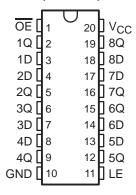
- State-of-the-Art EPIC-IIB™ BiCMOS Design Significantly Reduces Power Dissipation
- Latch-Up Performance Exceeds 500 mA Per JEDEC Standard JESD-17
- Typical V<sub>OLP</sub> (Output Ground Bounce) < 1 V at V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C
- High-Drive Outputs (–32-mA I<sub>OH</sub>, 64-mA I<sub>OL</sub>)
- Package Options Include Plastic Small-Outline (DW), Shrink Small-Outline (DB), and Thin Shrink Small-Outline (PW) Packages, Ceramic Chip Carriers (FK), Ceramic Flat (W) Package, and Plastic (N) and Ceramic (J) DIPs

#### description

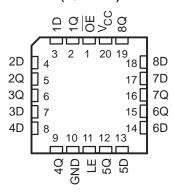
The eight latches of the 'ABT373 are transparent D-type latches. While the latch-enable (LE) input is high, the Q outputs follow the data (D) inputs. When LE is taken low, the Q outputs are latched at the logic levels set up at the D inputs.

A buffered output-enable  $(\overline{OE})$  input can be used to place the eight outputs in either a normal logic state (high or low logic levels) or a high-impedance state. In the high-impedance state, the outputs neither load nor drive the bus lines significantly. The high-impedance state and increased drive provide the capability to drive bus lines without need for interface or pullup components.

SN54ABT373 . . . J OR W PACKAGE SN74ABT373 . . . DB, DW, N, OR PW PACKAGE (TOP VIEW)



# SN54ABT373 . . . FK PACKAGE (TOP VIEW)



OE does not affect the internal operations of the latches. Old data can be retained or new data can be entered while the outputs are in the high-impedance state.

To ensure the high-impedance state during power up or power down,  $\overline{OE}$  should be tied to  $V_{CC}$  through a pullup resistor; the minimum value of the resistor is determined by the current-sinking capability of the driver.

The SN54ABT373 is characterized for operation over the full military temperature range of –55°C to 125°C. The SN74ABT373 is characterized for operation from –40°C to 85°C.

# FUNCTION TABLE (each latch)

|    | INPUTS | OUTPUT |                |
|----|--------|--------|----------------|
| OE | LE     | Q      |                |
| L  | Н      | Н      | Н              |
| L  | Н      | L      | L              |
| L  | L      | Χ      | Q <sub>0</sub> |
| Н  | X      | Χ      | Z              |



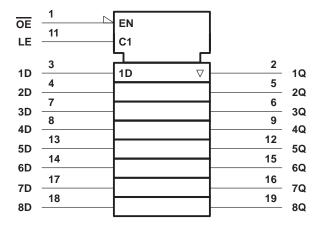
Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

EPIC-IIB is a trademark of Texas Instruments Incorporated.

TEXAS INSTRUMENTS

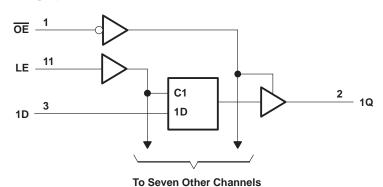
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#### logic symbol<sup>†</sup>



<sup>&</sup>lt;sup>†</sup> This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

### logic diagram (positive logic)



## absolute maximum ratings over operating free-air temperature range (unless otherwise noted)‡

| Supply voltage range, V <sub>CC</sub>                      |                                   | 0.5 V to 7 V     |
|--|-----------------------------------|------------------|
| Input voltage range, V <sub>I</sub> (see Note 1)           |                                   |                  |
| Voltage range applied to any output in the high or         | r power-off state, V <sub>O</sub> | –0.5 V to 5.5 V  |
| Current into any output in the low state, IO: SN54         | 4ÅBT373                           | 96 mA            |
| SN74   | 4ABT373                           | 128 mA           |
| Input clamp current, I <sub>IK</sub> (V <sub>I</sub> < 0)  |                                   | –18 mA           |
| Output clamp current, I <sub>OK</sub> (V <sub>O</sub> < 0) |                                   | –50 mA           |
| Package thermal impedance, θ <sub>JA</sub> (see Note 2): [ | OB package                        | 115°C/W          |
|  | DW package                        | 97°C/W           |
| N  | N package                         | 67°C/W           |
| F  | PW package                        | 128°C/W          |
| Storage temperature range, T <sub>sto</sub>                |                                   | . −65°C to 150°C |

<sup>‡</sup> 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.

<sup>2.</sup> The package thermal impedance is calculated in accordance with EIA/JEDEC Std JESD51, except for through-hole packages, which use a trace length of zero.



NOTES: 1. The input and output negative-voltage ratings may be exceeded if the input and output clamp-current ratings are observed.

### recommended operating conditions (see Note 3)

|                |                                    |                 | SN54A | BT373 | SN74A | BT373 | UNIT |
|----------------|------------------------------------|-----------------|-------|-------|-------|-------|------|
|                |                                    |                 | MIN   | MAX   | MIN   | MAX   | UNII |
| Vcc            | Supply voltage                     |                 | 4.5   | 5.5   | 4.5   | 5.5   | V    |
| VIH            | High-level input voltage           |                 | 2     |       | 2     |       | V    |
| VIL            | Low-level input voltage            |                 |       | 0.8   |       | 0.8   | V    |
| ٧ <sub>I</sub> | Input voltage                      |                 | 0     | VCC   | 0     | VCC   | V    |
| IOH            | High-level output current          |                 |       | -24   |       | -32   | mA   |
| loL            | Low-level output current           |                 |       | 48    |       | 64    | mA   |
| Δt/Δν          | Input transition rise or fall rate | Outputs enabled |       | 5     |       | 5     | ns/V |
| TA             | Operating free-air temperature     |                 | -55   | 125   | -40   | 85    | °C   |

NOTE 3: Unused inputs must be held high or low to prevent them from floating.

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

| DADAMETED        |  | TEGT CONDITION                                | 10               | Т   | A = 25°C         | ;                | SN54A | BT373            | SN74A | BT373            | UNIT |
|------------------|--|---|------------------|-----|------------------|------------------|-------|------------------|-------|------------------|------|
| PARAMETER        |  | TEST CONDITION                                | 15               | MIN | TYP <sup>†</sup> | MAX              | MIN   | MAX              | MIN   | MAX              | UNII |
| VIK              | $V_{CC} = 4.5 V$ ,   | I <sub>I</sub> = -18 mA                       |                  |     |                  | -1.2             |       | -1.2             |       | -1.2             | V    |
|                  | $V_{CC} = 4.5 V$ ,   | $I_{OH} = -3 \text{ mA}$                      |                  | 2.5 |                  |                  | 2.5   |                  | 2.5   |                  |      |
| \/a              | V <sub>CC</sub> = 5 V,   | $I_{OH} = -3 \text{ mA}$                      |                  | 3   |                  |                  | 3     |                  | 3     |                  | V    |
| VOH              | V <sub>CC</sub> = 4.5 V  | $I_{OH} = -24 \text{ mA}$                     |                  | 2   |                  |                  | 2     |                  |       |                  | V    |
|                  | vCC = 4.5 v  | $I_{OH} = -32 \text{ mA}$                     |                  | 2*  |                  |                  |       |                  | 2     |                  |      |
| Voi              | V <sub>CC</sub> = 4.5 V  | I <sub>OL</sub> = 48 mA                       |                  |     |                  | 0.55             |       | 0.55             |       |                  | V    |
| VOL              | VCC = 4.5 V  | I <sub>OL</sub> = 64 mA                       |                  |     |                  | 0.55*            |       |                  |       | 0.55             | V    |
| V <sub>hys</sub> |  |   |                  |     | 100              |                  |       |                  |       |                  | mV   |
| lį               | $V_{CC} = 5.5 \text{ V},$  | $V_I = V_{CC}$ or GND                         |                  |     |                  | ±1               |       | ±1               |       | ±1               | μΑ   |
| lozh             | $V_{CC} = 5.5 \text{ V},$  | $V_0 = 2.7 \text{ V}$                         |                  |     |                  | 10‡              |       | 10‡              |       | 10‡              | μΑ   |
| lozL             | $V_{CC} = 5.5 \text{ V},$  | $V_0 = 0.5 V$                                 |                  |     |                  | -10 <sup>‡</sup> |       | -10 <sup>‡</sup> |       | -10 <sup>‡</sup> | μΑ   |
| l <sub>off</sub> | $V_{CC} = 0$ ,   | $V_I$ or $V_O \le 4.5 \text{ V}$              |                  |     |                  | ±100             |       |                  |       | ±100             | μΑ   |
| ICEX             | $V_{CC} = 5.5 \text{ V},$  | $V_0 = 5.5 \text{ V}$                         | Outputs high     |     |                  | 50               |       | 50               |       | 50               | μΑ   |
| ΙΟ§              | $V_{CC} = 5.5 \text{ V},$  | $V_0 = 2.5 \text{ V}$                         |                  | -50 | -100             | -180             | -50   | -180             | -50   | -180             | mA   |
|                  | .,   | 0   | Outputs high     |     | 1                | 250              |       | 250              |       | 250              | μΑ   |
| Icc              | $V_{CC} = 5.5 \text{ V}, \text{ I}_{C}$<br>$V_{I} = V_{CC} \text{ or G}$ |   | Outputs low      |     | 24               | 30               |       | 30               |       | 30               | mA   |
|                  | 1, 100 at a  |   | Outputs disabled |     | 0.5              | 250              |       | 250              |       | 250              | μΑ   |
| ΔICC¶            | V <sub>CC</sub> = 5.5 V, C<br>Other inputs at                            | one input at 3.4 V,<br>V <sub>CC</sub> or GND |                  |     |                  | 1.5              |       | 1.5              |       | 1.5              | mA   |
| C <sub>i</sub>   | $V_{I} = 2.5 \text{ V or } 0.$   | 5 V   |                  |     | 3                |                  |       |                  |       |                  | pF   |
| Co               | $V_0 = 2.5 \text{ V or } 0$  | ).5 V   |                  |     | 6                |                  |       |                  |       |                  | pF   |

 $<sup>\</sup>begin{tabular}{l}^*$  On products compliant to MIL-PRF-38535, this parameter does not apply.



<sup>&</sup>lt;sup>†</sup> All typical values are at  $V_{CC} = 5 \text{ V}$ .

<sup>‡</sup>This data sheet limit may vary among suppliers.

<sup>§</sup> Not more than one output should be tested at a time, and the duration of the test should not exceed one second.

<sup>¶</sup> This is the increase in supply current for each input that is at the specified TTL voltage level rather than V<sub>CC</sub> or GND.

## SN54ABT373, SN74ABT373 OCTAL TRANSPARENT D-TYPE LATCHES WITH 3-STATE OUTPUTS

SCBS155D - JANUARY 1991 - REVISED MAY 1997

timing requirements over recommended ranges of supply voltage and operating free-air temperature (unless otherwise noted) (see Figure 1)

|                |                             |        |       |                   | SN54A          | BT373 |     |      |
|----------------|-----------------------------|--------|-------|-------------------|----------------|-------|-----|------|
|                |                             |        |       | V <sub>CC</sub> = | = 5 V,<br>25°C | MIN   | MAX | UNIT |
|                |                             |        |       | MIN               | MAX            |       |     |      |
| t <sub>W</sub> | Pulse duration, LE high     |        |       | 3.3               |                | 3.3   |     | ns   |
| t              | Setup time, data before LE↓ | High   |       | 2.2               |                | 2.5   |     | ns   |
| tsu            | Setup time, data before LEV |        |       | 2.2               |                | 2.5   |     | 115  |
| t <sub>h</sub> | Hold time, data after LE↓   | High o | r low | 2.2               |                | 2.5   |     | ns   |

timing requirements over recommended ranges of supply voltage and operating free-air temperature (unless otherwise noted) (see Figure 1)

|                 |                                 |      |                  | SN74A              | BT373 |     |      |
|-----------------|---------------------------------|------|------------------|--------------------|-------|-----|------|
|                 |                                 |      | V <sub>C</sub> ( | ; = 5 V,<br>= 25°C | MIN   | MAX | UNIT |
|                 |                                 |      | MIN              | I MAX              | 1     |     |      |
| t <sub>W</sub>  | Pulse duration, LE high         |      | 3.3              | 3                  | 3.3   |     | ns   |
|                 | Cotion time and the before I.E. | High | 1.9              | )                  | 1.9   |     | ns   |
| t <sub>su</sub> | Setup time, data before LE↓     | Low  | 1.5              | ;                  | 1.5   | ·   | 115  |
| t <sub>h</sub>  | h Hold time, data after LE↓     |      | ow 1             |                    | 1     |     | ns   |

### SN54ABT373, SN74ABT373 OCTAL TRANSPARENT D-TYPE LATCHES WITH 3-STATE OUTPUTS

SCBS155D - JANUARY 1991 - REVISED MAY 1997

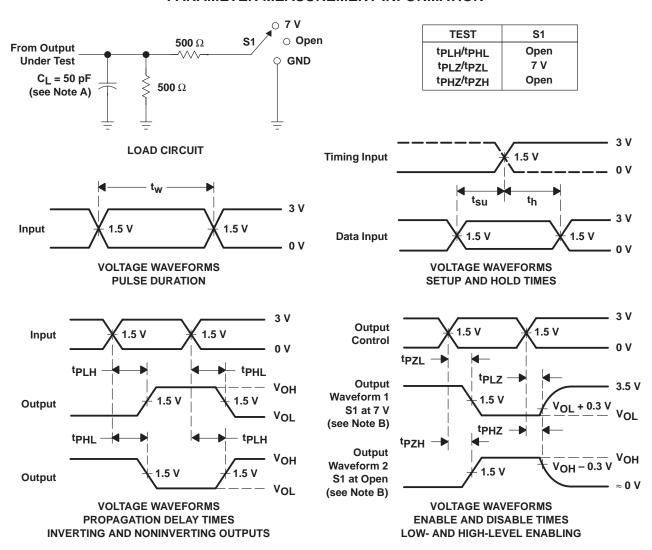
switching characteristics over recommended ranges of supply voltage and operating free-air temperature,  $C_L$  = 50 pF (unless otherwise noted) (see Figure 1)

|                  |                 |                |                | SN                  | 54ABT3  | 73  |     |      |
|------------------|-----------------|----------------|----------------|---------------------|---------|-----|-----|------|
| PARAMETER        | FROM<br>(INPUT) | TO<br>(OUTPUT) | V <sub>C</sub> | C = 5 V<br>\ = 25°C | /,<br>; | MIN | MAX | UNIT |
|                  |                 |                | MIN            | TYP                 | MAX     |     |     |      |
| <sup>t</sup> PLH | D               | Q              | 1.9            | 3.9                 | 5.4     | 1.3 | 6.8 | ns   |
| t <sub>PHL</sub> | В               | ά              | 2.2            | 4.2                 | 5.7     | 2   | 7   | 115  |
| t <sub>PLH</sub> | LE              | Q              | 2.2            | 4.6                 | 6.1     | 1.8 | 7.7 | ns   |
| t <sub>PHL</sub> | LL              | ά              | 3.2            | 5.2                 | 6.7     | 2.5 | 7.7 | 115  |
| <sup>t</sup> PZH | ŌĒ              | Q              | 1.2            | 3.2                 | 5.5     | 1   | 6.2 | ns   |
| t <sub>PZL</sub> | OE .            | ά              | 2              | 4.7                 | 6.2     | 1.5 | 7.2 | 115  |
| <sup>t</sup> PHZ | ŌĒ              | Q              | 2.5            | 4.9                 | 6.4     | 2.4 | 8   | ns   |
| t <sub>PLZ</sub> | OE OE           |                | 2              | 4.5                 | 6       | 2   | 7   | 115  |

switching characteristics over recommended ranges of supply voltage and operating free-air temperature,  $C_L = 50$  pF (unless otherwise noted) (see Figure 1)

| PARAMETER        | FROM<br>(INPUT) | TO<br>(OUTPUT) | V <sub>C</sub> | C = 5 V<br>\ = 25°C | /,<br>; | MIN | MAX | UNIT |
|------------------|-----------------|----------------|----------------|---------------------|---------|-----|-----|------|
|                  |                 |                | MIN            | TYP                 | MAX     |     |     |      |
| t <sub>PLH</sub> | D               | Q              | 1.9            | 3.9                 | 5.4     | 1.9 | 5.9 | no   |
| t <sub>PHL</sub> | D               | Q              | 2.2            | 4.2                 | 5.7     | 2.2 | 6.2 | ns   |
| <sup>t</sup> PLH | LE              | Q              | 2.2            | 4.6                 | 6.1     | 2.2 | 6.6 | ns   |
| t <sub>PHL</sub> | LL              | Q              | 3.2            | 5.2                 | 6.7     | 3.2 | 7.2 | 115  |
| <sup>t</sup> PZH | ŌĒ              | Q              | 1.2            | 3.2                 | 4.7     | 1.2 | 5.2 | no   |
| t <sub>PZL</sub> | OE .            | Q              | 2.7            | 4.7                 | 6.2     | 2.7 | 6.7 | ns   |
| t <sub>PHZ</sub> | ŌĒ              | Q              | 2.5            | 4.9                 | 6.4     | 2.5 | 6.9 | nc   |
| t <sub>PLZ</sub> | OE OE           | Q I            | 2              | 4.5                 | 6       | 2   | 6.5 | ns   |

#### PARAMETER MEASUREMENT INFORMATION



NOTES: A. C<sub>L</sub> includes probe and jig capacitance.

- B. Waveform 1 is for an output with internal conditions such that the output is low except when disabled by the output control. Waveform 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
- C. All input pulses are supplied by generators having the following characteristics: PRR  $\leq$  10 MHz,  $Z_{Q}$  = 50  $\Omega$ ,  $t_{f}$   $\leq$  2.5 ns,  $t_{f}$   $\leq$  2.5 ns.
- D. The outputs are measured one at a time with one transition per measurement.

Figure 1. Load Circuit and Voltage Waveforms





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#### **PACKAGING INFORMATION**

| Orderable Device | Status (1) | Package Type | Package<br>Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup>    | Lead/<br>Ball Finish | MSL Peak Temp <sup>(3)</sup> | Samples<br>(Requires Login) |
|------------------|------------|--------------|--------------------|------|-------------|----------------------------|----------------------|------------------------------|-----------------------------|
| 5962-9321801Q2A  | ACTIVE     | LCCC         | FK                 | 20   | 1           | TBD                        | Call TI              | Call TI                      |                             |
| 5962-9321801QRA  | ACTIVE     | CDIP         | J                  | 20   | 1           | TBD                        | Call TI              | Call TI                      |                             |
| 5962-9321801QSA  | ACTIVE     | CFP          | W                  | 20   | 1           | TBD                        | Call TI              | Call TI                      |                             |
| SN74ABT373DBLE   | OBSOLETE   | SSOP         | DB                 | 20   |             | TBD                        | Call TI              | Call TI                      |                             |
| SN74ABT373DBR    | ACTIVE     | SSOP         | DB                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DBRE4  | ACTIVE     | SSOP         | DB                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DBRG4  | ACTIVE     | SSOP         | DB                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DW     | ACTIVE     | SOIC         | DW                 | 20   | 25          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DWE4   | ACTIVE     | SOIC         | DW                 | 20   | 25          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DWG4   | ACTIVE     | SOIC         | DW                 | 20   | 25          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DWR    | ACTIVE     | SOIC         | DW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DWRE4  | ACTIVE     | SOIC         | DW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373DWRG4  | ACTIVE     | SOIC         | DW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373N      | ACTIVE     | PDIP         | N                  | 20   | 20          | Pb-Free (RoHS)             | CU NIPDAU            | N / A for Pkg Type           |                             |
| SN74ABT373NE4    | ACTIVE     | PDIP         | N                  | 20   | 20          | Pb-Free (RoHS)             | CU NIPDAU            | N / A for Pkg Type           |                             |
| SN74ABT373NSR    | ACTIVE     | SO           | NS                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373NSRE4  | ACTIVE     | SO           | NS                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373NSRG4  | ACTIVE     | SO           | NS                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373PW     | ACTIVE     | TSSOP        | PW                 | 20   | 70          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |





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| Orderable Device | Status <sup>(1)</sup> | Package Type | Package<br>Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup>    | Lead/<br>Ball Finish | MSL Peak Temp <sup>(3)</sup> | Samples<br>(Requires Login) |
|------------------|-----------------------|--------------|--------------------|------|-------------|----------------------------|----------------------|------------------------------|-----------------------------|
| SN74ABT373PWE4   | ACTIVE                | TSSOP        | PW                 | 20   | 70          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373PWG4   | ACTIVE                | TSSOP        | PW                 | 20   | 70          | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373PWLE   | OBSOLETE              | TSSOP        | PW                 | 20   |             | TBD                        | Call TI              | Call TI                      |                             |
| SN74ABT373PWR    | ACTIVE                | TSSOP        | PW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373PWRE4  | ACTIVE                | TSSOP        | PW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SN74ABT373PWRG4  | ACTIVE                | TSSOP        | PW                 | 20   | 2000        | Green (RoHS<br>& no Sb/Br) | CU NIPDAU            | Level-1-260C-UNLIM           |                             |
| SNJ54ABT373FK    | ACTIVE                | LCCC         | FK                 | 20   | 1           | TBD                        | POST-PLATE           | N / A for Pkg Type           |                             |
| SNJ54ABT373J     | ACTIVE                | CDIP         | J                  | 20   | 1           | TBD                        | A42                  | N / A for Pkg Type           |                             |
| SNJ54ABT373W     | ACTIVE                | CFP          | W                  | 20   | 1           | TBD                        | Call TI              | N / A for Pkg Type           |                             |

(1) The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free** (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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#### OTHER QUALIFIED VERSIONS OF SN54ABT373, SN74ABT373:

Catalog: SN74ABT373

Military: SN54ABT373

NOTE: Qualified Version Definitions:

- Catalog TI's standard catalog product
- Military QML certified for Military and Defense Applications

**PACKAGE MATERIALS INFORMATION** 

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### TAPE AND REEL INFORMATION





| A0 | Dimension designed to accommodate the component width     |
|----|---|
| B0 | Dimension designed to accommodate the component length    |
|    | Dimension designed to accommodate the component thickness |
| W  | Overall width of the carrier tape                         |
| P1 | Pitch between successive cavity centers                   |

### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



#### \*All dimensions are nominal

| All ulfrierisions are nominal |                 |                    |    |      |                          |                          |            |            |            |            |           |                  |
|-------------------------------|-----------------|--------------------|----|------|--------------------------|--------------------------|------------|------------|------------|------------|-----------|------------------|
| Device                        | Package<br>Type | Package<br>Drawing |    | SPQ  | Reel<br>Diameter<br>(mm) | Reel<br>Width<br>W1 (mm) | A0<br>(mm) | B0<br>(mm) | K0<br>(mm) | P1<br>(mm) | W<br>(mm) | Pin1<br>Quadrant |
| SN74ABT373DBR                 | SSOP            | DB                 | 20 | 2000 | 330.0                    | 16.4                     | 8.2        | 7.5        | 2.5        | 12.0       | 16.0      | Q1               |
| SN74ABT373DWR                 | SOIC            | DW                 | 20 | 2000 | 330.0                    | 24.4                     | 10.8       | 13.0       | 2.7        | 12.0       | 24.0      | Q1               |
| SN74ABT373NSR                 | SO              | NS                 | 20 | 2000 | 330.0                    | 24.4                     | 8.2        | 13.0       | 2.5        | 12.0       | 24.0      | Q1               |
| SN74ABT373PWR                 | TSSOP           | PW                 | 20 | 2000 | 330.0                    | 16.4                     | 6.95       | 7.1        | 1.6        | 8.0        | 16.0      | Q1               |

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\*All dimensions are nominal

| Device        | Package Type | Package Drawing | Pins | SPQ  | Length (mm) | Width (mm) | Height (mm) |
|---------------|--------------|-----------------|------|------|-------------|------------|-------------|
| SN74ABT373DBR | SSOP         | DB              | 20   | 2000 | 346.0       | 346.0      | 33.0        |
| SN74ABT373DWR | SOIC         | DW              | 20   | 2000 | 346.0       | 346.0      | 41.0        |
| SN74ABT373NSR | SO           | NS              | 20   | 2000 | 346.0       | 346.0      | 41.0        |
| SN74ABT373PWR | TSSOP        | PW              | 20   | 2000 | 346.0       | 346.0      | 33.0        |

### 14 LEADS SHOWN



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. This package is hermetically sealed with a ceramic lid using glass frit.
- D. Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
- E. Falls within MIL STD 1835 GDIP1-T14, GDIP1-T16, GDIP1-T18 and GDIP1-T20.

# W (R-GDFP-F20)

## CERAMIC DUAL FLATPACK



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a ceramic lid using glass frit.
- D. Index point is provided on cap for terminal identification only.
- E. Falls within Mil-Std 1835 GDFP2-F20



## FK (S-CQCC-N\*\*)

### LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a metal lid.
- D. Falls within JEDEC MS-004



## N (R-PDIP-T\*\*)

### PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- Falls within JEDEC MS-001, except 18 and 20 pin minimum body length (Dim A).
- The 20 pin end lead shoulder width is a vendor option, either half or full width.



DW (R-PDSO-G20)

### PLASTIC SMALL OUTLINE



NOTES: A. All linear dimensions are in inches (millimeters). Dimensioning and tolerancing per ASME Y14.5M-1994.

- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
- D. Falls within JEDEC MS-013 variation AC.



PW (R-PDSO-G20)

### PLASTIC SMALL OUTLINE



- A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M—1994.
- B. This drawing is subject to change without notice.
- Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0,15 each side.
- Body width does not include interlead flash. Interlead flash shall not exceed 0,25 each side.
- E. Falls within JEDEC MO-153



### **MECHANICAL DATA**

## NS (R-PDSO-G\*\*)

# 14-PINS SHOWN

#### PLASTIC SMALL-OUTLINE PACKAGE



- A. All linear dimensions are in millimeters.
- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.



### DB (R-PDSO-G\*\*)

### PLASTIC SMALL-OUTLINE

#### **28 PINS SHOWN**



NOTES: A. All linear dimensions are in millimeters.

B. This drawing is subject to change without notice.

C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.

D. Falls within JEDEC MO-150

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