

# Current Mode PWM Controller

## FEATURES

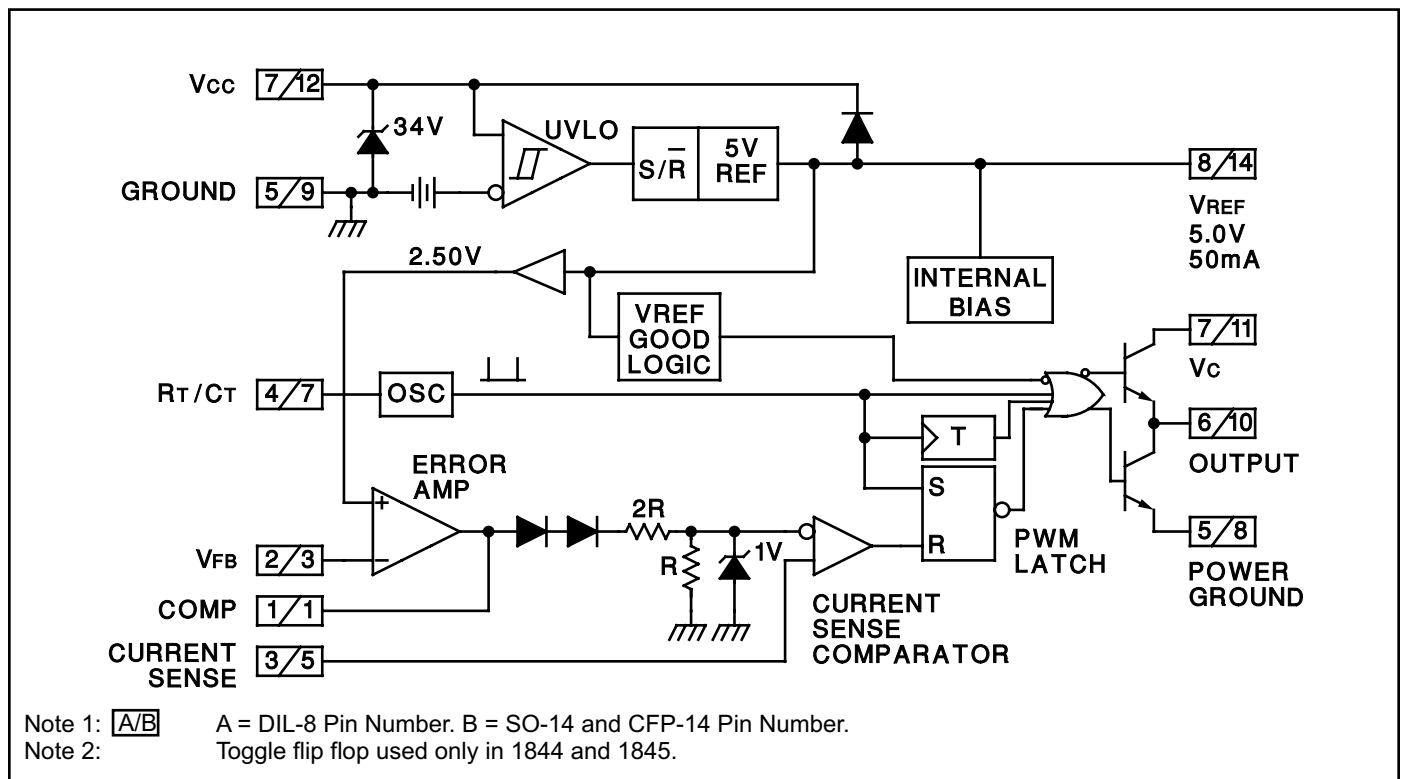
- Optimized For Off-line And DC To DC Converters
- Low Start Up Current (<1mA)
- Automatic Feed Forward Compensation
- Pulse-by-pulse Current Limiting
- Enhanced Load Response Characteristics
- Under-voltage Lockout With Hysteresis
- Double Pulse Suppression
- High Current Totem Pole Output
- Internally Trimmed Bandgap Reference
- 500khz Operation
- Low Ro Error Amp

## DESCRIPTION

The UC1842/3/4/5 family of control ICs provides the necessary features to implement off-line or DC to DC fixed frequency current mode control schemes with a minimal external parts count. Internally implemented circuits include under-voltage lockout featuring start up current less than 1mA, a precision reference trimmed for accuracy at the error amp input, logic to insure latched operation, a PWM comparator which also provides current limit control, and a totem pole output stage designed to source or sink high peak current. The output stage, suitable for driving N Channel MOSFETs, is low in the off state.

Differences between members of this family are the under-voltage lockout thresholds and maximum duty cycle ranges. The UC1842 and UC1844 have UVLO thresholds of 16V (on) and 10V (off), ideally suited to off-line applications. The corresponding thresholds for the UC1843 and UC1845 are 8.4V and 7.6V. The UC1842 and UC1843 can operate to duty cycles approaching 100%. A range of zero to 50% is obtained by the UC1844 and UC1845 by the addition of an internal toggle flip flop which blanks the output off every other clock cycle.

## BLOCK DIAGRAM

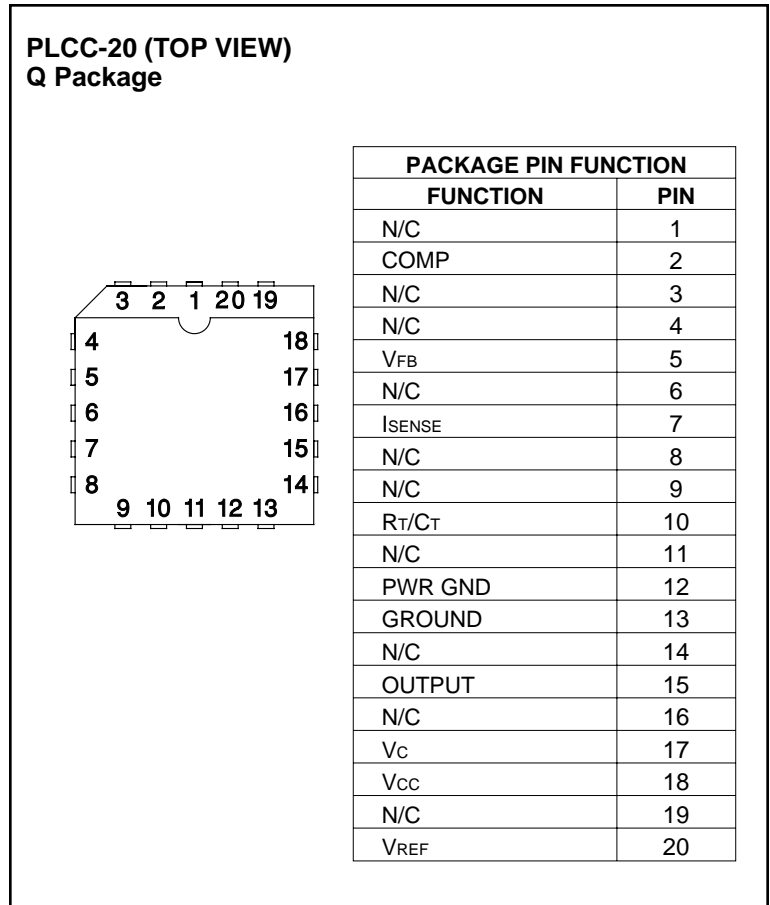
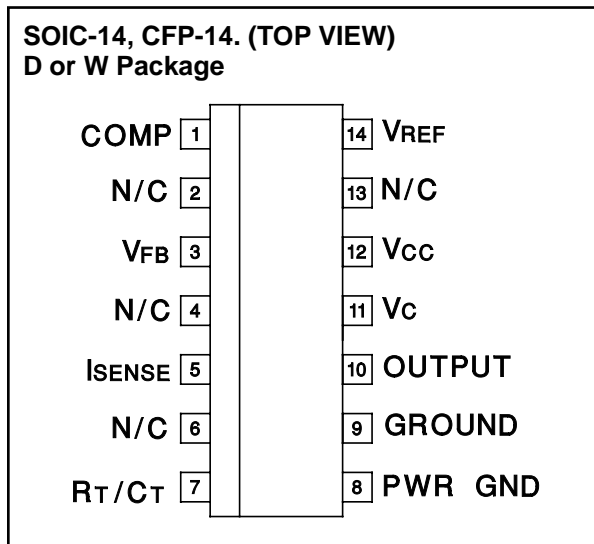
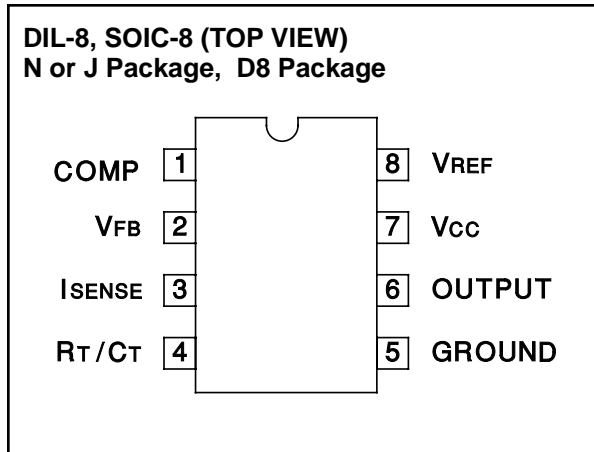


**ABSOLUTE MAXIMUM RATINGS**(Note 1)

Supply Voltage (Low Impedance Source) . . . . . 30V  
 Supply Voltage (I<sub>cc</sub> < 30mA) . . . . . Self Limiting  
 Output Current . . . . . ±1A  
 Output Energy (Capacitive Load) . . . . . 5 μJ  
 Analog Inputs (Pins 2, 3) . . . . . -0.3V to +6.3V  
 Error Amp Output Sink Current . . . . . 10 mA  
 Power Dissipation at T<sub>A</sub> ≤ 25°C (DIL-8) . . . . . 1 W  
 Power Dissipation at T<sub>A</sub> ≤ 25°C (SOIC-14) . . . . . 725 mW  
 Storage Temperature Range . . . . . -65°C to +150°C  
 Junction Temperature Range . . . . . -55°C to +150°C  
 Lead Temperature (soldering, 10 seconds) . . . . . 300°C

Note 1: All voltages are with respect to Pin 5.  
 All currents are positive into the specified terminal.  
 Consult Packaging Section of Databook for thermal limitations and considerations of packages.

**CONNECTION DIAGRAMS**



**DISSIPATION RATING TABLE**

| Package | T <sub>A</sub> ≤ 25°C<br>Power Rating | Derating Factor<br>Above T <sub>A</sub> ≤ 25°C | T <sub>A</sub> ≤ 70°C<br>Power Rating | T <sub>A</sub> ≤ 85°C<br>Power Rating | T <sub>A</sub> ≤ 125°C<br>Power Rating |
|---------|---------------------------------------|--|---------------------------------------|---------------------------------------|--|
| W       | 700 mW                                | 5.5 mW/°C                                      | 452 mW                                | 370 mW                                | 150 mW                                 |

**ELECTRICAL CHARACTERISTICS:** Unless otherwise stated, these specifications apply for  $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$  for the UC184X;  $-40^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$  for the UC284X;  $0^{\circ}\text{C} \leq T_A \leq 70^{\circ}\text{C}$  for the 384X;  $V_{CC} = 15\text{V}$  (Note 5);  $R_T = 10\text{k}$ ;  $C_T = 3.3\text{nF}$ ,  $T_A = T_J$ .

| PARAMETER                    | TEST CONDITIONS  | UC1842/3/4/5<br>UC2842/3/4/5 |      |      | UC3842/3/4/5 |      |      | UNITS                  |
|------------------------------|--|------------------------------|------|------|--------------|------|------|------------------------|
|                              |  | MIN                          | TYP  | MAX  | MIN          | TYP  | MAX  |                        |
| <b>Reference Section</b>     |  |                              |      |      |              |      |      |                        |
| Output Voltage               | $T_J = 25^{\circ}\text{C}$ , $I_o = 1\text{mA}$                              | 4.95                         | 5.00 | 5.05 | 4.90         | 5.00 | 5.10 | V                      |
| Line Regulation              | $12 \leq V_{IN} \leq 25\text{V}$   |                              | 6    | 20   |              | 6    | 20   | mV                     |
| Load Regulation              | $1 \leq I_o \leq 20\text{mA}$  |                              | 6    | 25   |              | 6    | 25   | mV                     |
| Temp. Stability              | (Note 2) (Note 7)  |                              | 0.2  | 0.4  |              | 0.2  | 0.4  | mV/ $^{\circ}\text{C}$ |
| Total Output Variation       | Line, Load, Temp. (Note 2)   | 4.9                          |      | 5.1  | 4.82         |      | 5.18 | V                      |
| Output Noise Voltage         | $10\text{Hz} \leq f \leq 10\text{kHz}$ , $T_J = 25^{\circ}\text{C}$ (Note 2) |                              | 50   |      |              | 50   |      | $\mu\text{V}$          |
| Long Term Stability          | $T_A = 125^{\circ}\text{C}$ , 1000Hrs. (Note 2)                              |                              | 5    | 25   |              | 5    | 25   | mV                     |
| Output Short Circuit         |  | -30                          | -100 | -180 | -30          | -100 | -180 | mA                     |
| <b>Oscillator Section</b>    |  |                              |      |      |              |      |      |                        |
| Initial Accuracy             | $T_J = 25^{\circ}\text{C}$ (Note 6)  | 47                           | 52   | 57   | 47           | 52   | 57   | kHz                    |
| Voltage Stability            | $12 \leq V_{CC} \leq 25\text{V}$   |                              | 0.2  | 1    |              | 0.2  | 1    | %                      |
| Temp. Stability              | $T_{MIN} \leq T_A \leq T_{MAX}$ (Note 2)                                     |                              | 5    |      |              | 5    |      | %                      |
| Amplitude                    | $V_{PIN 4}$ peak to peak (Note 2)  |                              | 1.7  |      |              | 1.7  |      | V                      |
| <b>Error Amp Section</b>     |  |                              |      |      |              |      |      |                        |
| Input Voltage                | $V_{PIN 1} = 2.5\text{V}$  | 2.45                         | 2.50 | 2.55 | 2.42         | 2.50 | 2.58 | V                      |
| Input Bias Current           |  |                              | -0.3 | -1   |              | -0.3 | -2   | $\mu\text{A}$          |
| AVOL                         | $2 \leq V_o \leq 4\text{V}$  | 65                           | 90   |      | 65           | 90   |      | dB                     |
| Unity Gain Bandwidth         | (Note 2) $T_J = 25^{\circ}\text{C}$  | 0.7                          | 1    |      | 0.7          | 1    |      | MHz                    |
| PSRR                         | $12 \leq V_{CC} \leq 25\text{V}$   | 60                           | 70   |      | 60           | 70   |      | dB                     |
| Output Sink Current          | $V_{PIN 2} = 2.7\text{V}$ , $V_{PIN 1} = 1.1\text{V}$                        | 2                            | 6    |      | 2            | 6    |      | mA                     |
| Output Source Current        | $V_{PIN 2} = 2.3\text{V}$ , $V_{PIN 1} = 5\text{V}$                          | -0.5                         | -0.8 |      | -0.5         | -0.8 |      | mA                     |
| VOUT High                    | $V_{PIN 2} = 2.3\text{V}$ , $R_L = 15\text{k}$ to ground                     | 5                            | 6    |      | 5            | 6    |      | V                      |
| VOUT Low                     | $V_{PIN 2} = 2.7\text{V}$ , $R_L = 15\text{k}$ to Pin 8                      |                              | 0.7  | 1.1  |              | 0.7  | 1.1  | V                      |
| <b>Current Sense Section</b> |  |                              |      |      |              |      |      |                        |
| Gain                         | (Notes 3 and 4)  | 2.85                         | 3    | 3.15 | 2.85         | 3    | 3.15 | V/V                    |
| Maximum Input Signal         | $V_{PIN 1} = 5\text{V}$ (Note 3)   | 0.9                          | 1    | 1.1  | 0.9          | 1    | 1.1  | V                      |
| PSRR                         | $12 \leq V_{CC} \leq 25\text{V}$ (Note 3) (Note 2)                           |                              | 70   |      |              | 70   |      | dB                     |
| Input Bias Current           |  |                              | -2   | -10  |              | -2   | -10  | $\mu\text{A}$          |
| Delay to Output              | $V_{PIN 3} = 0$ to $2\text{V}$ (Note 2)                                      |                              | 150  | 300  |              | 150  | 300  | ns                     |

Note 2: These parameters, although guaranteed, are not 100% tested in production.

Note 3: Parameter measured at trip point of latch with  $V_{PIN 2} = 0$ .

Note 4: Gain defined as

$$A = \frac{\Delta V_{PIN 1}}{\Delta V_{PIN 3}}, 0 \leq V_{PIN 3} \leq 0.8\text{V}$$

Note 5: Adjust  $V_{CC}$  above the start threshold before setting at 15V.

Note 6: Output frequency equals oscillator frequency for the UC1842 and UC1843.

Output frequency is one half oscillator frequency for the UC1844 and UC1845.

Note 7: Temperature stability, sometimes referred to as average temperature coefficient, is described by the equation:

$$\text{Temp Stability} = \frac{V_{REF(max)} - V_{REF(min)}}{T_J(max) - T_J(min)}$$

$V_{REF(max)}$  and  $V_{REF(min)}$  are the maximum and minimum reference voltages measured over the appropriate temperature range. Note that the extremes in voltage do not necessarily occur at the extremes in temperature.

**ELECTRICAL CHARACTERISTICS:** Unless otherwise stated, these specifications apply for  $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$  for the UC184X;  $-40^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$  for the UC284X;  $0^{\circ}\text{C} \leq T_A \leq 70^{\circ}\text{C}$  for the 384X;  $V_{CC} = 15\text{V}$  (Note 5);  $R_T = 10\text{k}$ ;  $C_T = 3.3\text{nF}$ ,  $T_A = T_J$ .

| PARAMETER                            | TEST CONDITION   | UC1842/3/4/5<br>UC2842/3/4/5 |      |     | UC3842/3/4/5 |      |      | UNITS |
|--------------------------------------|--|------------------------------|------|-----|--------------|------|------|-------|
|                                      |  | MIN                          | TYP  | MAX | MIN          | TYP  | MAX  |       |
| <b>Output Section</b>                |  |                              |      |     |              |      |      |       |
| Output Low Level                     | $I_{\text{SINK}} = 20\text{mA}$                          |                              | 0.1  | 0.4 |              | 0.1  | 0.4  | V     |
|                                      | $I_{\text{SINK}} = 200\text{mA}$                         |                              | 1.5  | 2.2 |              | 1.5  | 2.2  | V     |
| Output High Level                    | $I_{\text{SOURCE}} = 20\text{mA}$                        | 13                           | 13.5 |     | 13           | 13.5 |      | V     |
|                                      | $I_{\text{SOURCE}} = 200\text{mA}$                       | 12                           | 13.5 |     | 12           | 13.5 |      | V     |
| Rise Time                            | $T_J = 25^{\circ}\text{C}$ , $C_L = 1\text{nF}$ (Note 2) |                              | 50   | 150 |              | 50   | 150  | ns    |
| Fall Time                            | $T_J = 25^{\circ}\text{C}$ , $C_L = 1\text{nF}$ (Note 2) |                              | 50   | 150 |              | 50   | 150  | ns    |
| <b>Under-voltage Lockout Section</b> |  |                              |      |     |              |      |      |       |
| Start Threshold                      | X842/4   | 15                           | 16   | 17  | 14.5         | 16   | 17.5 | V     |
|                                      | X843/5   | 7.8                          | 8.4  | 9.0 | 7.8          | 8.4  | 9.0  | V     |
| Min. Operating Voltage After Turn On | X842/4   | 9                            | 10   | 11  | 8.5          | 10   | 11.5 | V     |
|                                      | X843/5   | 7.0                          | 7.6  | 8.2 | 7.0          | 7.6  | 8.2  | V     |
| <b>PWM Section</b>                   |  |                              |      |     |              |      |      |       |
| Maximum Duty Cycle                   | X842/3   | 95                           | 97   | 100 | 95           | 97   | 100  | %     |
|                                      | X844/5   | 46                           | 48   | 50  | 47           | 48   | 50   | %     |
| Minimum Duty Cycle                   |  |                              |      | 0   |              |      | 0    | %     |
| <b>Total Standby Current</b>         |  |                              |      |     |              |      |      |       |
| Start-Up Current                     |  |                              | 0.5  | 1   |              | 0.5  | 1    | mA    |
| Operating Supply Current             | $V_{\text{PIN } 2} = V_{\text{PIN } 3} = 0\text{V}$      |                              | 11   | 17  |              | 11   | 17   | mA    |
| V <sub>CC</sub> Zener Voltage        | $I_{\text{CC}} = 25\text{mA}$                            | 30                           | 34   |     | 30           | 34   |      | V     |

Note 2: These parameters, although guaranteed, are not 100% tested in production.

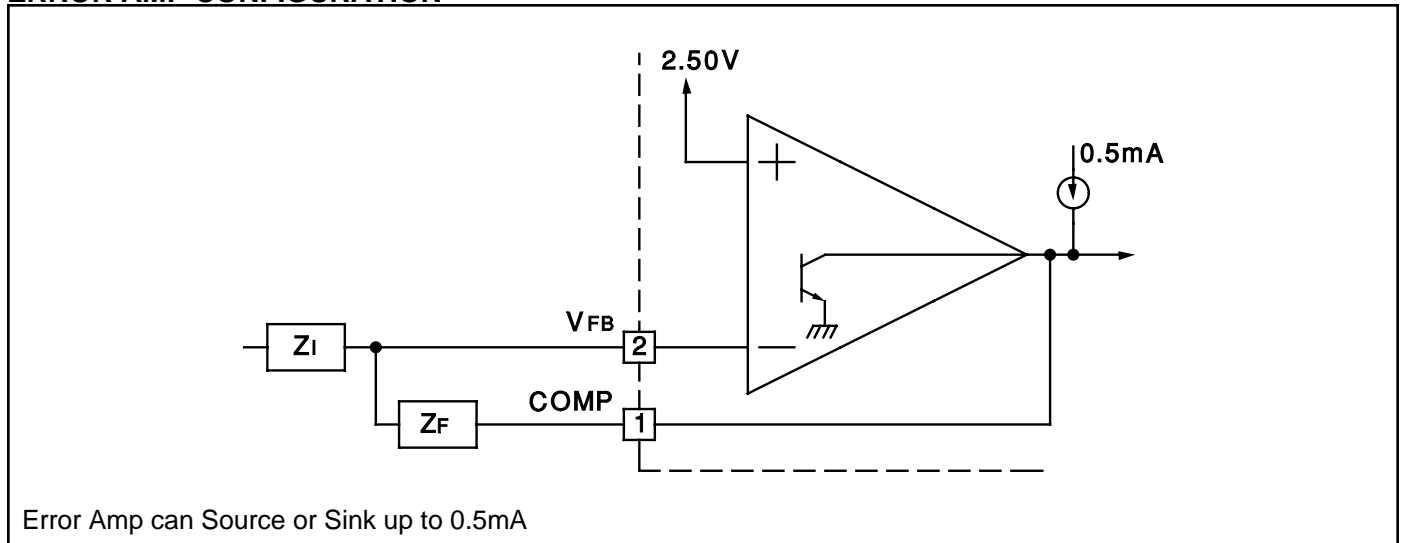
Note 3: Parameter measured at trip point of latch with  $V_{\text{PIN } 2} = 0$

Note 4: Gain defined as:  $A = \frac{\Delta V_{\text{PIN } 1}}{\Delta V_{\text{PIN } 3}}$ ;  $0 \leq V_{\text{PIN } 3} \leq 0.8\text{V}$ .

Note 5: Adjust V<sub>CC</sub> above the start threshold before setting at 15V.

Note 6: Output frequency equals oscillator frequency for the UC1842 and UC1843.  
Output frequency is one half oscillator frequency for the UC1844 and UC1845.

## ERROR AMP CONFIGURATION



**UNDER-VOLTAGE LOCKOUT**

|                  |        |        |
|------------------|--------|--------|
|                  | UC1842 | UC1843 |
|                  | UC1844 | UC1845 |
| V <sub>ON</sub>  | 16V    | 8.4V   |
| V <sub>OFF</sub> | 10V    | 7.6V   |

During under-voltage lock-out, the output driver is biased to sink minor amounts of current. Pin 6 should be shunted to ground with a bleeder resistor to prevent activating the power switch with extraneous leakage currents.

**CURRENT SENSE CIRCUIT**

Peak Current ( $I_s$ ) is Determined By The Formula

$$I_{SMAX} \approx \frac{1.0V}{RS}$$

A small RC filter may be required to suppress switch transients.

**OSCILLATOR SECTION**

For  $RT > 5k$   $f \approx \frac{1.72}{RTCT}$

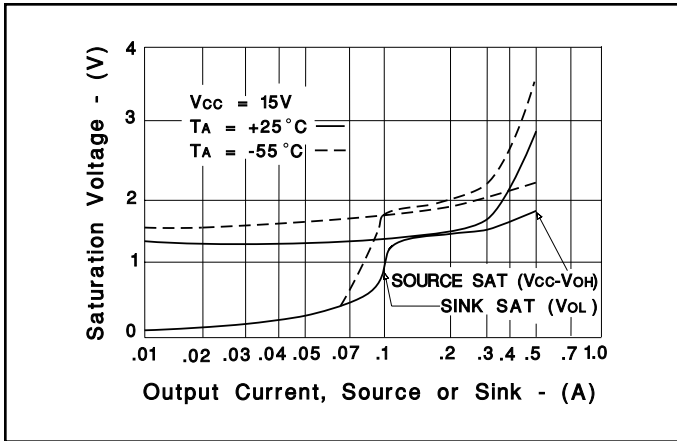
**Deadtime vs CT (RT > 5k)**

| CT - (nF) | td - (μs) |
|-----------|-----------|
| 1         | 0.3       |
| 2.2       | 0.6       |
| 4.7       | 1.2       |
| 10        | 2.4       |
| 22        | 4.8       |
| 47        | 9.6       |
| 100       | 19.2      |

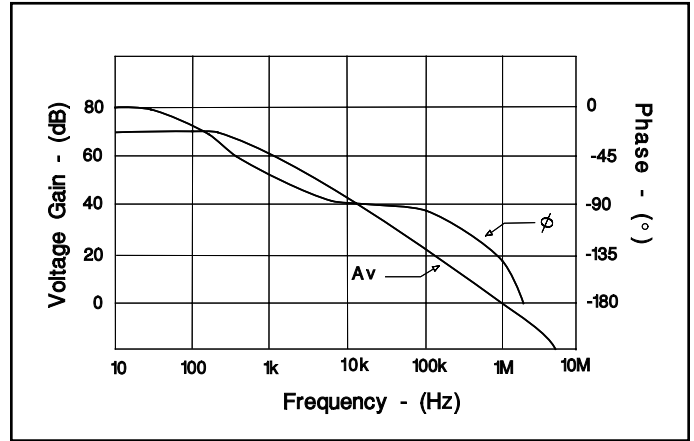
**Timing Resistance vs Frequency**

| FREQUENCY - (Hz) | RT - (kΩ) for CT = 100nF | RT - (kΩ) for CT = 15nF | RT - (kΩ) for CT = 22nF | RT - (kΩ) for CT = 30nF | RT - (kΩ) for CT = 47nF | RT - (kΩ) for CT = 100nF |
|------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| 100              | 100                      | 100                     | 100                     | 100                     | 100                     | 100                      |
| 1k               | 10                       | 10                      | 10                      | 10                      | 10                      | 10                       |
| 10k              | 1                        | 1                       | 1                       | 1                       | 1                       | 1                        |
| 100k             | 0.1                      | 0.1                     | 0.1                     | 0.1                     | 0.1                     | 0.1                      |
| 1M               | 0.01                     | 0.01                    | 0.01                    | 0.01                    | 0.01                    | 0.01                     |

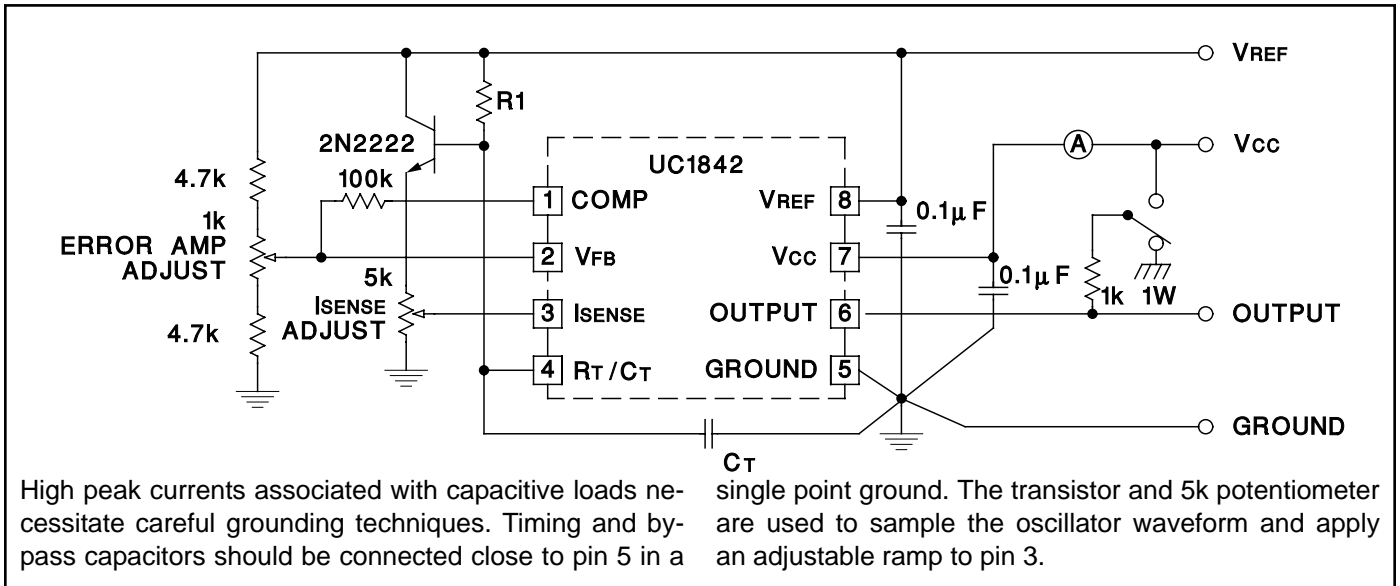
### OUTPUT SATURATION CHARACTERISTICS



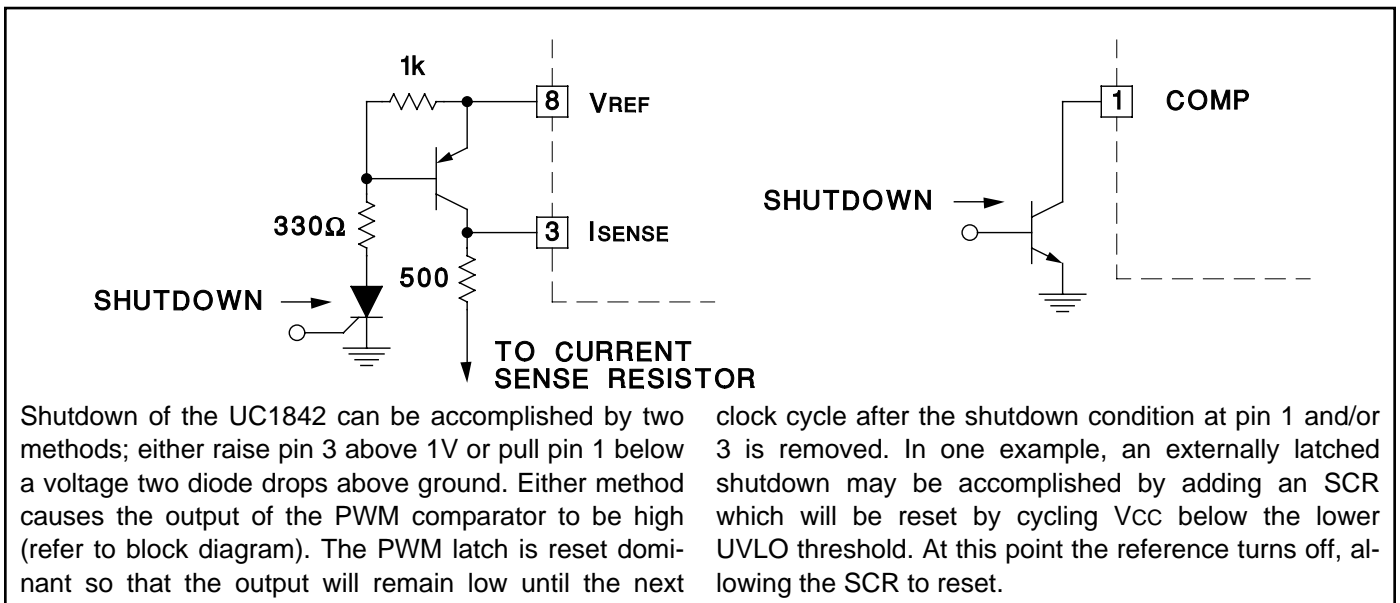
### ERROR AMPLIFIER OPEN-LOOP FREQUENCY RESPONSE



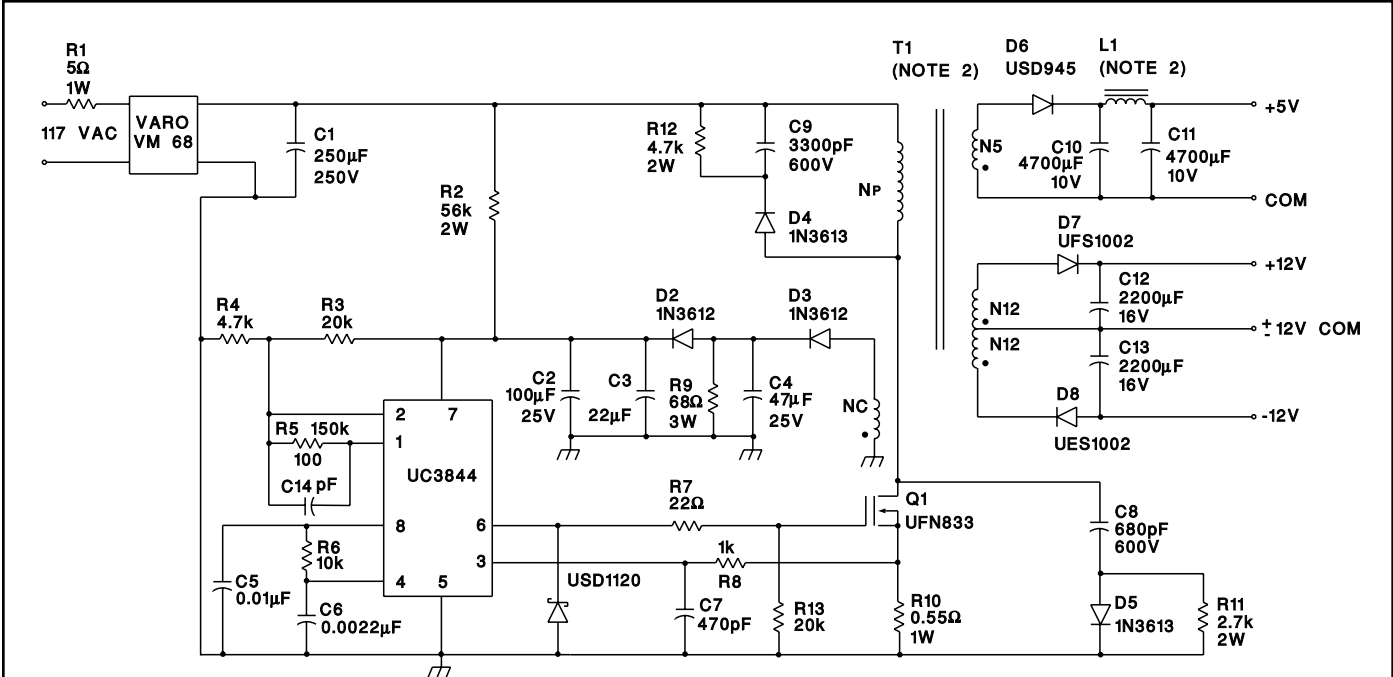
### OPEN-LOOP LABORATORY FIXTURE



### SHUT DOWN TECHNIQUES



**OFFLINE FLYBACK REGULATOR**



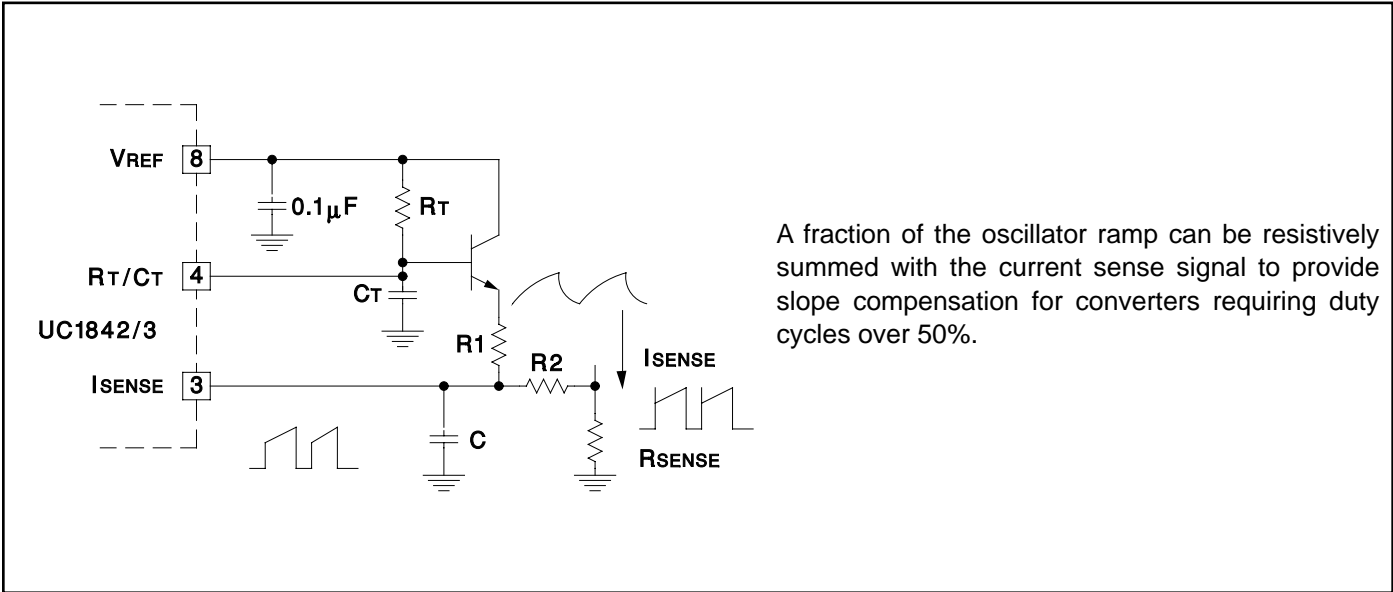
**Power Supply Specifications**

- 1. Input Voltages 5VAC to 130VAC (50 Hz/60Hz)
- 2. Line Isolation 3750V
- 3. Switching Frequency 40kHz
- 4. Efficiency at Full Load 70%

**5. Output Voltage:**

- A. +5V, ±5%; 1A to 4A load  
Ripple voltage: 50mV P-P Max
- B. +12V, ±3%; 0.1A to 0.3A load  
Ripple voltage: 100mV P-P Max
- C. -12V, ±3%; 0.1A to 0.3A load  
Ripple voltage: 100mV P-P Max

**SLOPE COMPENSATION**



A fraction of the oscillator ramp can be resistively summed with the current sense signal to provide slope compensation for converters requiring duty cycles over 50%.

**PACKAGING INFORMATION**

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 5962-8670401PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670401VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670401VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670401XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670402PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670402VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670402VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670402XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670403PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670403VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670403VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670403XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670404PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670404VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670404VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670404XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1842J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1842J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1842JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1842L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1842W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1843L          | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1843L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1843LQMLV      | ACTIVE                | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC1843W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
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| UC1844LQMLV      | ACTIVE                | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC1844W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
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| UC1845W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |



| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| UC2842D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DR         | ACTIVE                | SOIC         | D               | 14   |             | TBD                     | Call TI          | Call TI                      |
| UC2842DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DW         | ACTIVE                | SOIC         | DW              | 16   | 40          | TBD                     | CU NIPDAU        | Level-1-220C-UNLIM           |
| UC2842DWTR       | ACTIVE                | SOIC         | DW              | 16   | 2000        | TBD                     | CU NIPDAU        | Level-1-220C-UNLIM           |
| UC2842J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2842N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC2842P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2843D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843DR         | OBSOLETE              | SOIC         | D               | 14   |             | TBD                     | Call TI          | Call TI                      |
| UC2843DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2843N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC2844D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC2845D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2845D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2845J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2845N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3842D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
|                  |                       |              |                 |      |             | no Sb/Br)               |                  |                              |
| UC3842D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3842N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3842P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3843D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3843N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3843P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3843QTR        | OBSOLETE              | PLCC         | FN              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC3844D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3844N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3844P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3845D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845DG4        | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3845N          | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3845NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | TBD                     | CU NIPDAU        | Level-NA-NA-NA               |
| UC3845P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |

<sup>(1)</sup> The marketing status values are defined as follows:

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**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) 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.

**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.

**Important Information and Disclaimer:**The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

JG (R-GDIP-T8)

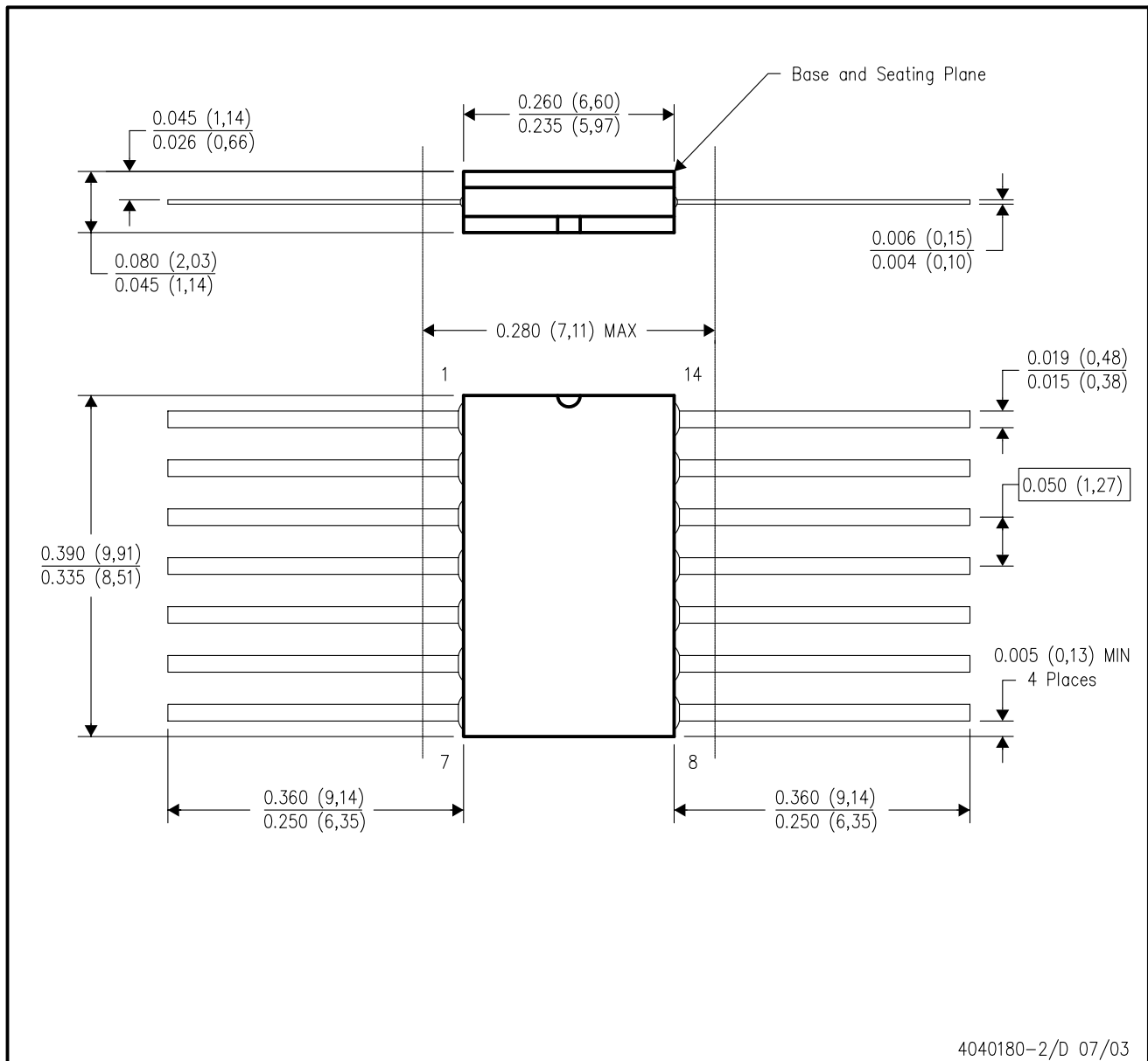
CERAMIC DUAL-IN-LINE



- NOTES: 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.  
 E. Falls within MIL STD 1835 GDIP1-T8

W (R-GDFP-F14)

CERAMIC DUAL FLATPACK



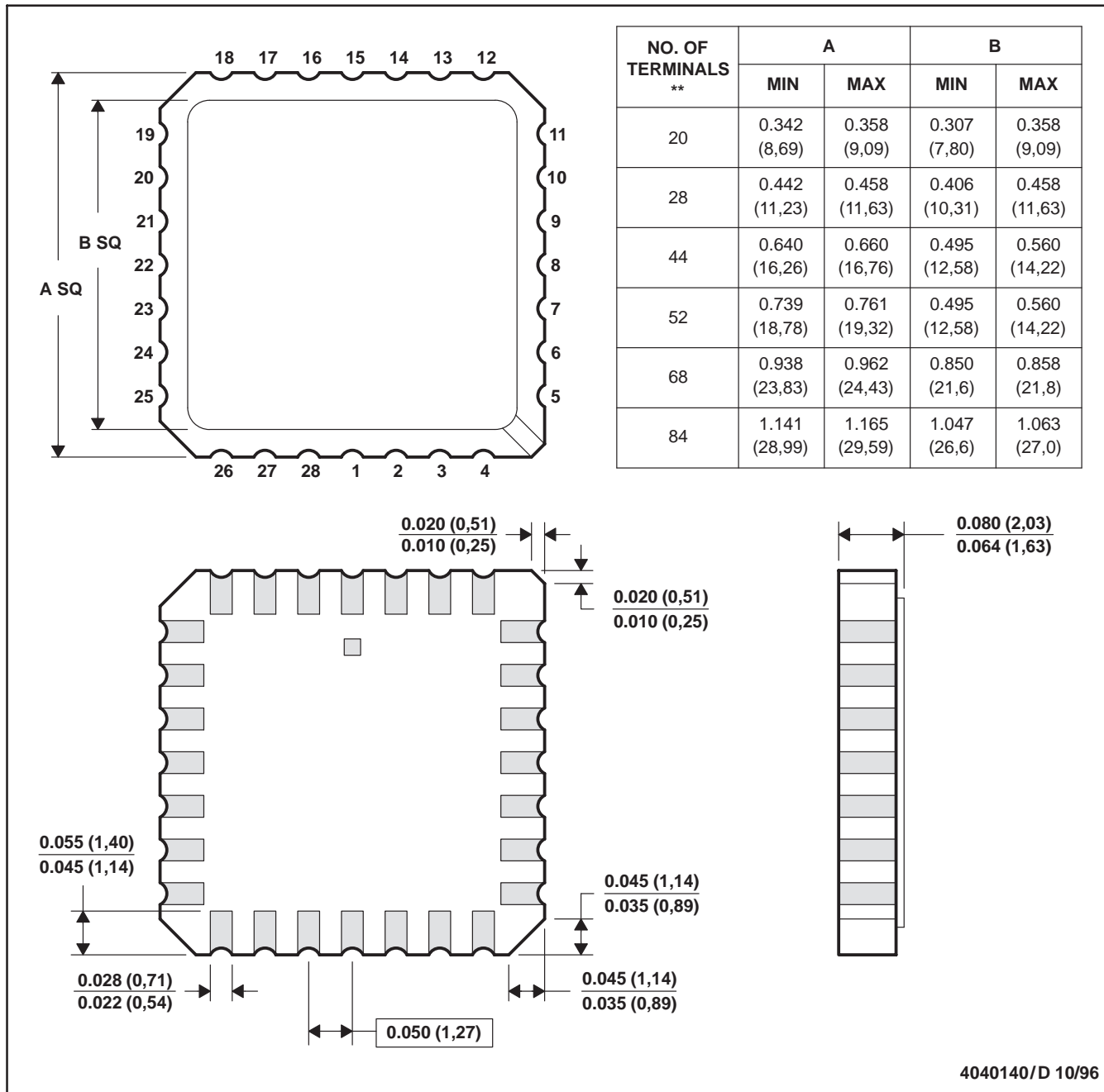
4040180-2/D 07/03

- NOTES:
- 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 GDFP1-F14 and JEDEC MO-092AB

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

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



- NOTES:
- 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. The terminals are gold plated.
  - E. Falls within JEDEC MS-004

P (R-PDIP-T8)

PLASTIC DUAL-IN-LINE



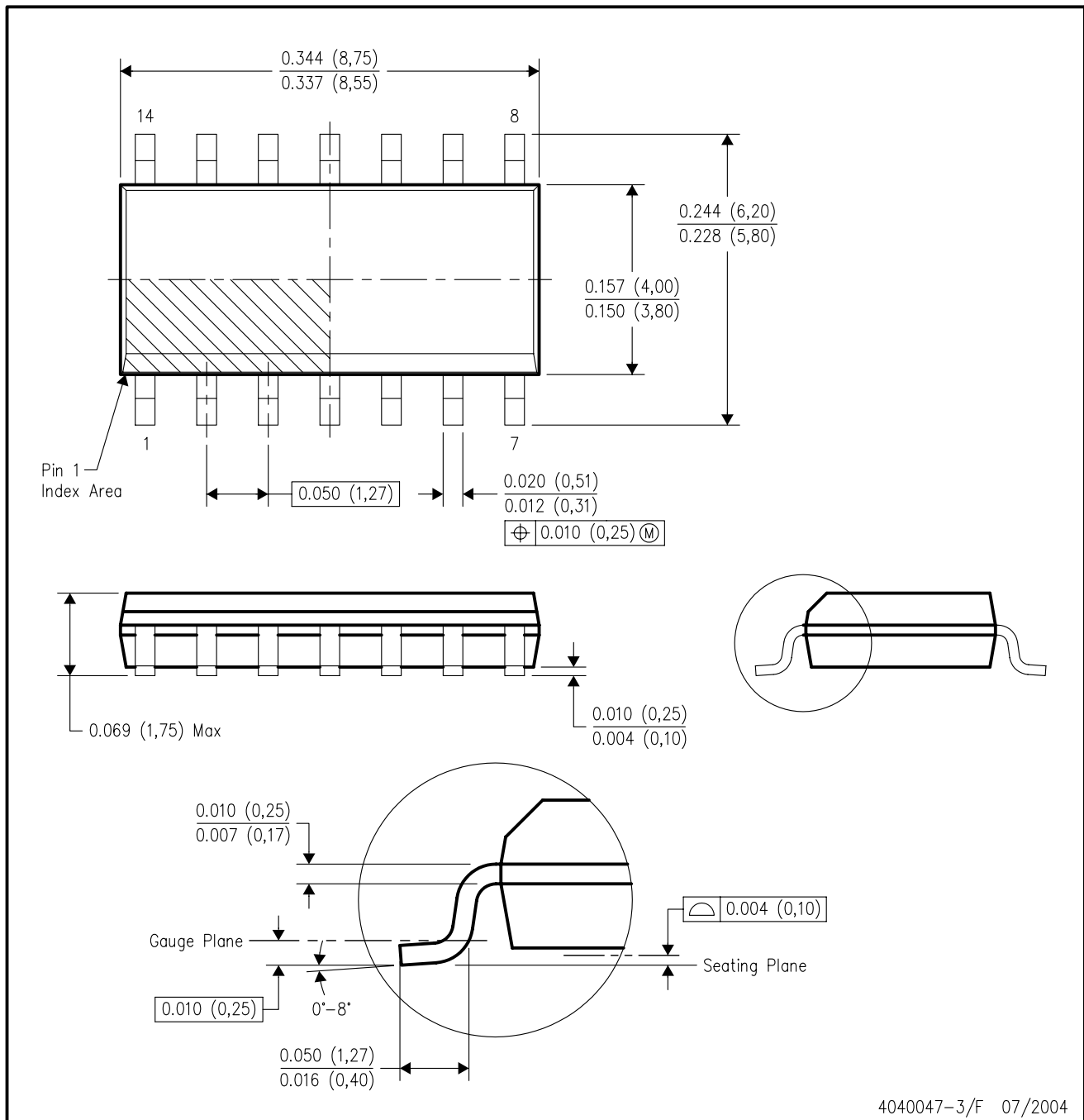
- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-001

For the latest package information, go to [http://www.ti.com/sc/docs/package/pkg\\_info.htm](http://www.ti.com/sc/docs/package/pkg_info.htm)



D (R-PDSO-G14)

PLASTIC SMALL-OUTLINE PACKAGE



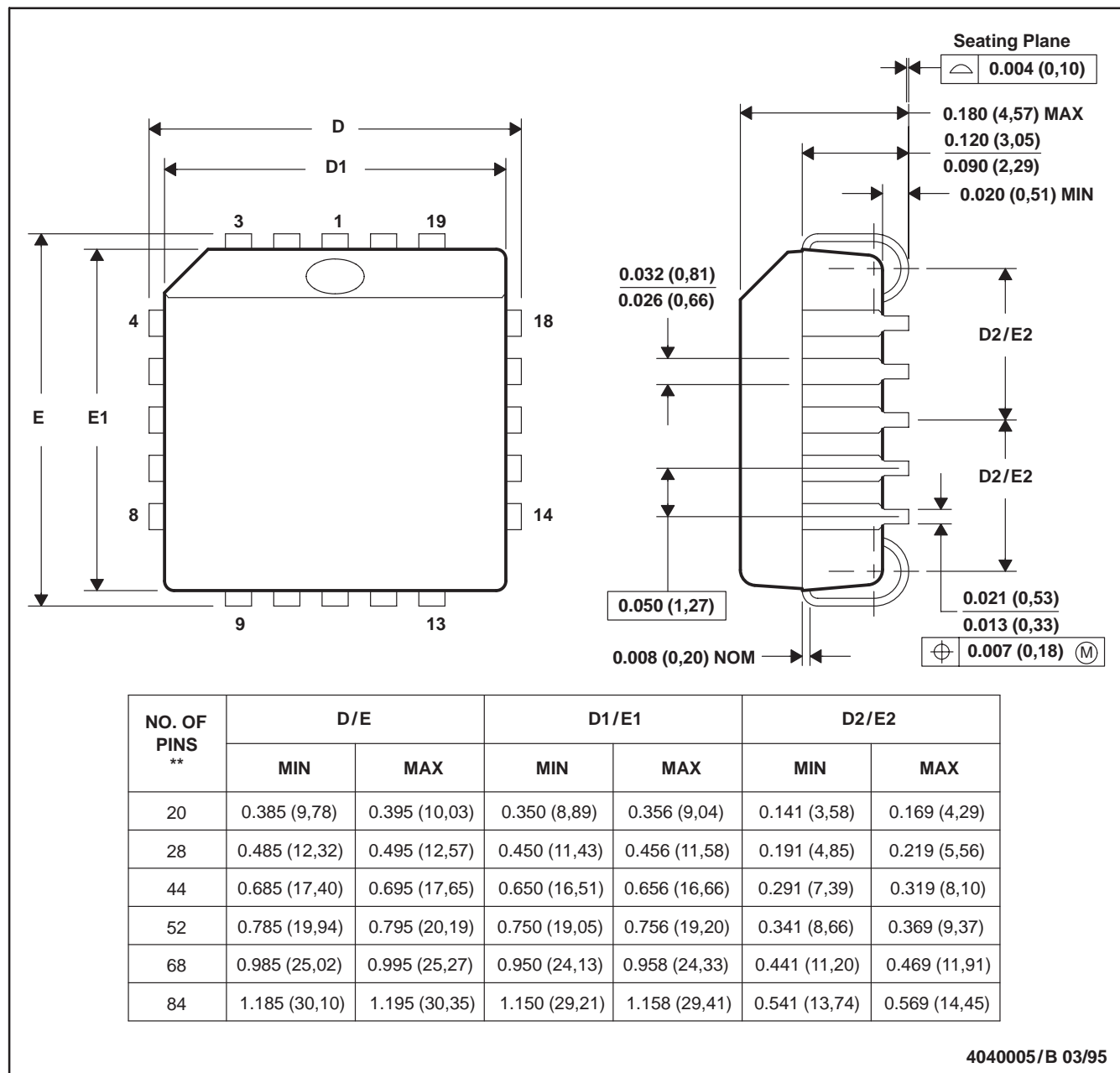
- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
  - D. Falls within JEDEC MS-012 variation AB.



FN (S-PQCC-J\*\*)

PLASTIC J-LEADED CHIP CARRIER

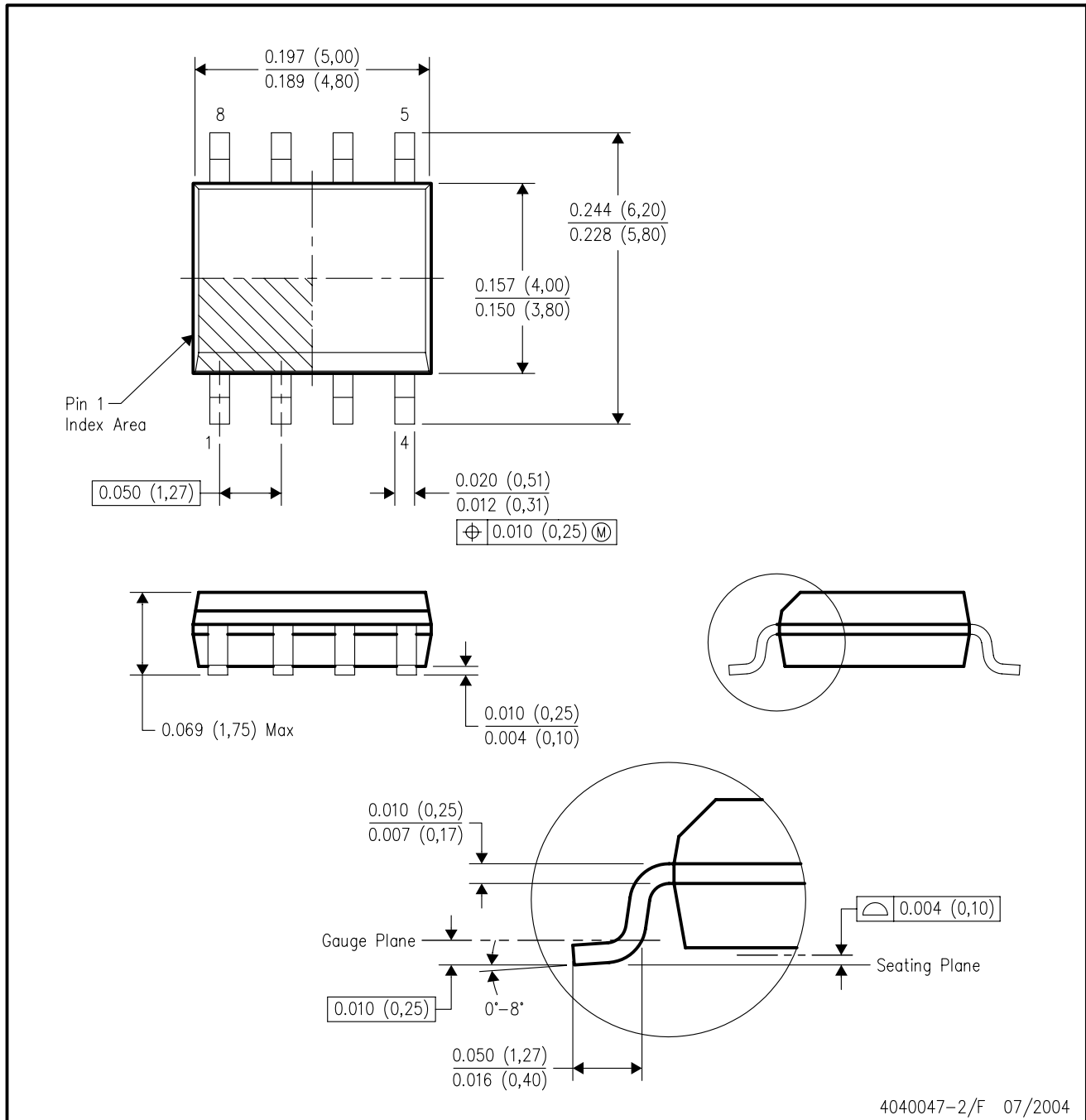
20 PIN SHOWN



- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-018

D (R-PDSO-G8)

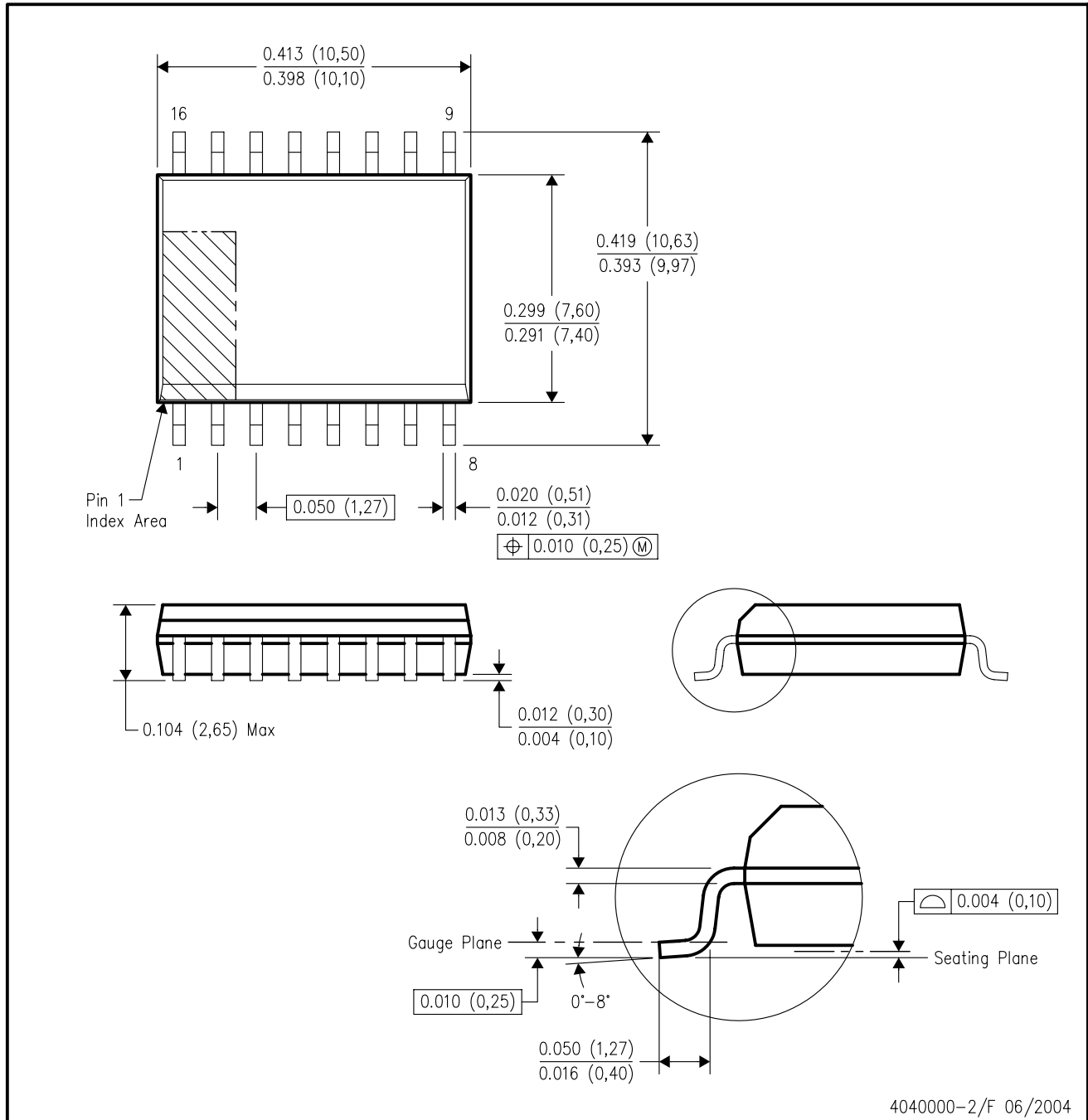
PLASTIC SMALL-OUTLINE PACKAGE



- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - 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-012 variation AA.

DW (R-PDSO-G16)

PLASTIC SMALL-OUTLINE PACKAGE



4040000-2/F 06/2004

- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - 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 AA.

**PACKAGING INFORMATION**

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 5962-8670401PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670401VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42              | Level-NC-NC-NC               |
| 5962-8670401VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670401XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670402PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670402VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42              | Level-NC-NC-NC               |
| 5962-8670402VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670402XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670403PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670403VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42              | Level-NC-NC-NC               |
| 5962-8670403VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670403XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| 5962-8670404PA   | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| 5962-8670404VPA  | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42              | Level-NC-NC-NC               |
| 5962-8670404VXA  | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | Call TI          | Level-NC-NC-NC               |
| 5962-8670404XA   | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1842J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1842J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1842JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1842L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1842W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1843JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1843L          | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1843L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1843LQMLV      | ACTIVE                | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC1843W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1844J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1844J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1844JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1844L          | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1844L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1844LQMLV      | ACTIVE                | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC1844W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1845J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1845J883B      | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC1845JQMLV      | ACTIVE                | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC1845L          | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1845L883B      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | Level-NC-NC-NC               |
| UC1845LQMLV      | ACTIVE                | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC1845W          | ACTIVE                | CFP          | W               | 14   | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| UC2842D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC2842D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC2842D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC2842DR         | ACTIVE                | SOIC         | D               | 14   |             | TBD                     | Call TI          | Call TI                      |
| UC2842DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DW         | ACTIVE                | SOIC         | DW              | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DWG4       | ACTIVE                | SOIC         | DW              | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DWTR       | ACTIVE                | SOIC         | DW              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842DWTRG4     | ACTIVE                | SOIC         | DW              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2842J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2842N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2842NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2842P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2843D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8G4       | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843DG4        | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843DR         | OBSOLETE              | SOIC         | D               | 14   |             | TBD                     | Call TI          | Call TI                      |
| UC2843DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2843J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2843N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2844D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| UC2844D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2844N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2844NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2845D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2845D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845D8G4       | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| UC2845DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2845DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC2845J          | OBSOLETE              | CDIP         | JG              | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC2845N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC2845NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3842D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3842DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC3842DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC3842J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3842N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3842NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3842P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3843D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| UC3843D8G4       | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843DG4        | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3843DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | Call TI          | Level-1-260C-UNLIM           |
| UC3843J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3843N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3843NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3843P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3843QTR        | OBSOLETE              | PLCC         | FN              | 20   |             | TBD                     | Call TI          | Call TI                      |
| UC3844D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3844J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |
| UC3844N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3844NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3844P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |
| UC3845D          | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845D8         | ACTIVE                | SOIC         | D               | 8    | 75          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845D8TR       | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845D8TRG4     | ACTIVE                | SOIC         | D               | 8    | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845DG4        | ACTIVE                | SOIC         | D               | 14   | 50          | Green (RoHS & no Sb/Br) | Call TI          | Level-2-260C-1 YEAR          |
| UC3845DTR        | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845DTRG4      | ACTIVE                | SOIC         | D               | 14   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-2-260C-1 YEAR          |
| UC3845J          | ACTIVE                | CDIP         | JG              | 8    | 1           | TBD                     | A42 SNPB         | Level-NC-NC-NC               |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| UC3845N          | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3845NG4        | ACTIVE                | PDIP         | P               | 8    | 50          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-NC-NC-NC               |
| UC3845P          | OBSOLETE              | PDIP         | P               | 8    |             | TBD                     | Call TI          | Call TI                      |

<sup>(1)</sup> 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.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS) 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.

**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)

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

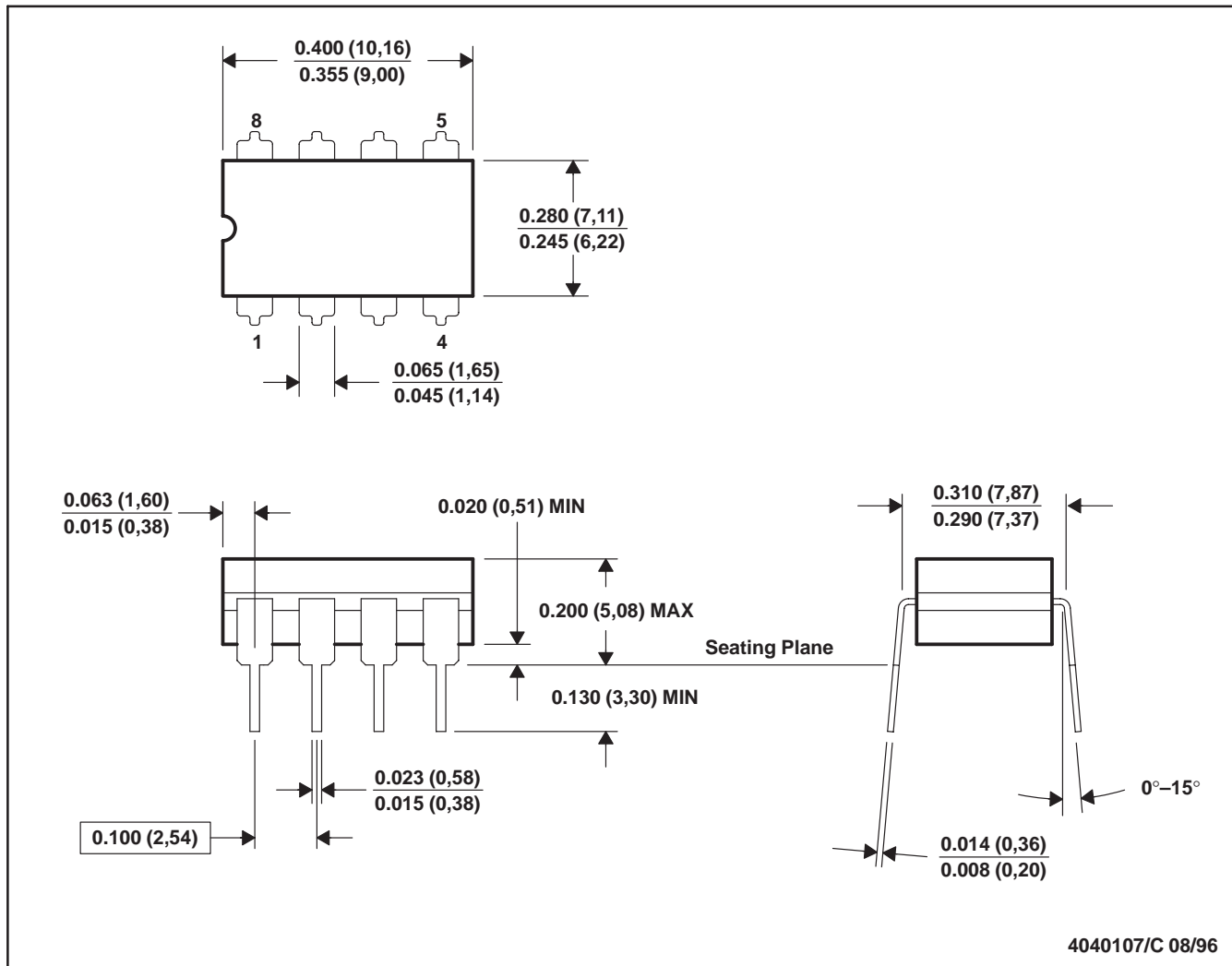
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JG (R-GDIP-T8)

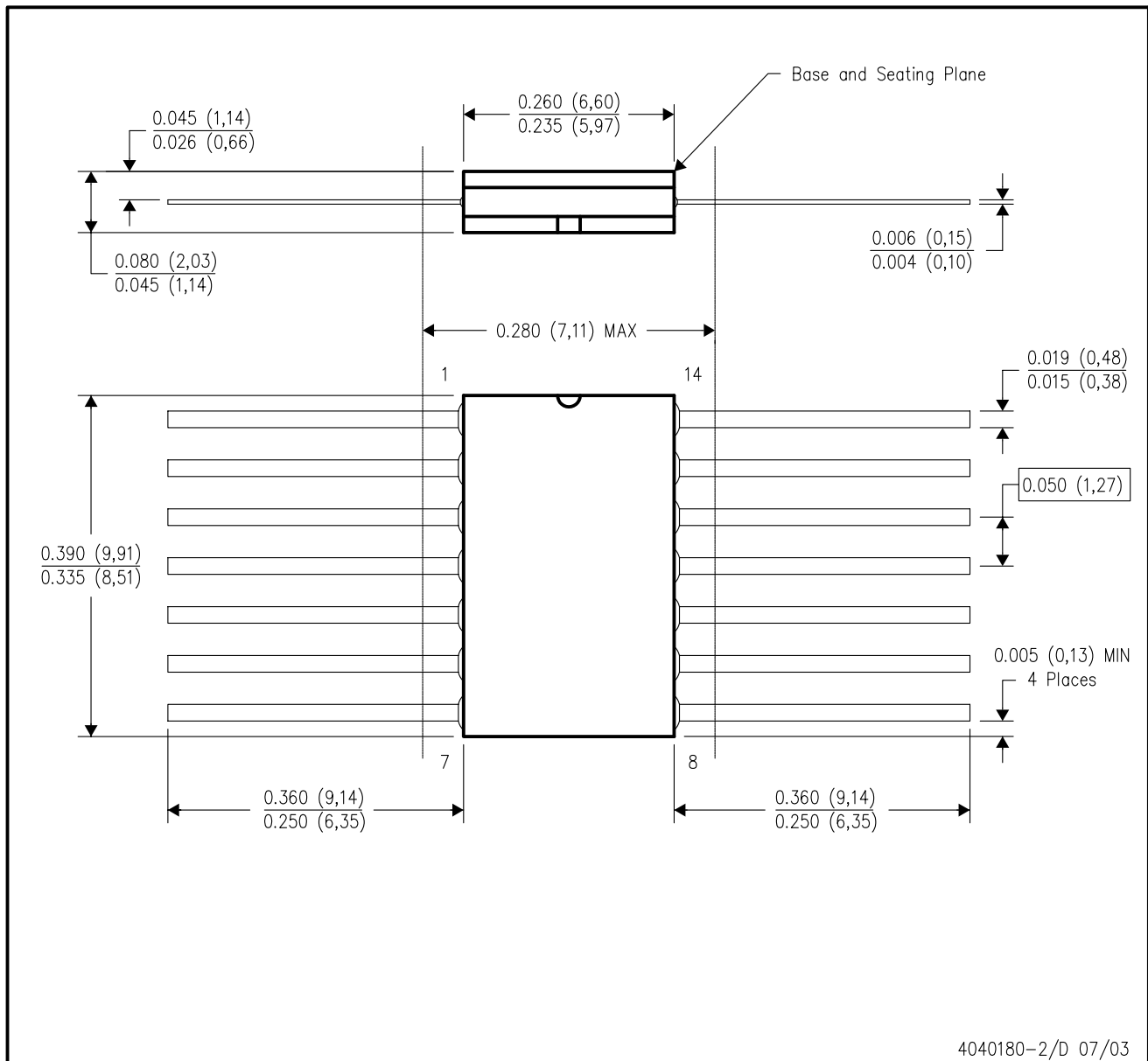
CERAMIC DUAL-IN-LINE



- NOTES: 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.  
 E. Falls within MIL STD 1835 GDIP1-T8

W (R-GDFP-F14)

CERAMIC DUAL FLATPACK

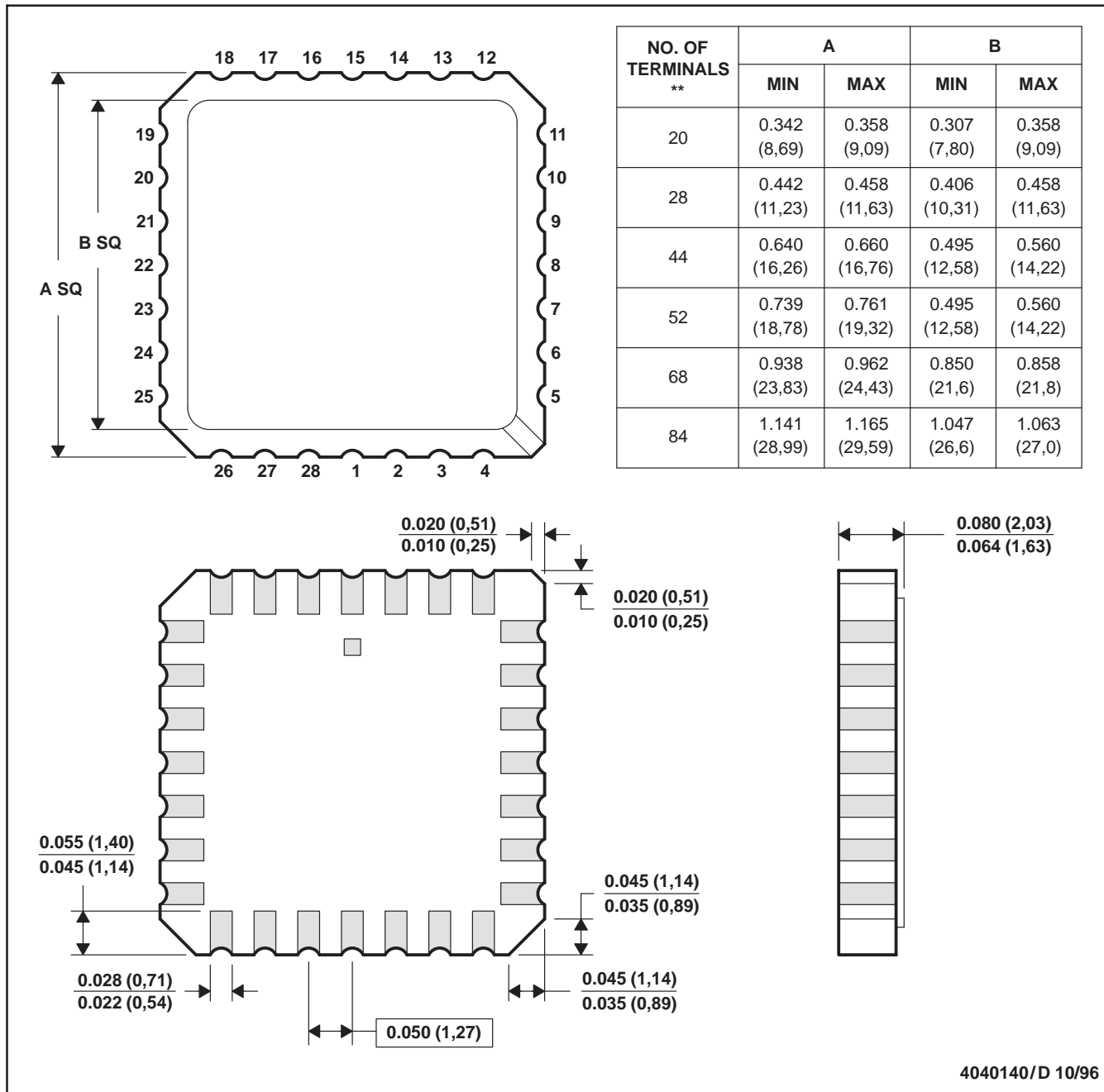


- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. This package can be hermetically sealed with a ceramic lid using glass frit.
  - D. Index point is provided on cap for terminal identification only.
  - E. Falls within MIL STD 1835 GDFP1-F14 and JEDEC MO-092AB

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

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



- NOTES:
- 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. The terminals are gold plated.
  - E. Falls within JEDEC MS-004

P (R-PDIP-T8)

PLASTIC DUAL-IN-LINE



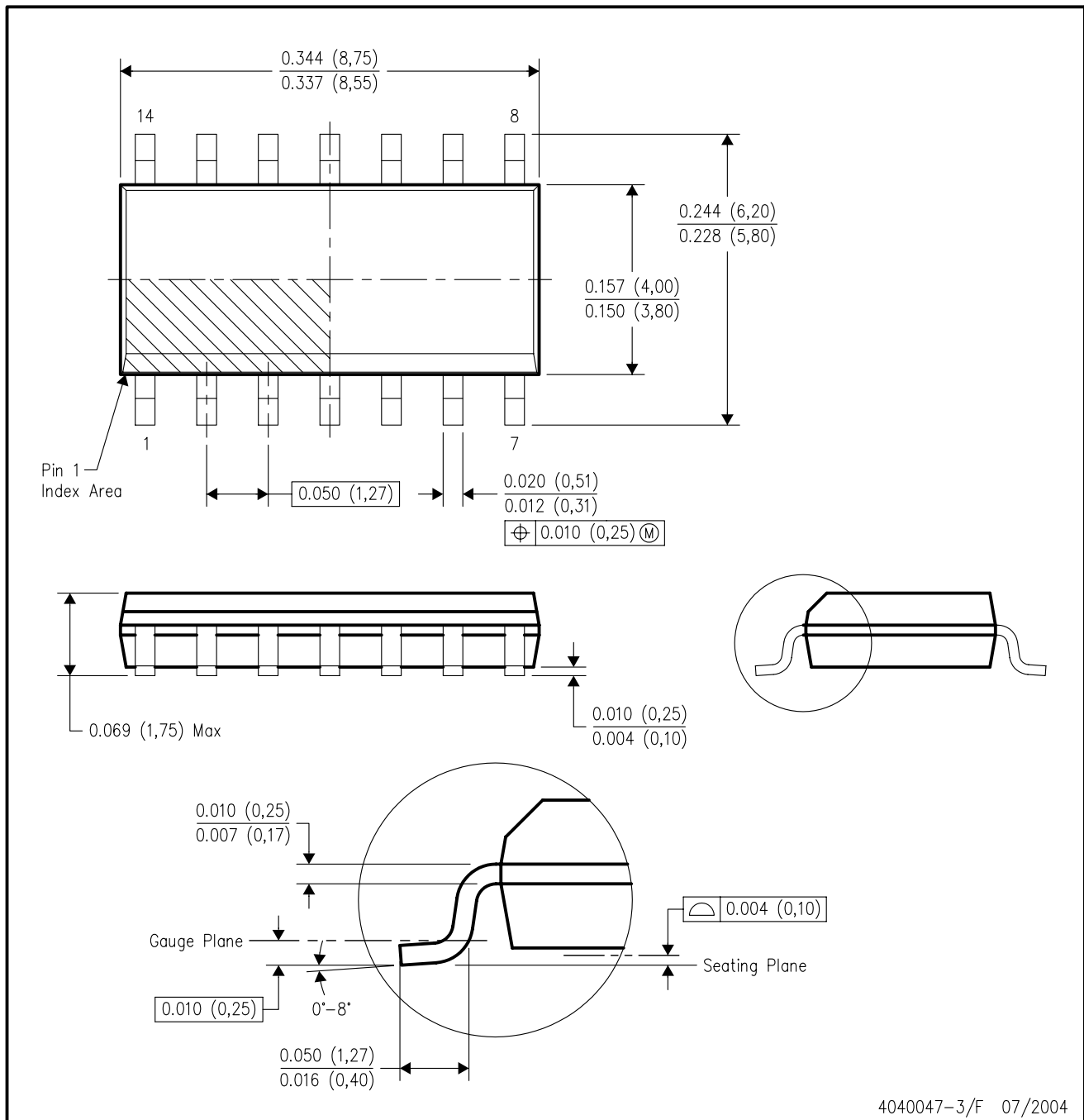
- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-001

For the latest package information, go to [http://www.ti.com/sc/docs/package/pkg\\_info.htm](http://www.ti.com/sc/docs/package/pkg_info.htm)



D (R-PDSO-G14)

PLASTIC SMALL-OUTLINE PACKAGE

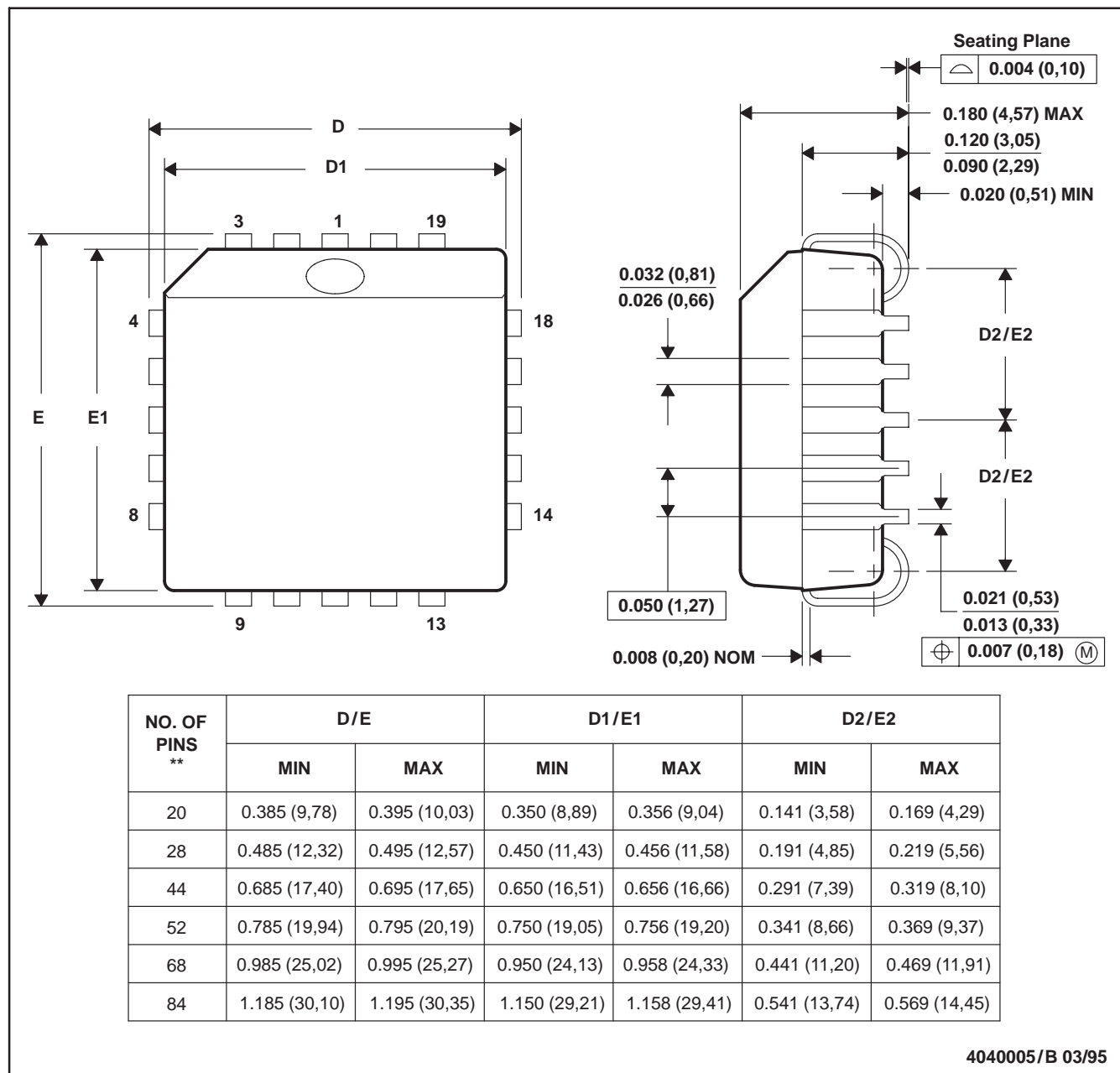


- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
  - D. Falls within JEDEC MS-012 variation AB.

FN (S-PQCC-J\*\*)

PLASTIC J-LEADED CHIP CARRIER

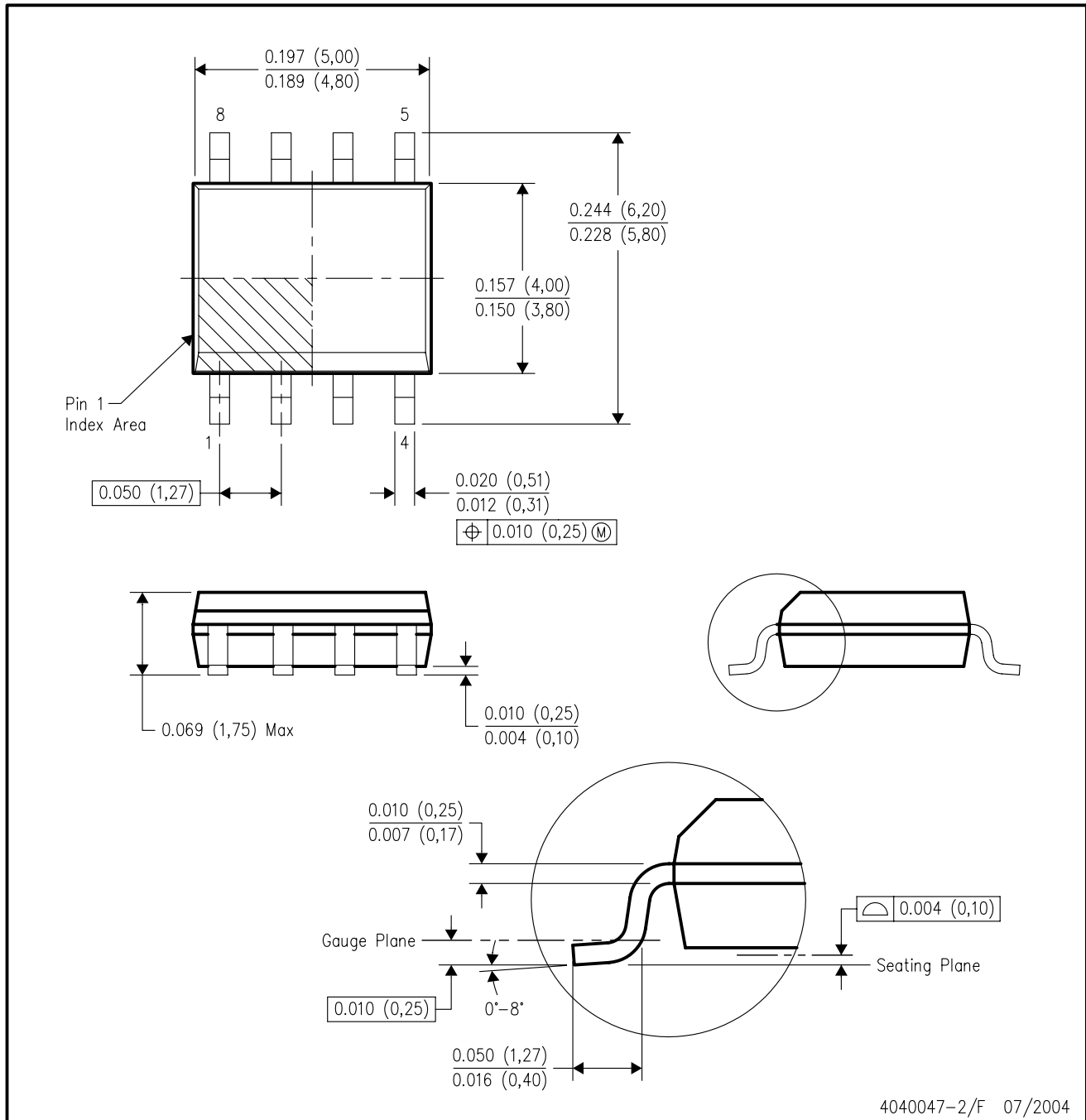
20 PIN SHOWN



- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-018

D (R-PDSO-G8)

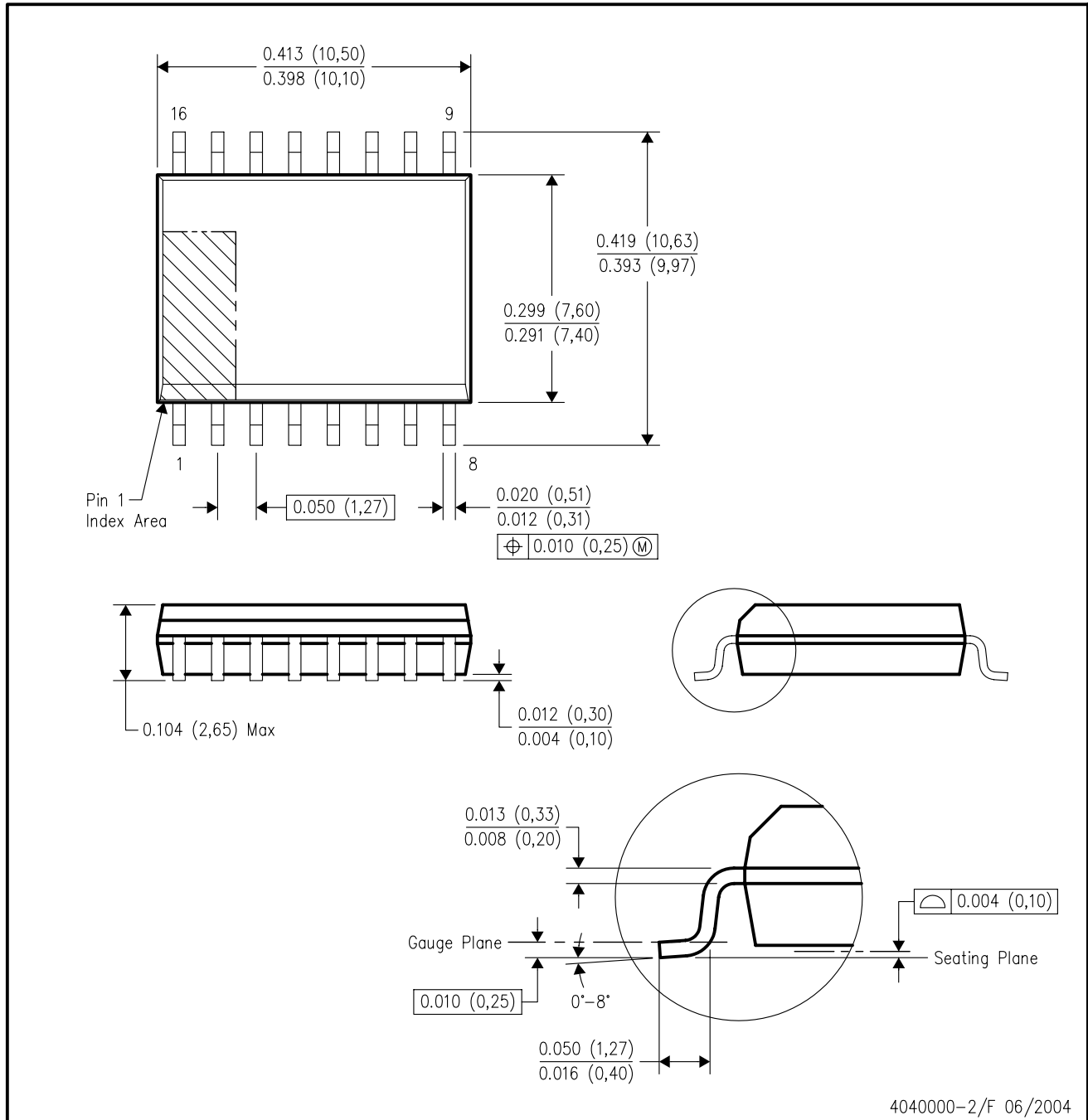
PLASTIC SMALL-OUTLINE PACKAGE



- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - 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-012 variation AA.

DW (R-PDSO-G16)

PLASTIC SMALL-OUTLINE PACKAGE



- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - 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 AA.



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