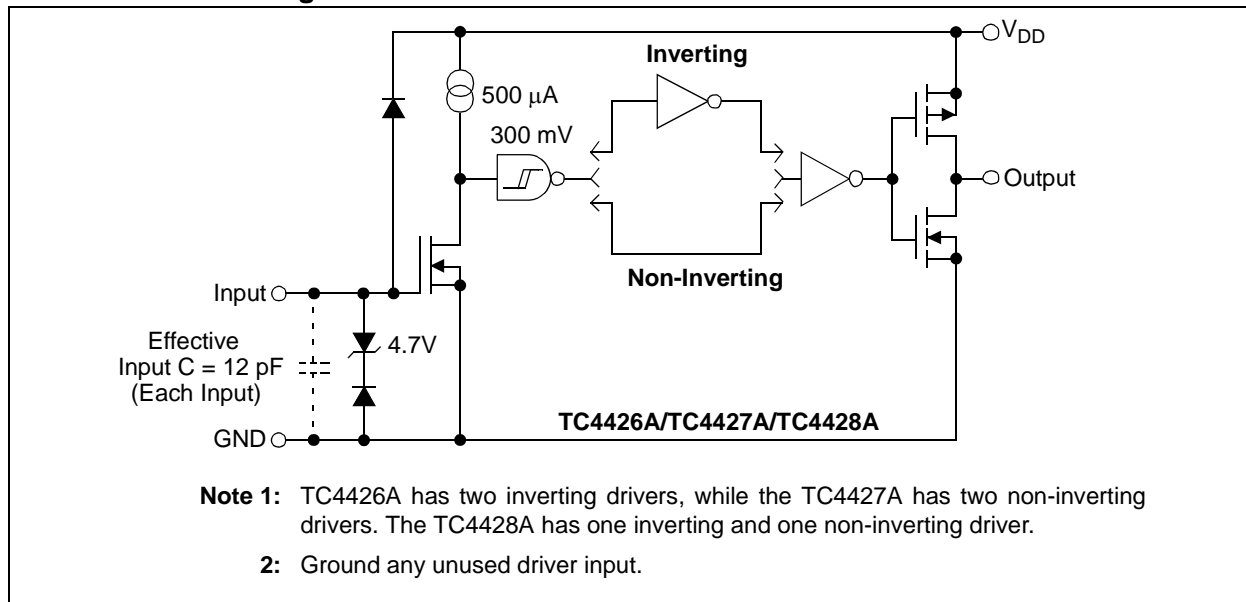




# TC4426A/TC4427A/TC4428A

## Functional Block Diagram



# TC4426A/TC4427A/TC4428A

## 1.0 ELECTRICAL CHARACTERISTICS

### Absolute Maximum Ratings†

|  |  |
|--|--|
| Supply Voltage .....                               | +22V                                   |
| Input Voltage, IN A or IN B .....                  | (V <sub>DD</sub> + 0.3V) to (GND – 5V) |
| Package Power Dissipation (T <sub>A</sub> ≤ +70°C) |  |
| DFN-S .....  | <a href="#">Note 2</a>                 |
| MSOP .....   | 340 mW                                 |
| PDIIP .....  | 730 mW                                 |
| SOIC .....   | 470 mW                                 |

† **Notice:** Stresses above 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 above those indicated in the operation sections of the specifications is not implied. Exposure to Absolute Maximum Rating conditions for extended periods may affect device reliability.

### DC CHARACTERISTICS

| Electrical Specifications: Unless otherwise noted, over operating temperature range with 4.5V ≤ V <sub>DD</sub> ≤ 18V. |                  |                         |       |             |       |   |
|--|------------------|-------------------------|-------|-------------|-------|---|
| Parameters   | Sym.             | Min.                    | Typ.  | Max.        | Units | Conditions  |
| <b>Input</b>   |                  |                         |       |             |       |   |
| Logic ‘1’, High Input Voltage  | V <sub>IH</sub>  | 2.4                     | —     | —           | V     |   |
| Logic ‘0’, Low Input Voltage   | V <sub>IL</sub>  | —                       | —     | 0.8         | V     |   |
| Input Current  | I <sub>IN</sub>  | -1.0<br>-10             | —     | +1.0<br>+10 | μA    | 0V ≤ V <sub>IN</sub> ≤ V <sub>DD</sub>                                  |
| <b>Output</b>  |                  |                         |       |             |       |   |
| High Output Voltage  | V <sub>OH</sub>  | V <sub>DD</sub> – 0.025 | —     | —           | V     | DC Test   |
| Low Output Voltage   | V <sub>OL</sub>  | —                       | —     | 0.025       | V     | DC Test   |
| Output Resistance  | R <sub>O</sub>   | —                       | 7     | 9           | Ω     | I <sub>OUT</sub> = 10 mA, V <sub>DD</sub> = 18V, T <sub>A</sub> = +25°C |
|  |                  | —                       | 7     | 10          |       | 0°C ≤ T <sub>A</sub> ≤ +70°C  |
|  |                  | —                       | 8     | 11          |       | -40°C ≤ T <sub>A</sub> ≤ +85°C  |
|  |                  | —                       | 8     | 12          |       | -40°C ≤ T <sub>A</sub> ≤ +125°C   |
| Peak Output Current  | I <sub>PK</sub>  | —                       | 1.5   | —           | A     | V <sub>DD</sub> = 18V   |
| Latch-Up Protection Withstand Reverse Current  | I <sub>REV</sub> | —                       | > 0.5 | —           | A     | Duty cycle ≤ 2%, t ≤ 300 μs<br>V <sub>DD</sub> = 18V                    |
| <b>Switching Time (<a href="#">Note 1</a>)</b>   |                  |                         |       |             |       |   |
| Rise Time  | t <sub>R</sub>   | —                       | 25    | 35          | ns    | T <sub>A</sub> = +25°C  |
|  |                  | —                       | 27    | 40          |       | 0°C ≤ T <sub>A</sub> ≤ +70°C  |
|  |                  | —                       | 29    | 40          |       | -40°C ≤ T <sub>A</sub> ≤ +85°C  |
|  |                  | —                       | 30    | 40          |       | -40°C ≤ T <sub>A</sub> ≤ +125°C, <a href="#">Figure 4-1</a>             |
| Fall Time  | t <sub>F</sub>   | —                       | 25    | 35          | ns    | T <sub>A</sub> = +25°C  |
|  |                  | —                       | 27    | 40          |       | 0°C ≤ T <sub>A</sub> ≤ +70°C  |
|  |                  | —                       | 29    | 40          |       | -40°C ≤ T <sub>A</sub> ≤ +85°C  |
|  |                  | —                       | 30    | 40          |       | -40°C ≤ T <sub>A</sub> ≤ +125°C, <a href="#">Figure 4-1</a>             |
| Delay Time   | t <sub>D1</sub>  | —                       | 30    | 35          | ns    | T <sub>A</sub> = +25°C  |
|  |                  | —                       | 33    | 40          |       | 0°C ≤ T <sub>A</sub> ≤ +70°C  |
|  |                  | —                       | 35    | 45          |       | -40°C ≤ T <sub>A</sub> ≤ +85°C  |
|  |                  | —                       | 38    | 50          |       | -40°C ≤ T <sub>A</sub> ≤ +125°C, <a href="#">Figure 4-1</a>             |

**Note 1:** Switching times ensured by design.

**2:** Package power dissipation is dependent on the copper pad area on the PCB.

# TC4426A/TC4427A/TC4428A

## DC CHARACTERISTICS (CONTINUED)

| Electrical Specifications: Unless otherwise noted, over operating temperature range with $4.5V \leq V_{DD} \leq 18V$ . |          |      |      |      |       |  |
|--|----------|------|------|------|-------|--|
| Parameters   | Sym.     | Min. | Typ. | Max. | Units | Conditions   |
| Delay Time   | $t_{D2}$ | —    | 30   | 35   | ns    | $T_A = +25^\circ\text{C}$  |
|  |          | —    | 33   | 40   |       | $0^\circ\text{C} \leq T_A \leq +70^\circ\text{C}$                        |
|  |          | —    | 35   | 45   |       | $-40^\circ\text{C} \leq T_A \leq +85^\circ\text{C}$                      |
|  |          | —    | 38   | 50   |       | $-40^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$ , <b>Figure 4-1</b> |
| <b>Power Supply</b>  |          |      |      |      |       |  |
| Power Supply Current   | $I_S$    | —    | 1.0  | 2.0  | mA    | $V_{IN} = 3V$ (Both inputs)  |
|  |          | —    | 0.1  | 0.2  |       | $V_{IN} = 0V$ (Both inputs), $V_{DD} = 18V$                              |

**Note 1:** Switching times ensured by design.

**Note 2:** Package power dissipation is dependent on the copper pad area on the PCB.

## TEMPERATURE CHARACTERISTICS

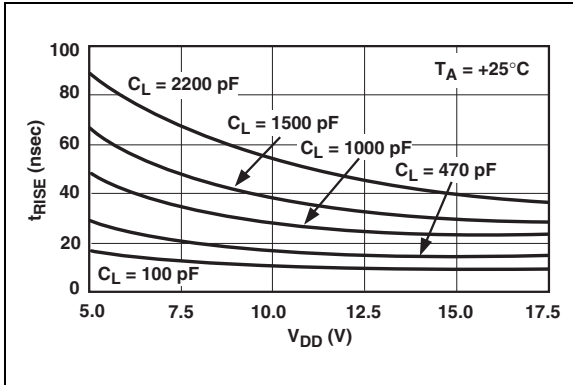
| Electrical Specifications: Unless otherwise noted, all parameters apply with $4.5V \leq V_{DD} \leq 18V$ . |               |      |       |      |                    |            |
|--|---------------|------|-------|------|--------------------|------------|
| Parameters   | Sym.          | Min. | Typ.  | Max. | Units              | Conditions |
| <b>Temperature Ranges</b>  |               |      |       |      |                    |            |
| Specified Temperature Range (C)  | $T_A$         | 0    | —     | +70  | $^\circ\text{C}$   |            |
| Specified Temperature Range (E)  | $T_A$         | -40  | —     | +85  | $^\circ\text{C}$   |            |
| Specified Temperature Range (V)  | $T_A$         | -40  | —     | +125 | $^\circ\text{C}$   |            |
| Maximum Junction Temperature   | $T_J$         | —    | —     | +150 | $^\circ\text{C}$   |            |
| Storage Temperature Range  | $T_A$         | -65  | —     | +150 | $^\circ\text{C}$   |            |
| <b>Package Thermal Resistances</b>   |               |      |       |      |                    |            |
| Thermal Resistance, 8L-6x5 DFN-S   | $\theta_{JA}$ | —    | 35.7  | —    | $^\circ\text{C/W}$ |            |
| Thermal Resistance, 8L-MSOP  | $\theta_{JA}$ | —    | 211   | —    | $^\circ\text{C/W}$ |            |
| Thermal Resistance, 8L-PDIP  | $\theta_{JA}$ | —    | 89.3  | —    | $^\circ\text{C/W}$ |            |
| Thermal Resistance, 8L-SOIC  | $\theta_{JA}$ | —    | 149.5 | —    | $^\circ\text{C/W}$ |            |

# TC4426A/TC4427A/TC4428A

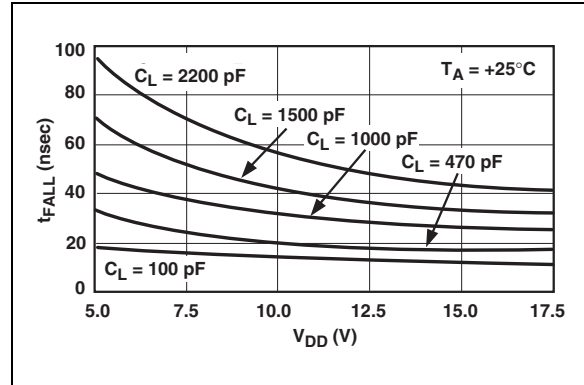
## 2.0 TYPICAL PERFORMANCE CURVES

**Note:** The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only. The performance characteristics listed herein are not tested or guaranteed. In some graphs or tables, the data presented may be outside the specified operating range (e.g., outside specified power supply range) and therefore outside the warranted range.

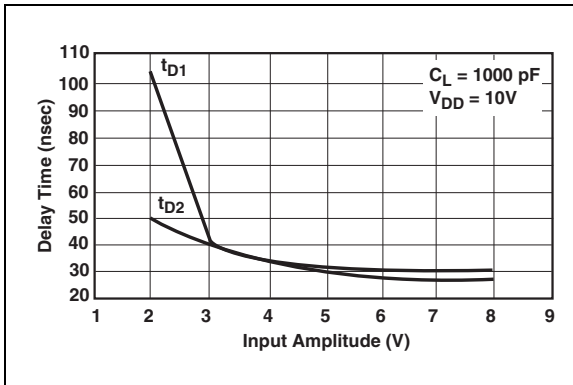
**Note:** Unless otherwise indicated, over operating temperature range with  $4.5V \leq V_{DD} \leq 18V$ .



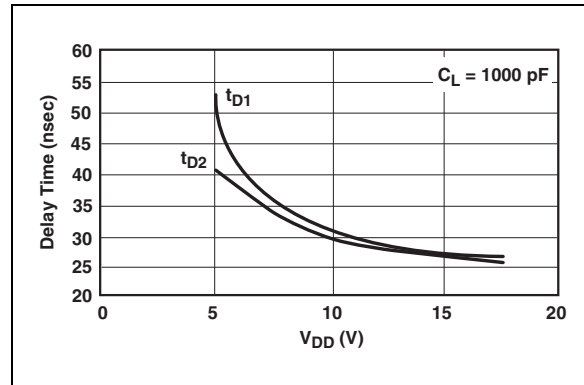
**FIGURE 2-1:** Rise Time vs. Supply Voltage.



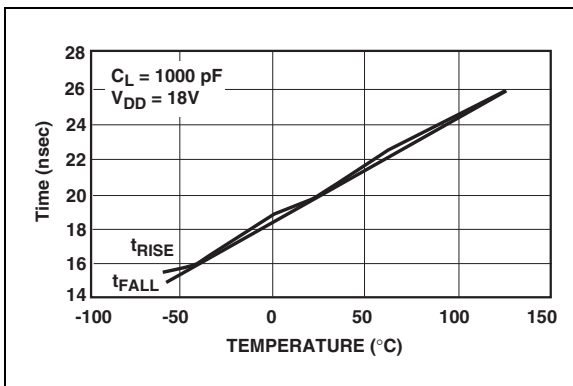
**FIGURE 2-4:** Fall Time vs. Supply Voltage.



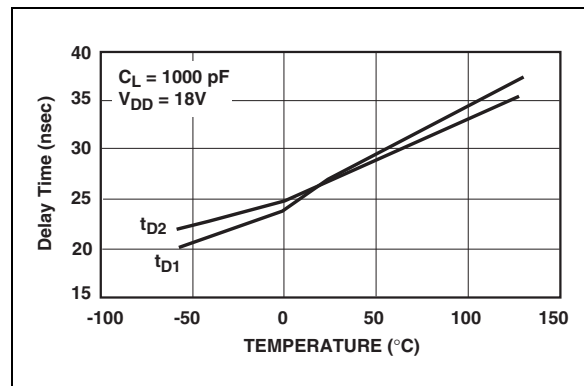
**FIGURE 2-2:** Delay Time vs. Input Amplitude.



**FIGURE 2-5:** Propagation Delay Time vs. Supply Voltage.



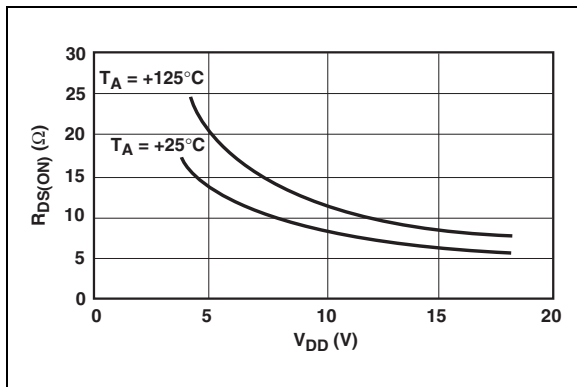
**FIGURE 2-3:** Rise and Fall Times vs. Temperature.



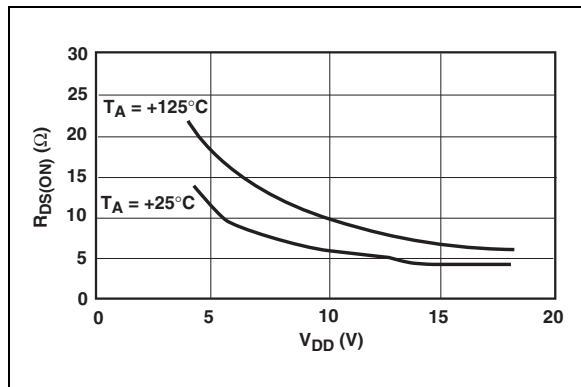
**FIGURE 2-6:** Propagation Delay Time vs. Temperature.

# TC4426A/TC4427A/TC4428A

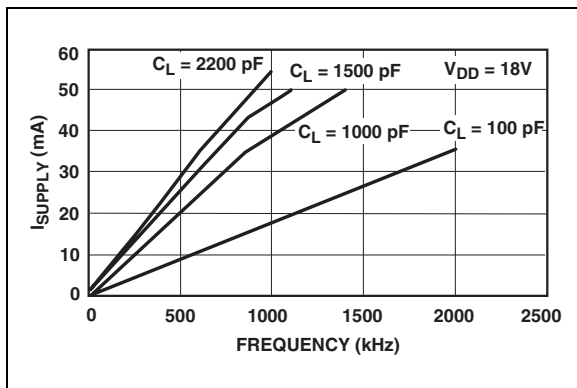
**Note:** Unless otherwise indicated, over operating temperature range with  $4.5V \leq V_{DD} \leq 18V$ .



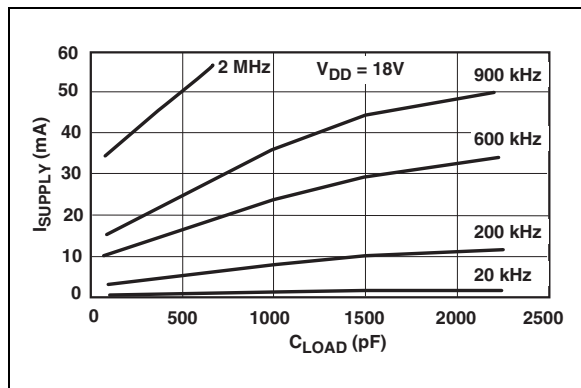
**FIGURE 2-7:** High-State Output Resistance.



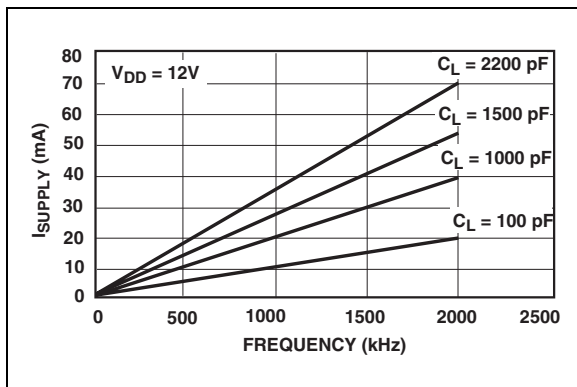
**FIGURE 2-10:** Low-State Output Resistance.



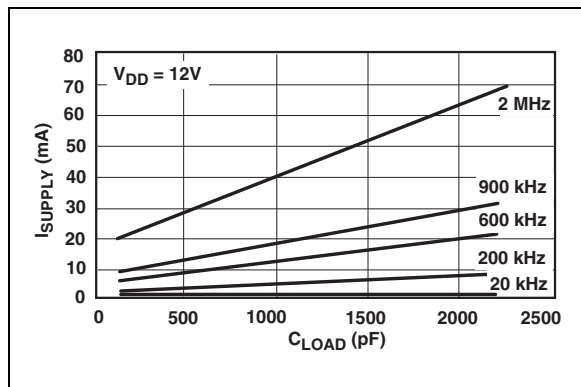
**FIGURE 2-8:** Supply Current vs. Frequency.



**FIGURE 2-11:** Supply Current vs. Capacitive Load.



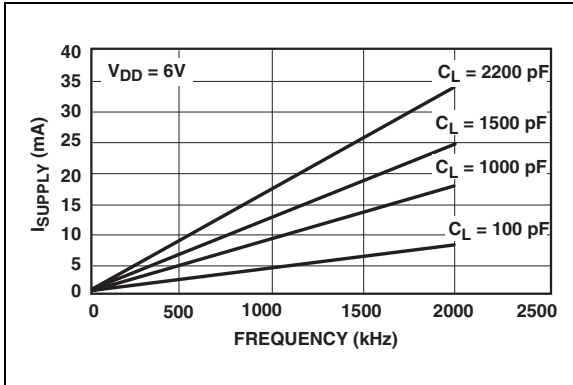
**FIGURE 2-9:** Supply Current vs. Frequency.



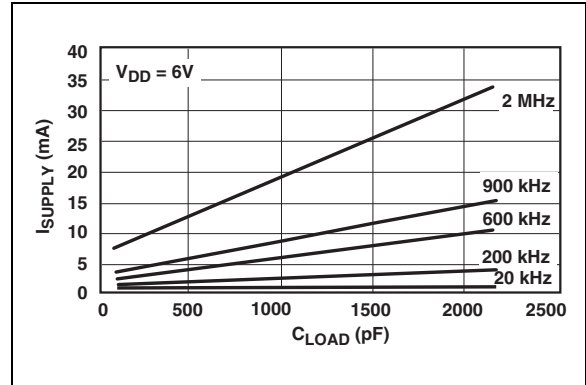
**FIGURE 2-12:** Supply Current vs. Capacitive Load.

# TC4426A/TC4427A/TC4428A

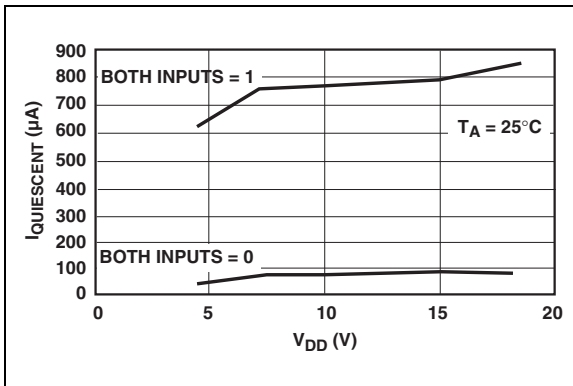
**Note:** Unless otherwise indicated, over operating temperature range with  $4.5V \leq V_{DD} \leq 18V$ .



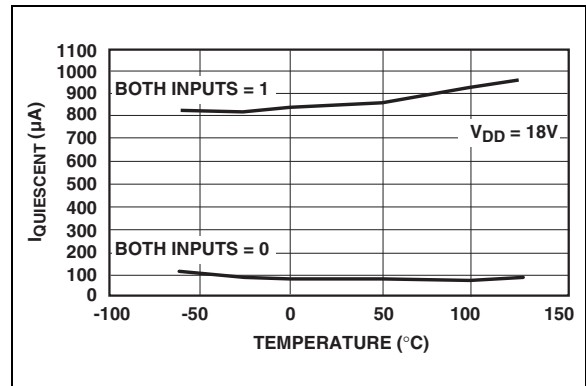
**FIGURE 2-13:** Supply Current vs. Frequency.



**FIGURE 2-15:** Supply Current vs. Capacitive Load.



**FIGURE 2-14:** Quiescent Supply Current vs. Voltage.



**FIGURE 2-16:** Quiescent Supply Current vs. Temperature.

# TC4426A/TC4427A/TC4428A

## 3.0 PIN DESCRIPTIONS

The descriptions of the pins are listed in [Table 3-1](#).

**TABLE 3-1: PIN FUNCTION TABLE (Note 1)**

| PDIP, MSOP, SOIC | 6x5 DFN-S | Symbol          | Description       |
|------------------|-----------|-----------------|-------------------|
| 1                | 1         | NC              | No connection     |
| 2                | 2         | IN A            | Input A           |
| 3                | 3         | GND             | Ground            |
| 4                | 4         | IN B            | Input B           |
| 5                | 5         | OUT B           | Output B          |
| 6                | 6         | V <sub>DD</sub> | Supply input      |
| 7                | 7         | OUT A           | Output A          |
| 8                | 8         | NC              | No connection     |
| —                | 9         | EP              | Exposed Metal Pad |

**Note 1:** Duplicate pins must be connected for proper operation.

### 3.1 Inputs A and B (IN A, IN B)

MOSFET driver inputs A and B are high-impedance, TTL/CMOS compatible inputs. These inputs also have 300 mV of hysteresis between the high and low thresholds that prevents output glitching, even when the rise and fall time of the input signal is very slow.

### 3.2 Ground (GND)

The Ground pin is the return path for both the bias current and the high-peak current that discharges the external load capacitance. The Ground pin should be tied into a ground plane or have a very short trace to the bias supply source return.

### 3.3 Output A and B (OUT A, OUT B)

MOSFET driver outputs A and B are low-impedance, CMOS push-pull style outputs. The pull-down and pull-up devices are of equal strength, making the rise and fall times equivalent.

### 3.4 Supply Input (V<sub>DD</sub>)

The V<sub>DD</sub> input is the bias supply for the MOSFET driver and is rated for 4.5V to 18V, with respect to the ground pin. The V<sub>DD</sub> input should be bypassed with local ceramic capacitors. The value of these capacitors should be chosen based on the capacitive load that is being driven.

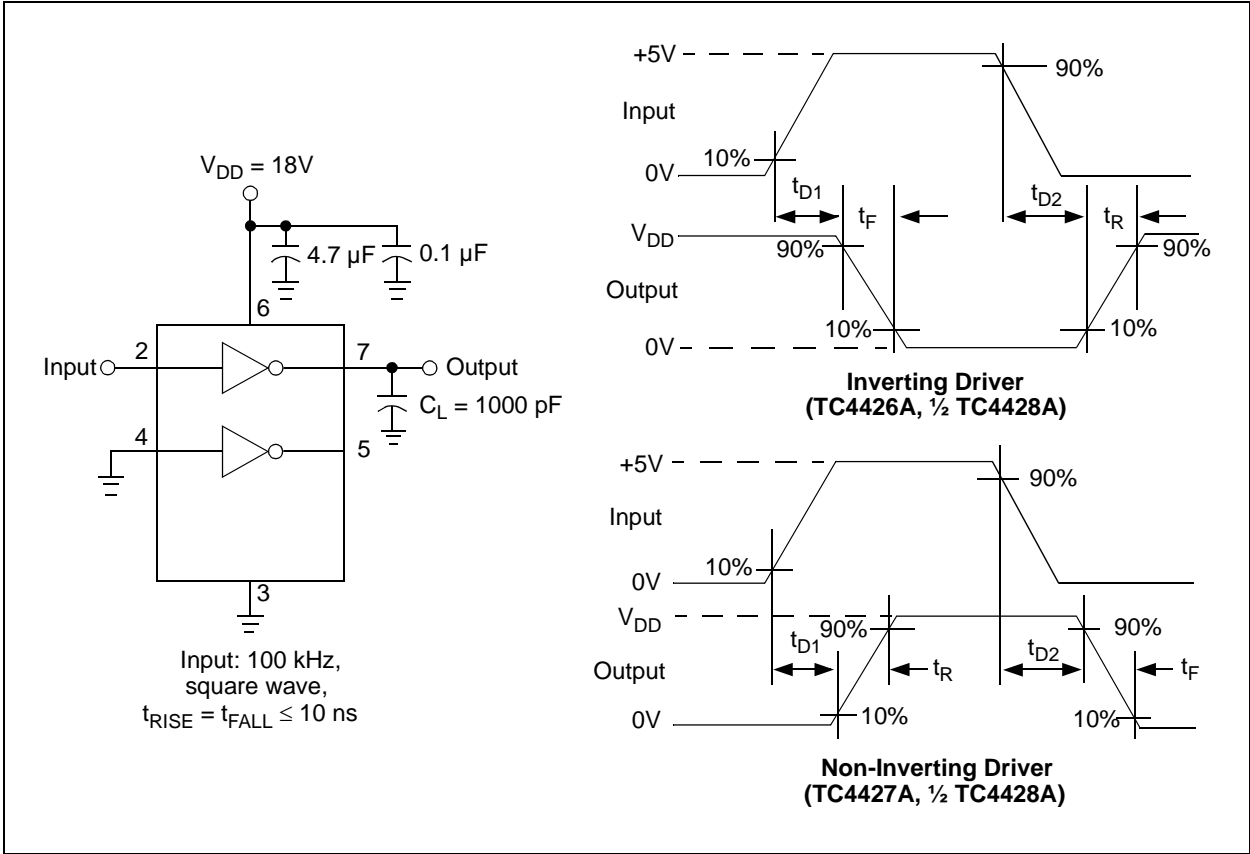
### 3.5 Exposed Metal Pad (EP)

The exposed metal pad of the 6x5 DFN-S package is not internally connected to any potential. Therefore, this pad can be connected to a ground plane or other copper plane on a printed circuit board, to aid in heat removal from the package.



# TC4426A/TC4427A/TC4428A

## 4.0 APPLICATIONS INFORMATION



**FIGURE 4-1:** Switching Time Test Circuit.

# TC4426A/TC4427A/TC4428A

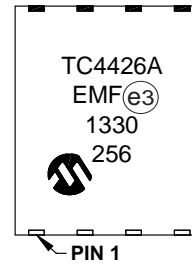
## 5.0 PACKAGING INFORMATION

### 5.1 Package Marking Information

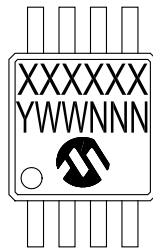
8-Lead DFN-S (6x5x0.9 mm)



Example



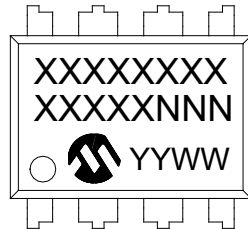
8-Lead MSOP (3x3 mm)



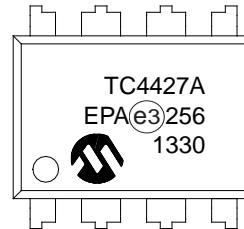
Example



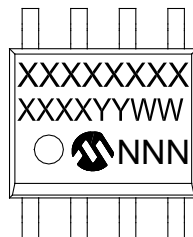
8-Lead PDIP (300 mil)



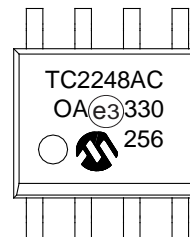
Example



8-Lead SOIC (3.90 mm)



Example



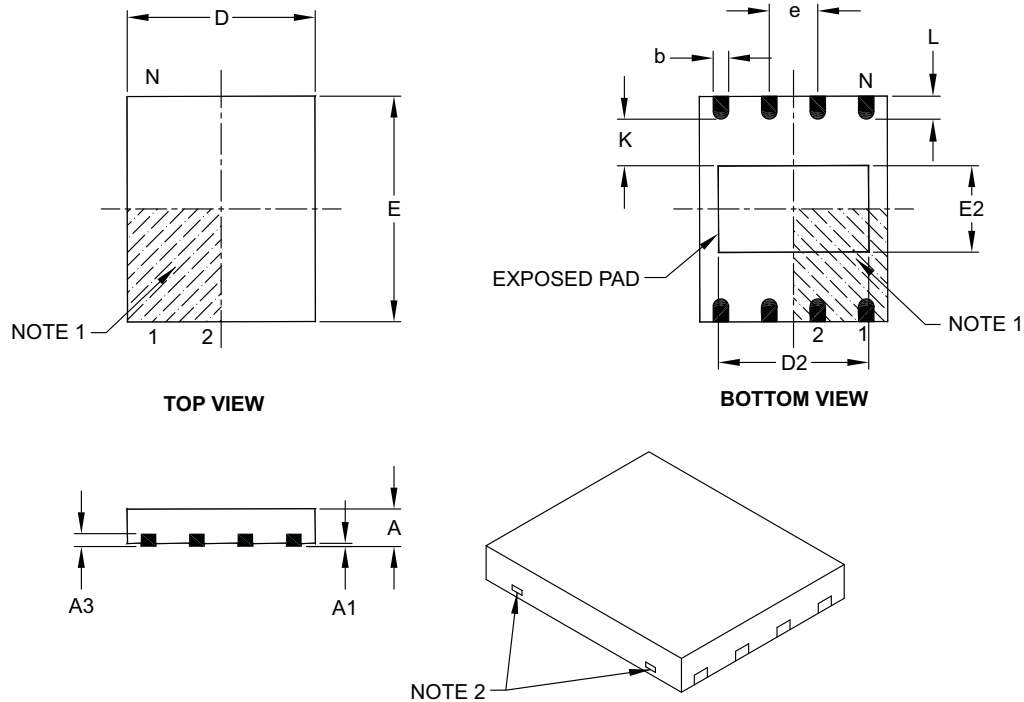
|                |        |  |
|----------------|--------|--|
| <b>Legend:</b> | XX...X | Customer-specific information  |
|                | Y      | Year code (last digit of calendar year)  |
|                | YY     | Year code (last 2 digits of calendar year)   |
|                | WW     | Week code (week of January 1 is week '01')   |
|                | NNN    | Alphanumeric traceability code   |
|                | (e3)   | Pb-free JEDEC® designator for Matte Tin (Sn)   |
|                | *      | This package is Pb-free. The Pb-free JEDEC designator (e3) can be found on the outer packaging for this package. |

**Note:** In the event the full Microchip part number cannot be marked on one line, it will be carried over to the next line, thus limiting the number of available characters for customer-specific information.

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Dual Flat, No Lead Package (MF) – 6x5 mm Body [DFN-S]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



| Dimension Limits       | Units | MILLIMETERS |      |      |
|------------------------|-------|-------------|------|------|
|                        |       | MIN         | NOM  | MAX  |
| Number of Pins         | N     | 8           |      |      |
| Pitch                  | e     | 1.27 BSC    |      |      |
| Overall Height         | A     | 0.80        | 0.85 | 1.00 |
| Standoff               | A1    | 0.00        | 0.01 | 0.05 |
| Contact Thickness      | A3    | 0.20 REF    |      |      |
| Overall Length         | D     | 5.00 BSC    |      |      |
| Overall Width          | E     | 6.00 BSC    |      |      |
| Exposed Pad Length     | D2    | 3.90        | 4.00 | 4.10 |
| Exposed Pad Width      | E2    | 2.20        | 2.30 | 2.40 |
| Contact Width          | b     | 0.35        | 0.40 | 0.48 |
| Contact Length         | L     | 0.50        | 0.60 | 0.75 |
| Contact-to-Exposed Pad | K     | 0.20        | –    | –    |

**Notes:**

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. Package may have one or more exposed tie bars at ends.
3. Package is saw singulated.
4. Dimensioning and tolerancing per ASME Y14.5M.

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

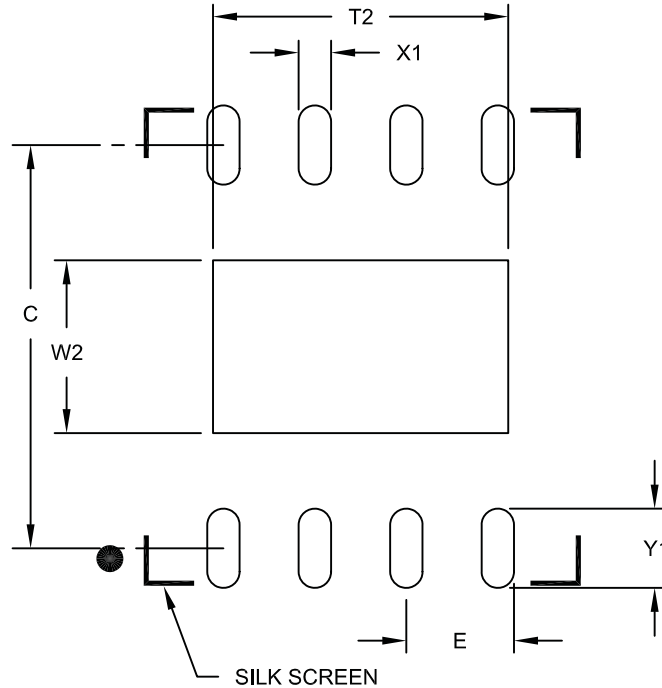
REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing C04-122B

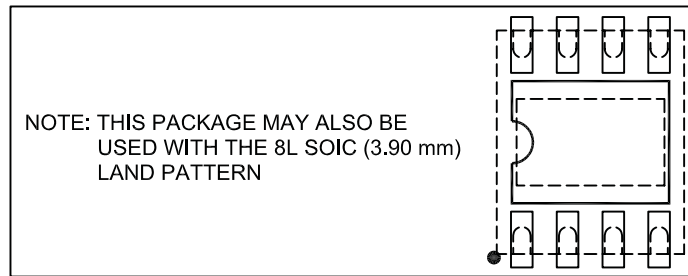
# TC4426A/TC4427A/TC4428A

8-Lead Plastic Dual Flat, No Lead Package (MF) - 6x5 mm Body [DFN-S]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



RECOMMENDED LAND PATTERN



| Dimension Limits           | Units | MILLIMETERS |      |      |
|----------------------------|-------|-------------|------|------|
|                            |       | MIN         | NOM  | MAX  |
| Contact Pitch              | E     | 1.27 BSC    |      |      |
| Optional Center Pad Width  | W2    |             |      | 2.40 |
| Optional Center Pad Length | T2    |             |      | 4.10 |
| Contact Pad Spacing        | C     |             | 5.60 |      |
| Contact Pad Width (X8)     | X1    |             |      | 0.45 |
| Contact Pad Length (X8)    | Y1    |             |      | 1.10 |

**Notes:**

1. Dimensioning and tolerancing per ASME Y14.5M

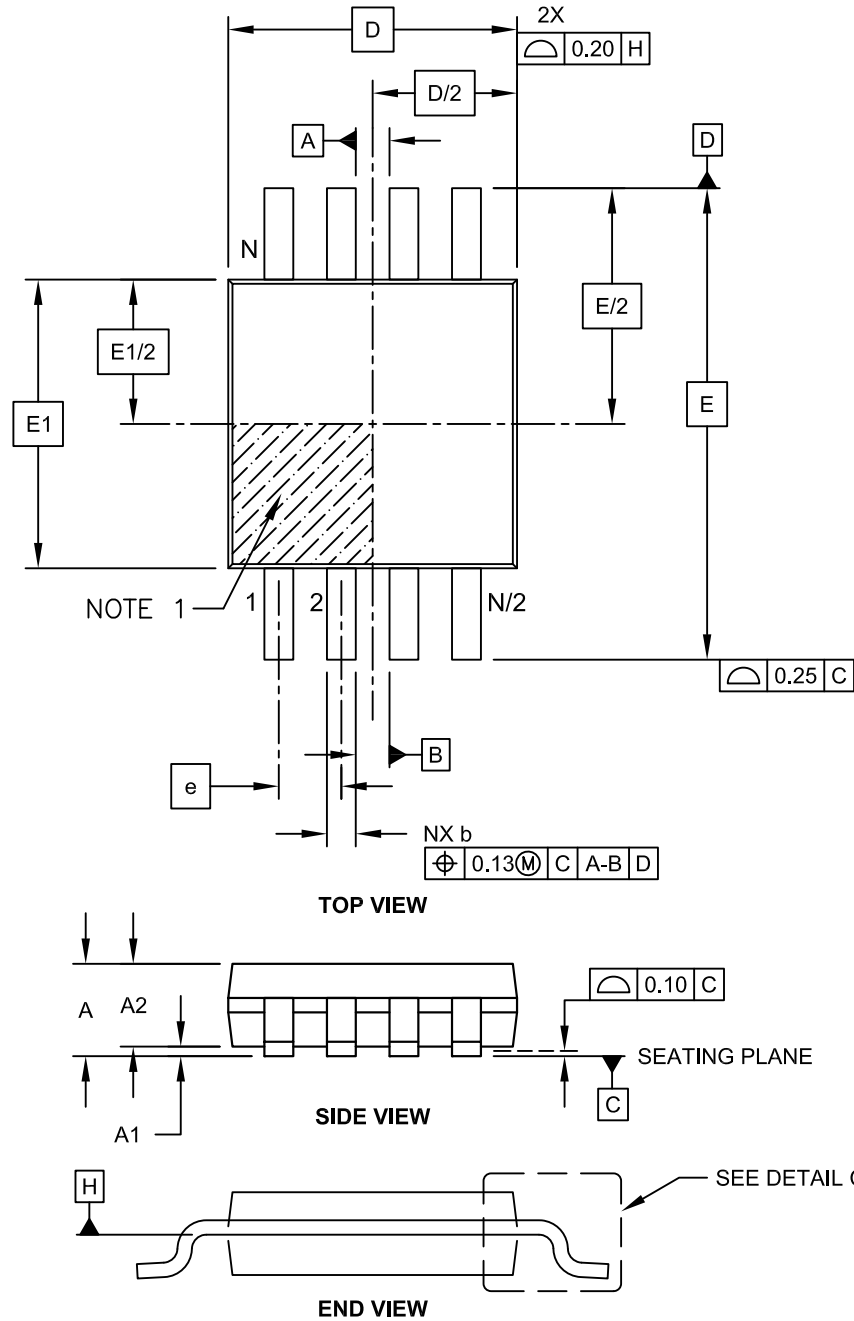
BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2122A

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Micro Small Outline Package (UA) [MSOP]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>

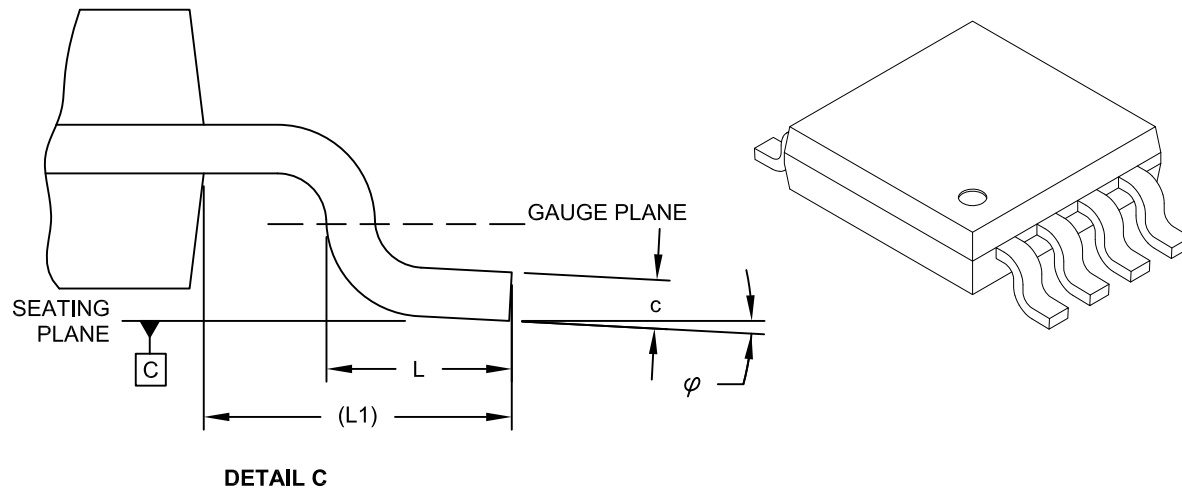


Microchip Technology Drawing C04-111C Sheet 1 of 2

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Micro Small Outline Package (UA) [MSOP]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



| Dimension Limits         | Units  | MILLIMETERS |      |      |
|--------------------------|--------|-------------|------|------|
|                          |        | MIN         | NOM  | MAX  |
| Number of Pins           | N      |             | 8    |      |
| Pitch                    | e      | 0.65 BSC    |      |      |
| Overall Height           | A      | -           | -    | 1.10 |
| Molded Package Thickness | A2     | 0.75        | 0.85 | 0.95 |
| Standoff                 | A1     | 0.00        | -    | 0.15 |
| Overall Width            | E      | 4.90 BSC    |      |      |
| Molded Package Width     | E1     | 3.00 BSC    |      |      |
| Overall Length           | D      | 3.00 BSC    |      |      |
| Foot Length              | L      | 0.40        | 0.60 | 0.80 |
| Footprint                | L1     | 0.95 REF    |      |      |
| Foot Angle               | $\phi$ | 0°          | -    | 8°   |
| Lead Thickness           | c      | 0.08        | -    | 0.23 |
| Lead Width               | b      | 0.22        | -    | 0.40 |

**Notes:**

- Pin 1 visual index feature may vary, but must be located within the hatched area.
- Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15mm per side.
- Dimensioning and tolerancing per ASME Y14.5M.

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

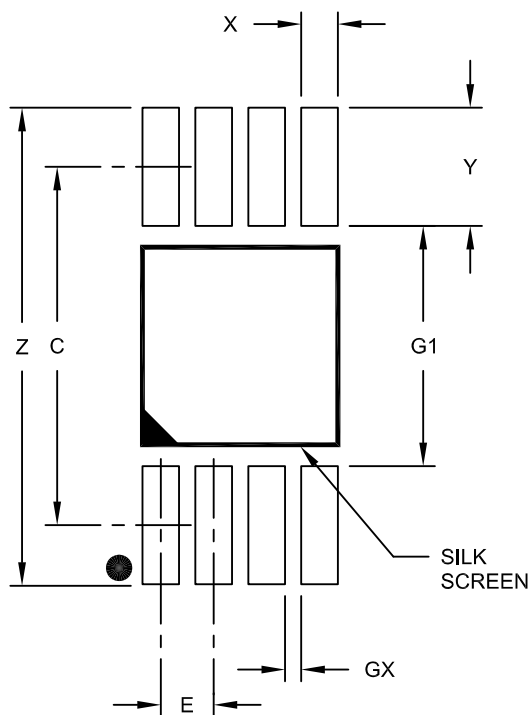
REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing C04-111C Sheet 2 of 2

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Micro Small Outline Package (UA) [MSOP]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



RECOMMENDED LAND PATTERN

| Dimension Limits        | Units | MILLIMETERS |      |      |
|-------------------------|-------|-------------|------|------|
|                         |       | MIN         | NOM  | MAX  |
| Contact Pitch           | E     | 0.65 BSC    |      |      |
| Contact Pad Spacing     | C     |             | 4.40 |      |
| Overall Width           | Z     |             |      | 5.85 |
| Contact Pad Width (X8)  | X1    |             |      | 0.45 |
| Contact Pad Length (X8) | Y1    |             |      | 1.45 |
| Distance Between Pads   | G1    | 2.95        |      |      |
| Distance Between Pads   | GX    | 0.20        |      |      |

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

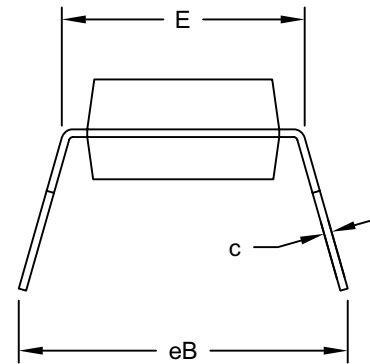
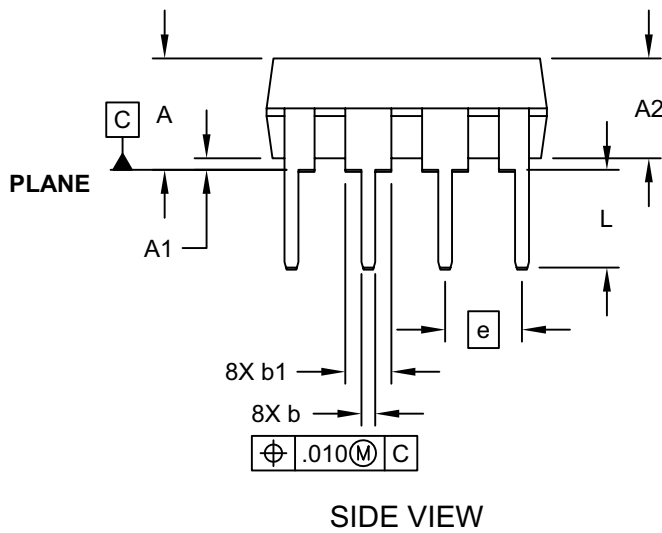
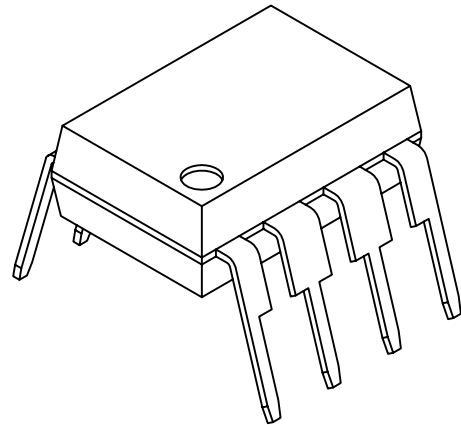
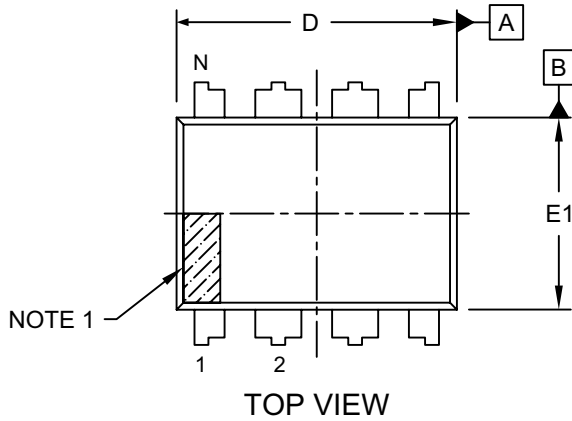
BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2111A

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Dual In-Line (PA) - 300 mil Body [PDIP]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



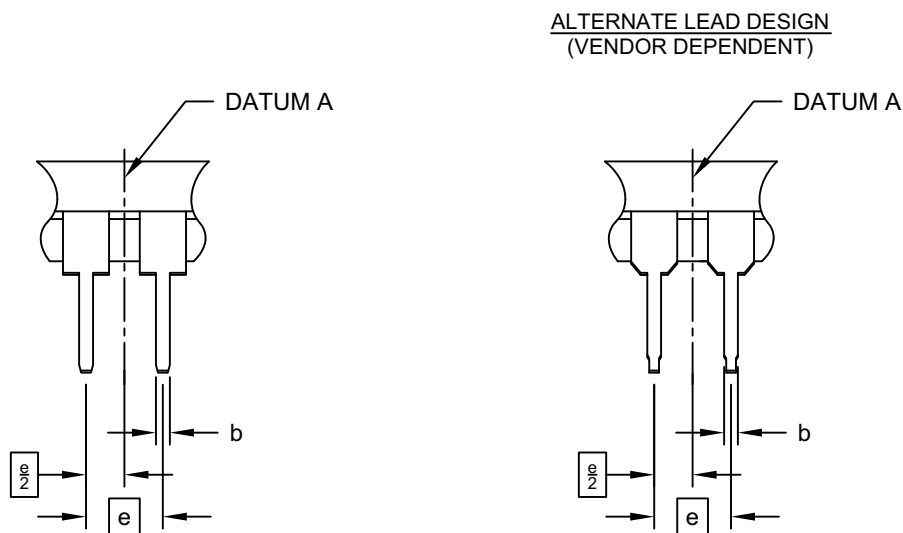
Microchip Technology Drawing No. C04-018D Sheet 1 of 2



# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Dual In-Line (PA) - 300 mil Body [PDIP]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



|                            |    | Units | INCHES   |      |      |
|----------------------------|----|-------|----------|------|------|
| Dimension Limits           |    |       | MIN      | NOM  | MAX  |
| Number of Pins             | N  |       | 8        |      |      |
| Pitch                      | e  |       | .100 BSC |      |      |
| Top to Seating Plane       | A  | -     | -        | -    | .210 |
| Molded Package Thickness   | A2 | .115  | .130     | .195 |      |
| Base to Seating Plane      | A1 | .015  | -        | -    |      |
| Shoulder to Shoulder Width | E  | .290  | .310     | .325 |      |
| Molded Package Width       | E1 | .240  | .250     | .280 |      |
| Overall Length             | D  | .348  | .365     | .400 |      |
| Tip to Seating Plane       | L  | .115  | .130     | .150 |      |
| Lead Thickness             | c  | .008  | .010     | .015 |      |
| Upper Lead Width           | b1 | .040  | .060     | .070 |      |
| Lower Lead Width           | b  | .014  | .018     | .022 |      |
| Overall Row Spacing        | §  | eB    | -        | -    | .430 |

**Notes:**

- Pin 1 visual index feature may vary, but must be located within the hatched area.
- § Significant Characteristic
- Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed .010" per side.
- Dimensioning and tolerancing per ASME Y14.5M  
BSC: Basic Dimension. Theoretically exact value shown without tolerances.

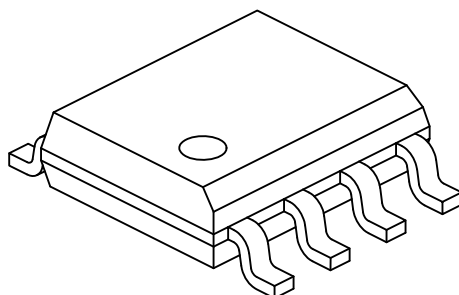
Microchip Technology Drawing No. C04-018D Sheet 2 of 2



# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Small Outline (OA) - Narrow, 3.90 mm Body [SOIC]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



| Dimension Limits         | Units     | MILLIMETERS |     |      |
|--------------------------|-----------|-------------|-----|------|
|                          |           | MIN         | NOM | MAX  |
| Number of Pins           | N         | 8           |     |      |
| Pitch                    | e         | 1.27 BSC    |     |      |
| Overall Height           | A         | -           | -   | 1.75 |
| Molded Package Thickness | A2        | 1.25        | -   | -    |
| Standoff §               | A1        | 0.10        | -   | 0.25 |
| Overall Width            | E         | 6.00 BSC    |     |      |
| Molded Package Width     | E1        | 3.90 BSC    |     |      |
| Overall Length           | D         | 4.90 BSC    |     |      |
| Chamfer (Optional)       | h         | 0.25        | -   | 0.50 |
| Foot Length              | L         | 0.40        | -   | 1.27 |
| Footprint                | L1        | 1.04 REF    |     |      |
| Foot Angle               | $\varphi$ | 0°          | -   | 8°   |
| Lead Thickness           | c         | 0.17        | -   | 0.25 |
| Lead Width               | b         | 0.31        | -   | 0.51 |
| Mold Draft Angle Top     | $\alpha$  | 5°          | -   | 15°  |
| Mold Draft Angle Bottom  | $\beta$   | 5°          | -   | 15°  |

### Notes:

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. § Significant Characteristic
3. Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15mm per side.
4. Dimensioning and tolerancing per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

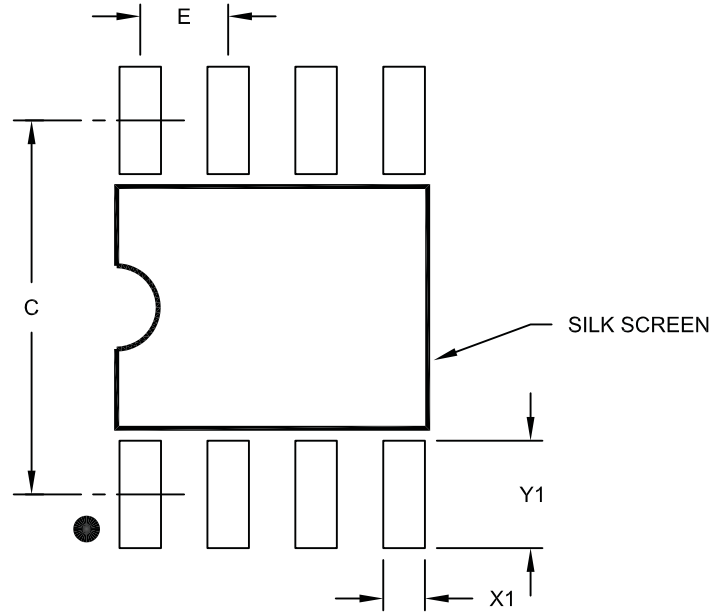
REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing No. C04-057C Sheet 2 of 2

# TC4426A/TC4427A/TC4428A

## 8-Lead Plastic Small Outline (OA) – Narrow, 3.90 mm Body [SOIC]

**Note:** For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



RECOMMENDED LAND PATTERN

| Dimension Limits        | Units | MILLIMETERS |          |      |
|-------------------------|-------|-------------|----------|------|
|                         |       | MIN         | NOM      | MAX  |
| Contact Pitch           | E     |             | 1.27 BSC |      |
| Contact Pad Spacing     | C     |             | 5.40     |      |
| Contact Pad Width (X8)  | X1    |             |          | 0.60 |
| Contact Pad Length (X8) | Y1    |             |          | 1.55 |

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2057A

## APPENDIX A: REVISION HISTORY

### Revision J (July 2014)

The following is the list of modifications:

1. Updated [Figure 4-1](#).

### Revision H (September 2013)

The following is the list of modifications:

1. Changed ESD protection value to 2 kV on the [Features](#) page.
2. Updated the package specification drawings in **Section 5.0 “Packaging Information”**, to show all views available.
3. Minor typographical corrections.

# TC4426A/TC4427A/TC4428A

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NOTES:

# TC4426A/TC4427A/TC4428A

## PRODUCT IDENTIFICATION SYSTEM

To order or obtain information, e.g., on pricing or delivery, refer to the factory or the listed sales office.

| <u>PART NO.</u>   | <u>X</u>          | <u>XX</u> | <u>XXX</u>  | <u>X</u> |
|---|-------------------|-----------|-------------|----------|
| Device  | Temperature Range | Package   | Tape & Reel | PB Free  |
| <p><b>Device:</b> TC4426A: 1.5A Dual MOSFET Driver, Inverting<br/>           TC4427A: 1.5A Dual MOSFET Driver, Non-Inverting<br/>           TC4428A: 1.5A Dual MOSFET Driver, Complementary</p> <p><b>Temperature Range:</b> C = 0°C to +70°C (PDIP &amp; SOIC Only)<br/>           E = -40°C to +85°C<br/>           V = -40°C to +125°C</p> <p><b>Package:</b> MF = Dual, Flat, No-Lead (6X5 mm Body), 8-lead<br/>           MF713 = Dual, Flat, No-Lead (6X5 mm Body), 8-lead (Tape and Reel)<br/>           OA = Plastic SOIC, (150 mil Body), 8-lead<br/>           OA713 = Plastic SOIC, (150 mil Body), 8-lead (Tape and Reel)<br/>           PA = Plastic DIP (300 mil Body), 8-lead<br/>           UA = Plastic Micro Small Outline (MSOP), 8-lead<br/>           UA713 = Plastic Micro Small Outline (MSOP), 8-lead (Tape and Reel)</p>   |                   |           |             |          |
| <p><b>Examples:</b></p> <p>a) TC4426ACOA: 1.5A Dual Inverting MOSFET driver, 0°C to +70°C, 8LD SOIC package.</p> <p>b) TC4426AEOA: 1.5A Dual Inverting MOSFET driver, -40°C to +85°C, 8LD SOIC package.</p> <p>c) TC4426AEMF: 1.5A Dual Inverting MOSFET driver, -40°C to +85°C, 8LD DFN-S package.</p> <p>a) TC4427ACPA: 1.5A Dual Non-Inverting MOSFET driver, 0°C to +70°C, 8LD PDIP package.</p> <p>b) TC4427AEPA: 1.5A Dual Non-Inverting MOSFET driver, -40°C to +85°C, 8LD PDIP package.</p> <p>c) TC4427AVMF713: 1.5A Dual Non-Inverting MOSFET driver, -40°C to +125°C, 8LD DFN-S package, Tape and Reel.</p> <p>a) TC4428AEPA: 1.5A Dual Complementary MOSFET driver, -40°C to +85°C, 8LD PDIP package.</p> <p>b) TC4428ACOA713: 1.5A Dual Complementary MOSFET driver, 0°C to +70°C, 8LD SOIC package, Tape and Reel.</p> <p>c) TC4428AVMF: 1.5A Dual Complementary MOSFET driver, -40°C to +125°C, 8LD DFN-S package.</p> |                   |           |             |          |

# TC4426A/TC4427A/TC4428A

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NOTES:



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**Note the following details of the code protection feature on Microchip devices:**

- Microchip products meet the specification contained in their particular Microchip Data Sheet.
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- Microchip is willing to work with the customer who is concerned about the integrity of their code.
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