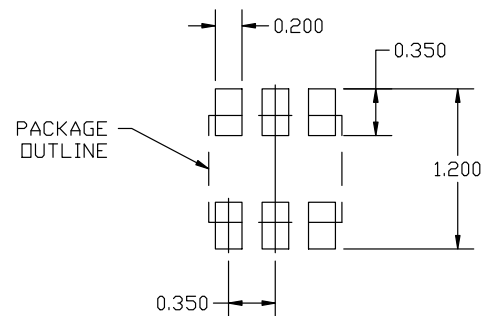


X = Specific Device Code  
M = Month Code

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

**MILLIMETERS**

| DIM | MIN         | NOM   | MAX   |
|-----|-------------|-------|-------|
| A   | 0.34        | 0.37  | 0.40  |
| b   | 0.10        | 0.15  | 0.20  |
| C   | 0.07        | 0.12  | 0.17  |
| D   | 0.95        | 1.00  | 1.05  |
| E   | 0.75        | 0.80  | 0.85  |
| e   | 0.35 BSC    |       |       |
| H   | 0.95        | 1.00  | 1.05  |
| L   | 0.125       | 0.175 | 0.225 |
| L2  | 0.05        | 0.10  | 0.15  |
| L3  | 0.075 (REF) |       |       |



**RECOMMENDED MOUNTING FOOTPRINT**

\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

|                         |                                      |                                                                                                                                                                                  |
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| <b>DESCRIPTION:</b>     | <b>SOT-953 1.00x0.80x0.37, 0.35P</b> | <b>PAGE 1 OF 1</b>                                                                                                                                                               |

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