

# Current Mode PWM Controller

## FEATURES

- Optimized for Off-line and DC to DC Converters
- Low Start Up Current (<0.5mA)
- Trimmed Oscillator Discharge Current
- 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

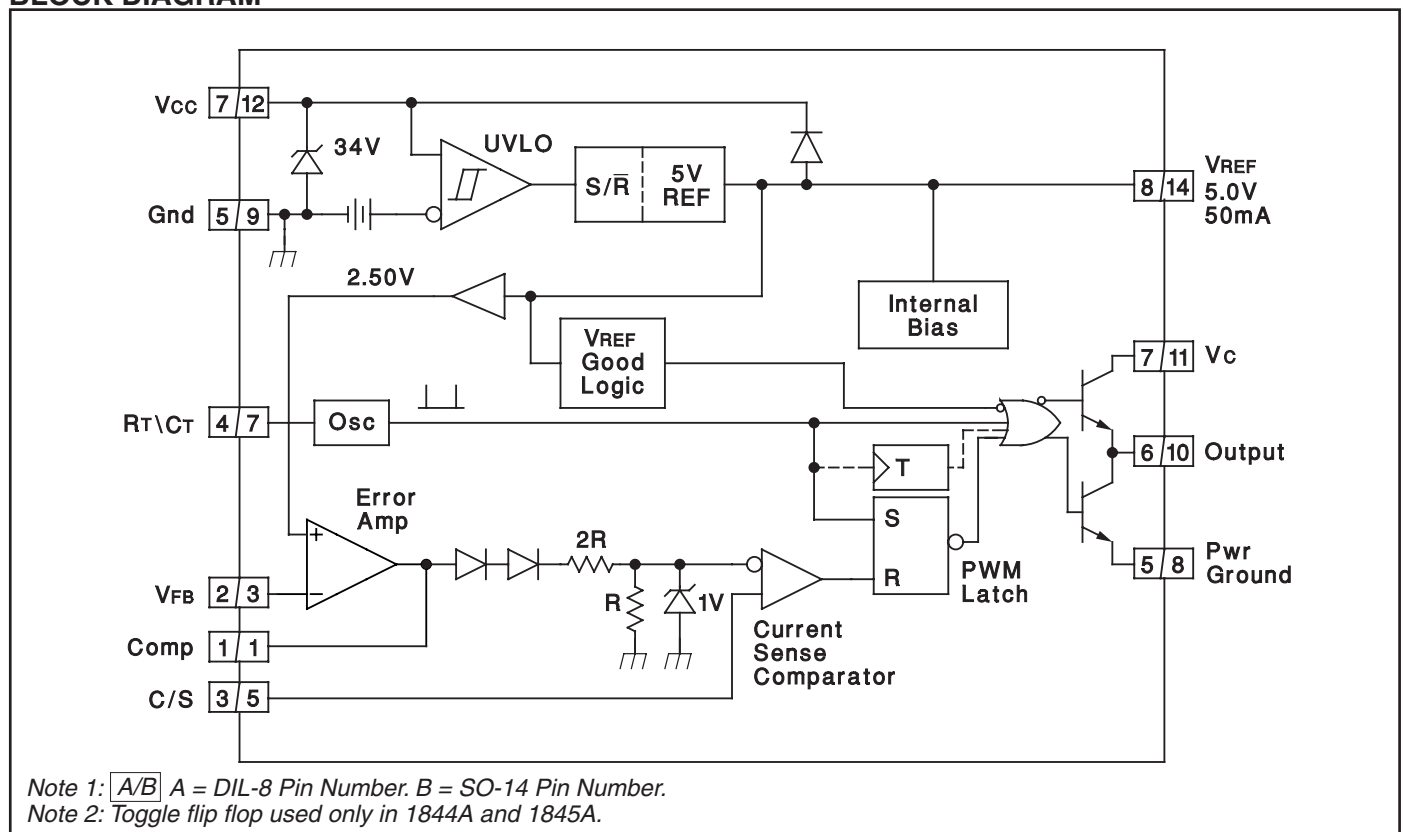
## DESCRIPTION

The UC1842A/3A/4A/5A family of control ICs is a pin for pin compatible improved version of the UC3842/3/4/5 family. Providing the necessary features to control current mode switched mode power supplies, this family has the following improved features. Start up current is guaranteed to be less than 0.5mA. Oscillator discharge is trimmed to 8.3mA. During under voltage lockout, the output stage can sink at least 10mA at less than 1.2V for VCC over 5V.

The difference between members of this family are shown in the table below.

Part #	UVLO On	UVLO Off	Maximum Duty Cycle
UC1842A	16.0V	10.0V	<100%
UC1843A	8.5V	7.9V	<100%
UC1844A	16.0V	10.0V	<50%
UC1845A	8.5V	7.9V	<50%

## BLOCK DIAGRAM



## CONNECTION DIAGRAMS

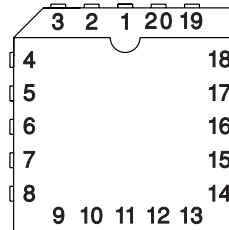
**UC1842A/3A/4A/5A**  
**UC2842A/3A/4A/5A**  
**UC3842A/3A/4A/5A**

### ABSOLUTE MAXIMUM RATINGS (Note 1)

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

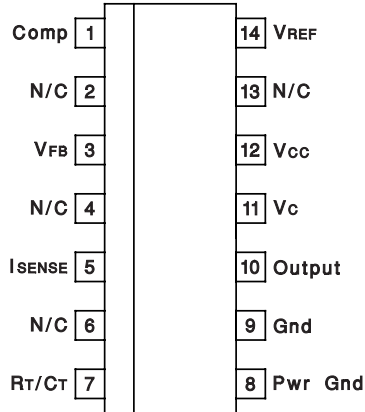
*Note 1. All voltages are with respect to Ground, Pin 5. Currents are positive into, negative out of the specified terminal. Consult Packaging Section of Databook for thermal limitations and considerations of packages. Pin numbers refer to DIL package only.*

### PLCC-20, LCC-20 (TOP VIEW) Q, L Packages

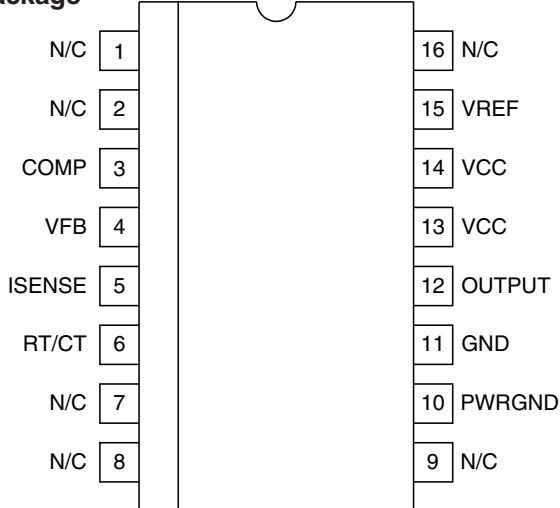


PACKAGE PIN FUNCTION	
FUNCTION	PIN
N/C	1
Comp	2
N/C	3-4
V <sub>FB</sub>	5
N/C	6
I <sub>SENSE</sub>	7
N/C	8-9
R <sub>T</sub> /C <sub>T</sub>	10
N/C	11
Pwr Gnd	12
Gnd	13
N/C	14
Output	15
N/C	16
V <sub>C</sub>	17
V <sub>CC</sub>	18
N/C	19
V <sub>REF</sub>	20

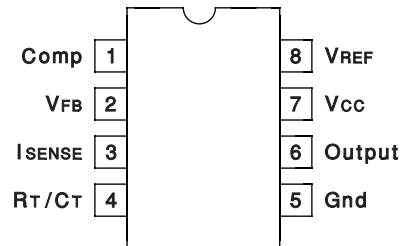
### SOIC-14 (TOP VIEW) D Package



### SOIC-WIDE16 (TOP VIEW) DW Package



### DIL-8, SOIC-8 (TOP VIEW) J or N, D8 Package



**ELECTRICAL CHARACTERISTICS** Unless otherwise stated, these specifications apply for  $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$  for the UC184xA;  $-40^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$  for the UC284xAQ;  $-40^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$  for the UC284xA;  $0 \leq T_A \leq 70^{\circ}\text{C}$  for the UC384xA;  $V_{CC} = 15\text{V}$  (Note 5);  $R_T = 10\text{k}$ ;  $C_T = 3.3\text{nF}$ ;  $T_A = T_J$ ; Pin numbers refer to DIL-8.

PARAMETER	TEST CONDITIONS	UC184xA/UC284xA			UC384xA			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.	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
Discharge Current	$T_J = 25^{\circ}\text{C}$ , $V_{PIN 4} = 2\text{V}$ (Note 8)	7.8	8.3	8.8	7.8	8.3	8.8	mA
	$V_{PIN 4} = 2\text{V}$ (Note 8)	7.5		8.8	7.6		8.8	mA
<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	$T_J = 25^{\circ}\text{C}$ (Note 2)	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	(Note 3, Note 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)		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
<b>Output Section</b>								
Output Low Level	$I_{SINK} = 20\text{mA}$		0.1	0.4		0.1	0.4	V
	$I_{SINK} = 200\text{mA}$		15	2.2		15	2.2	V
Output High Level	$I_{SOURCE} = 20\text{mA}$	13	13.5		13	13.5		V
	$I_{SOURCE} = 200\text{mA}$	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
UVLO Saturation	$V_{CC} = 5\text{V}$ , $I_{SINK} = 10\text{mA}$		0.7	1.2		0.7	1.2	V

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PARAMETER	TEST CONDITIONS	UC184xA\UC284xA			UC384xA			UNITS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
<b>Under-Voltage Lockout Section</b>								
Start Threshold	x842A/4A	15	16	17	14.5	16	17.5	V
	x843A/5A	7.8	8.4	9.0	7.8	8.4	9.0	V
Min. Operation Voltage After Turn On	x842A/4A	9	10	11	8.5	10	11.5	V
	x843A/5A	7.0	7.6	8.2	7.0	7.6	8.2	V
<b>PWM Section</b>								
Maximum Duty Cycle	x842A/3A	94	96	100	94	96	100	%
	x844A/5A	47	48	50	47	48	50	%
Minimum Duty Cycle				0			0	%
<b>Total Standby Current</b>								
Start-Up Current			0.3	0.5		0.3	0.5	mA
Operating Supply Current	$V_{PIN2} = V_{PIN3} = 0\text{V}$		11	17		11	17	mA
Vcc Zener Voltage	$I_{CC} = 25\text{mA}$	30	34		30	34		V

**Note 2:** Ensured by design, but not 100% production tested.

**Note 3:** Parameter measured at trip point of latch with  $V_{PIN2} = 0$ .

**Note 4:** Gain defined as:  $A = \frac{\Delta V_{PIN1}}{\Delta V_{PIN3}}$ ;  $0 \leq V_{PIN3} \leq 0.8\text{V}$ .

**Note 5:** Adjust Vcc above the start threshold before setting at 15V.

**Note 6:** Output frequency equals oscillator frequency for the UC1842A and UC1843A. Output frequency is one half oscillator frequency for the UC1844A and UC1845A.

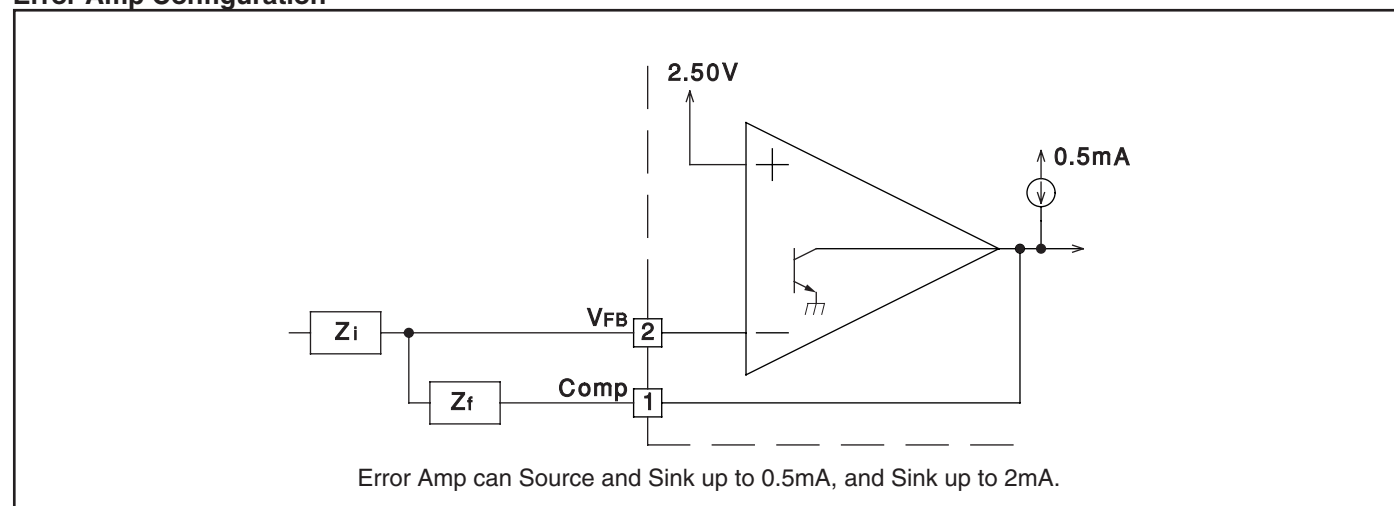
**Note 7:** "Temperature stability, sometimes referred to as average temperature coefficient, is described by the equation:

$$\text{Temp Stability} = \frac{V_{REF}(\text{max}) - V_{REF}(\text{min})}{T_J(\text{max}) - T_J(\text{min})}. V_{REF}(\text{max}) \text{ and } V_{REF}(\text{min}) \text{ are the maximum \& minimum reference volt-}$$

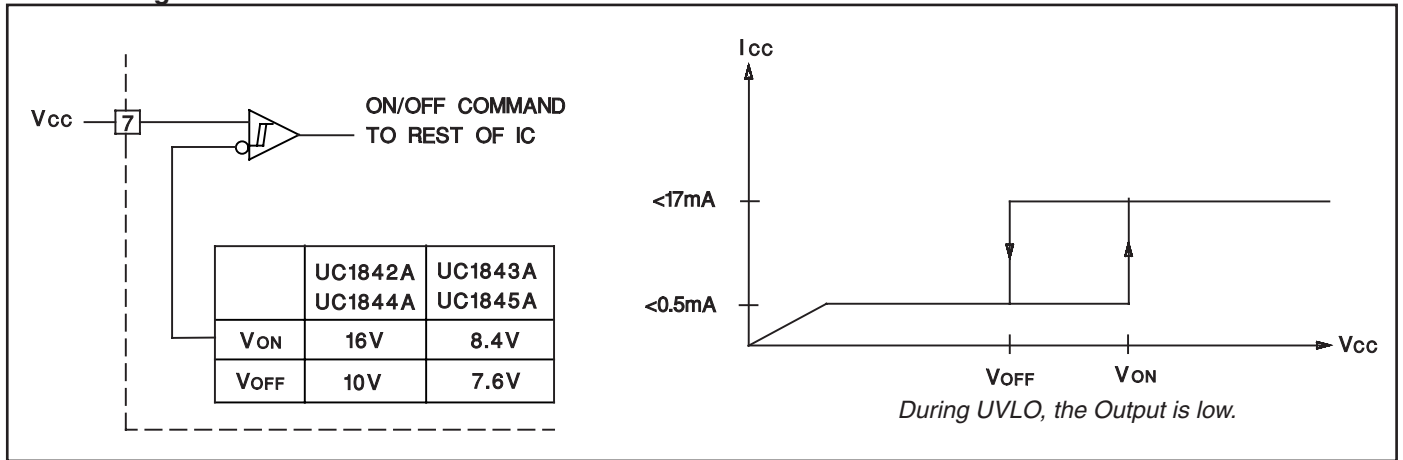
age measured over the appropriate temperature range. Note that the extremes in voltage do not necessarily occur at the extremes in temperature."

**Note 8:** This parameter is measured with  $R_T = 10\text{k}\Omega$  to  $V_{REF}$ . This contributes approximately  $300\mu\text{A}$  of current to the measurement. The total current flowing into the  $R_T/C$  pin will be approximately  $300\mu\text{A}$  higher than the measured value.

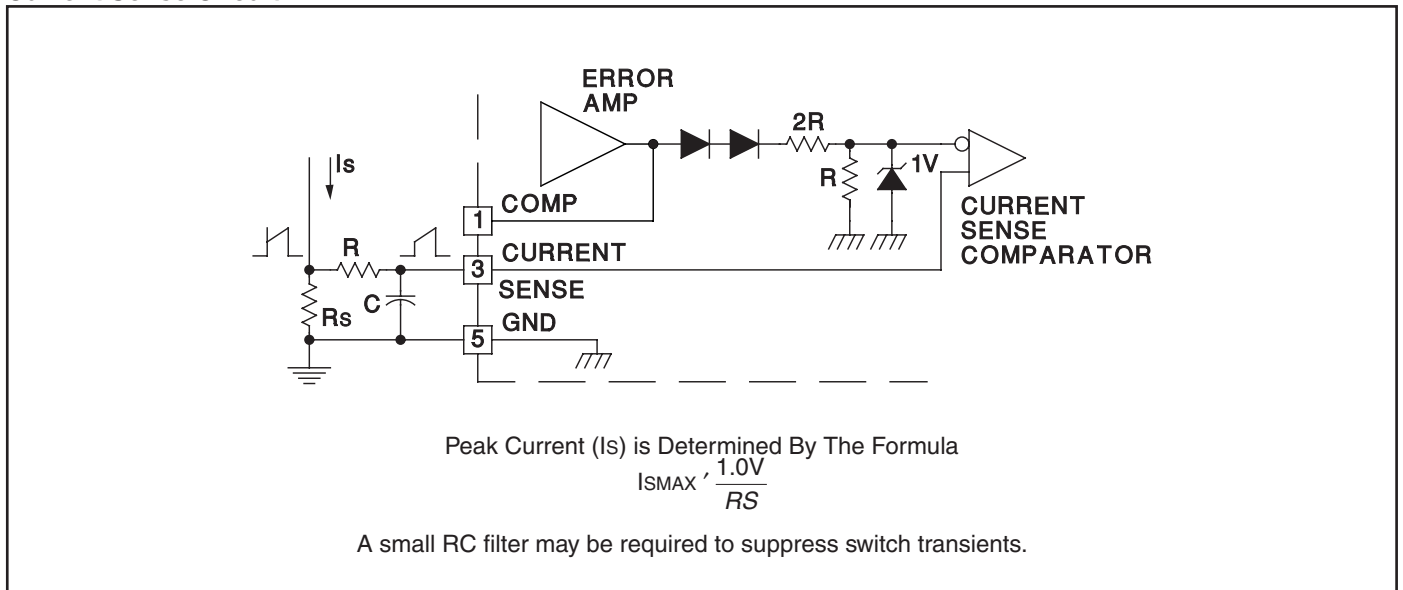
### Error Amp Configuration



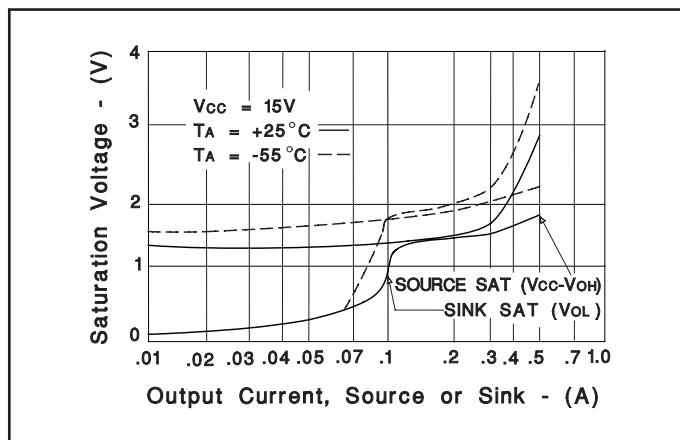
**Under-Voltage Lockout**



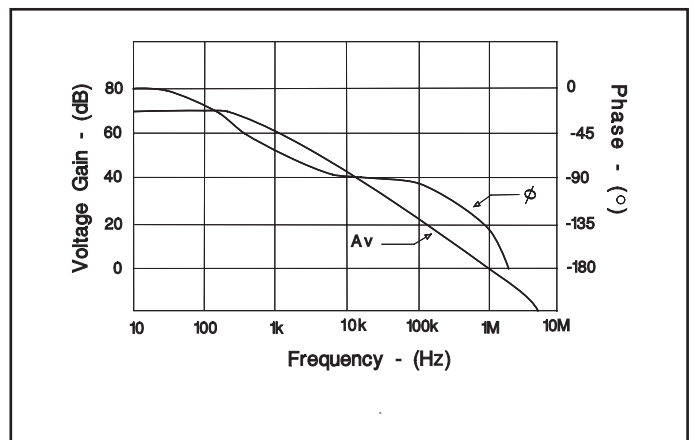
**Current Sense Circuit**



**Output Saturation Characteristics**

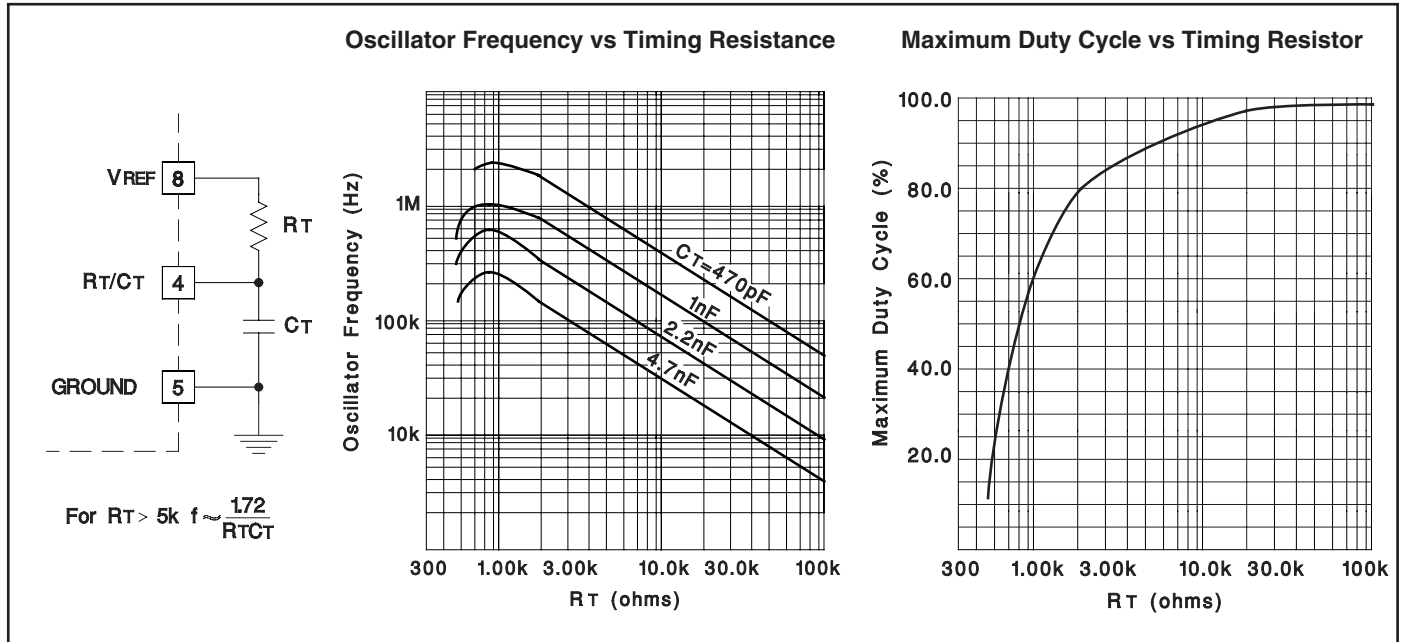


**Error Amplifier Open-Loop Frequency Response**

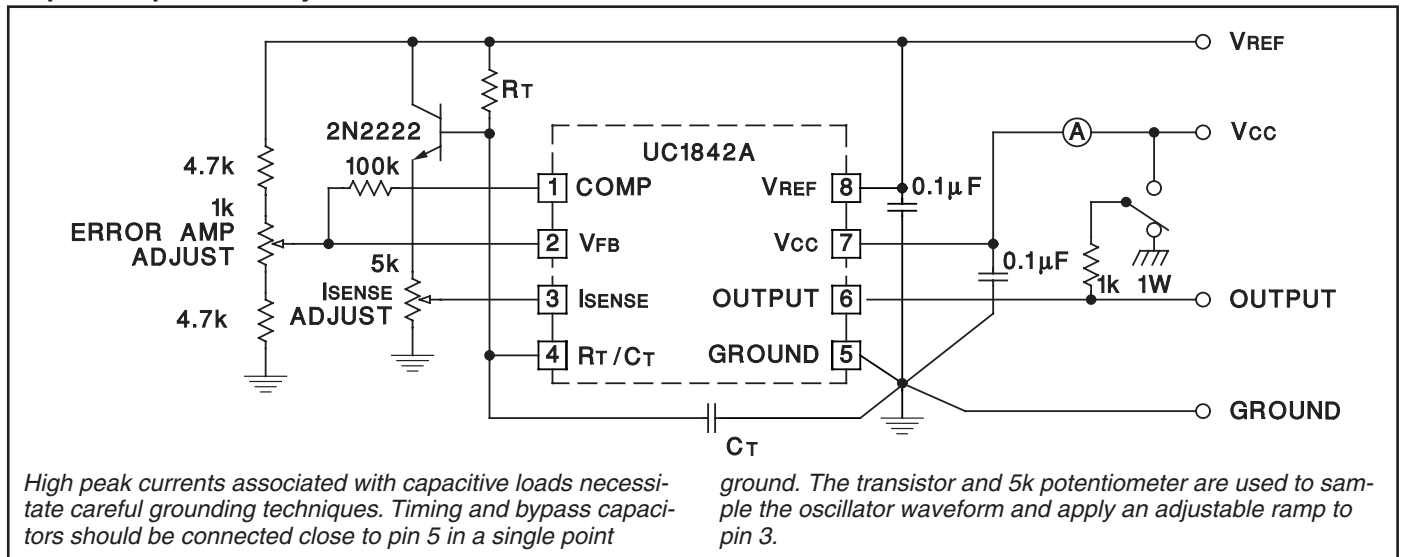


APPLICATIONS DATA (cont.)

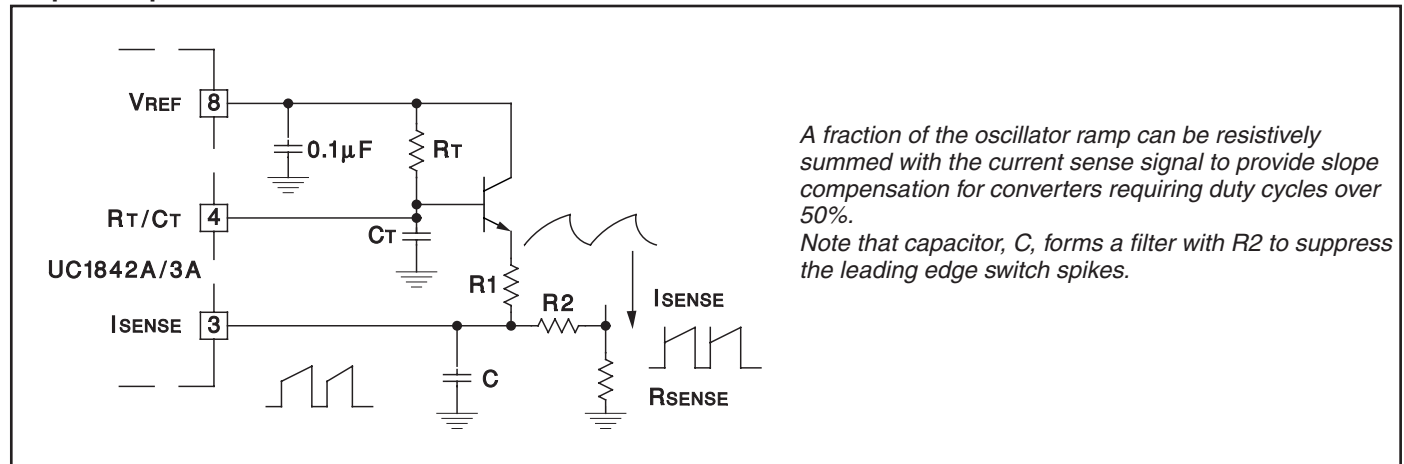
Oscillator Section



Open-Loop Laboratory Test Fixture

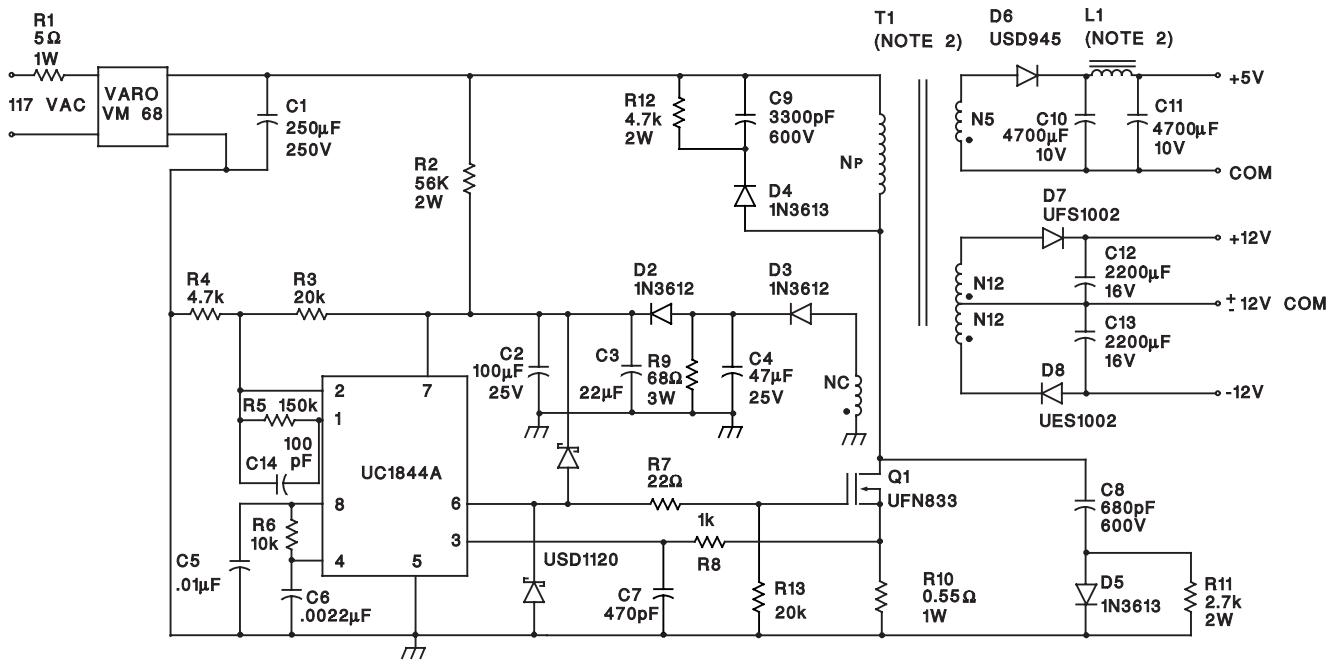


Slope Compensation



APPLICATIONS DATA (cont.)

Off-line Flyback Regulator



**Power Supply Specifications**

- |                         |                                |                                 |
|-------------------------|--------------------------------|---------------------------------|
| 1. Input Voltage        | 95VAC to 130VA<br>(50 Hz/60Hz) | 5. Output Voltage:              |
| 2. Line Isolation       | 3750V                          | A. +5V, ±5%; 1A to 4A load      |
| 3. Switching Frequency  | 40kHz                          | Ripple voltage: 50mV P-P Max    |
| 4. Efficiency Full Load | 70%                            | 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   |

**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>
5962-8670405PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
5962-8670405VPA	ACTIVE	CDIP	JG	8	1	TBD	A42	N / A for Pkg Type
5962-8670405VXA	ACTIVE	LCCC	FK	20	1	TBD	Call TI	N / A for Pkg Type
5962-8670405XA	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-8670406PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
5962-8670406VPA	ACTIVE	CDIP	JG	8	1	TBD	A42	N / A for Pkg Type
5962-8670406VXA	ACTIVE	LCCC	FK	20	1	TBD	Call TI	N / A for Pkg Type
5962-8670406XA	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-8670407PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
5962-8670407VPA	ACTIVE	CDIP	JG	8	1	TBD	A42	N / A for Pkg Type
5962-8670407VXA	ACTIVE	LCCC	FK	20	1	TBD	Call TI	N / A for Pkg Type
5962-8670407XA	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-8670408PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
5962-8670408VPA	ACTIVE	CDIP	JG	8	1	TBD	A42	N / A for Pkg Type
5962-8670408VXA	ACTIVE	LCCC	FK	20	1	TBD	Call TI	N / A for Pkg Type
5962-8670408XA	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
UC1842AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1842AJ883B	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1842AJQMLV	ACTIVE	CDIP	JG	8		TBD	Call TI	Call TI
UC1842AL883B	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
UC1842ALQMLV	ACTIVE	LCCC	FK	20		TBD	Call TI	Call TI
UC1843AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1843AJ883B	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1843AJQMLV	ACTIVE	CDIP	JG	8		TBD	Call TI	Call TI
UC1843AL883B	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
UC1843ALQMLV	ACTIVE	LCCC	FK	20		TBD	Call TI	Call TI
UC1844AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1844AJ883B	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1844AJQMLV	ACTIVE	CDIP	JG	8		TBD	Call TI	Call TI
UC1844AL883B	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
UC1844ALQMLV	ACTIVE	LCCC	FK	20		TBD	Call TI	Call TI
UC1845AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1845AJ883B	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC1845AJQMLV	ACTIVE	CDIP	JG	8		TBD	Call TI	Call TI
UC1845AL883B	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
UC1845ALQMLV	ACTIVE	LCCC	FK	20		TBD	Call TI	Call TI
UC2842AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM



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)		
UC2842AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2842ADW	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2842ADWG4	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2842ADWTR	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2842ADWTRG4	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2842AJ	OBSOLETE	CDIP	JG	8		TBD	Call TI	Call TI
UC2842AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2842ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2843AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2843ADW	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2843ADWG4	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2843ADWTR	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2843ADWTRG4	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2843AJ	OBSOLETE	CDIP	JG	8		TBD	Call TI	Call TI
UC2843AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2843ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type

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>
UC2843AQ	ACTIVE	PLCC	FN	20	46	Green (RoHS & no Sb/Br)	CU SN	Level-2-260C-1 YEAR
UC2843AQG3	ACTIVE	PLCC	FN	20	46	Green (RoHS & no Sb/Br)	CU SN	Level-2-260C-1 YEAR
UC2844AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC2844AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2844ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2844AQD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AQD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AQD8R	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2844AQDR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC2845ADW	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC2845ADWG4	ACTIVE	SOIC	DW	16	40	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>
UC2845AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC2845ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3842AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3842ADTRG4	PREVIEW	SOIC	D	14	2000	TBD	Call TI	Call TI
UC3842ADW	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3842ADWG4	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3842ADWTR	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3842ADWTRG4	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3842AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC3842AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3842ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3843AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3843AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3843AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3843AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3843AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3843ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3843ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3843ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3843AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC3843AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type

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>
UC3843ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3844AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3844AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3844ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3845AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845AD8	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845AD8G4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845AD8TR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845AD8TRG4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845ADTR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845ADTRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
UC3845ADW	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3845ADWG4	ACTIVE	SOIC	DW	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3845ADWTR	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3845ADWTRG4	ACTIVE	SOIC	DW	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
UC3845AJ	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
UC3845AN	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type
UC3845ANG4	ACTIVE	PDIP	P	8	50	Green (RoHS & no Sb/Br)	CU NIPDAU	N / A for Pkg Type

<sup>(1)</sup> The marketing status values are defined as follows:  
**ACTIVE:** Product device recommended for new designs.

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**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), 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)

<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

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

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



4040140/D 10/96

- 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



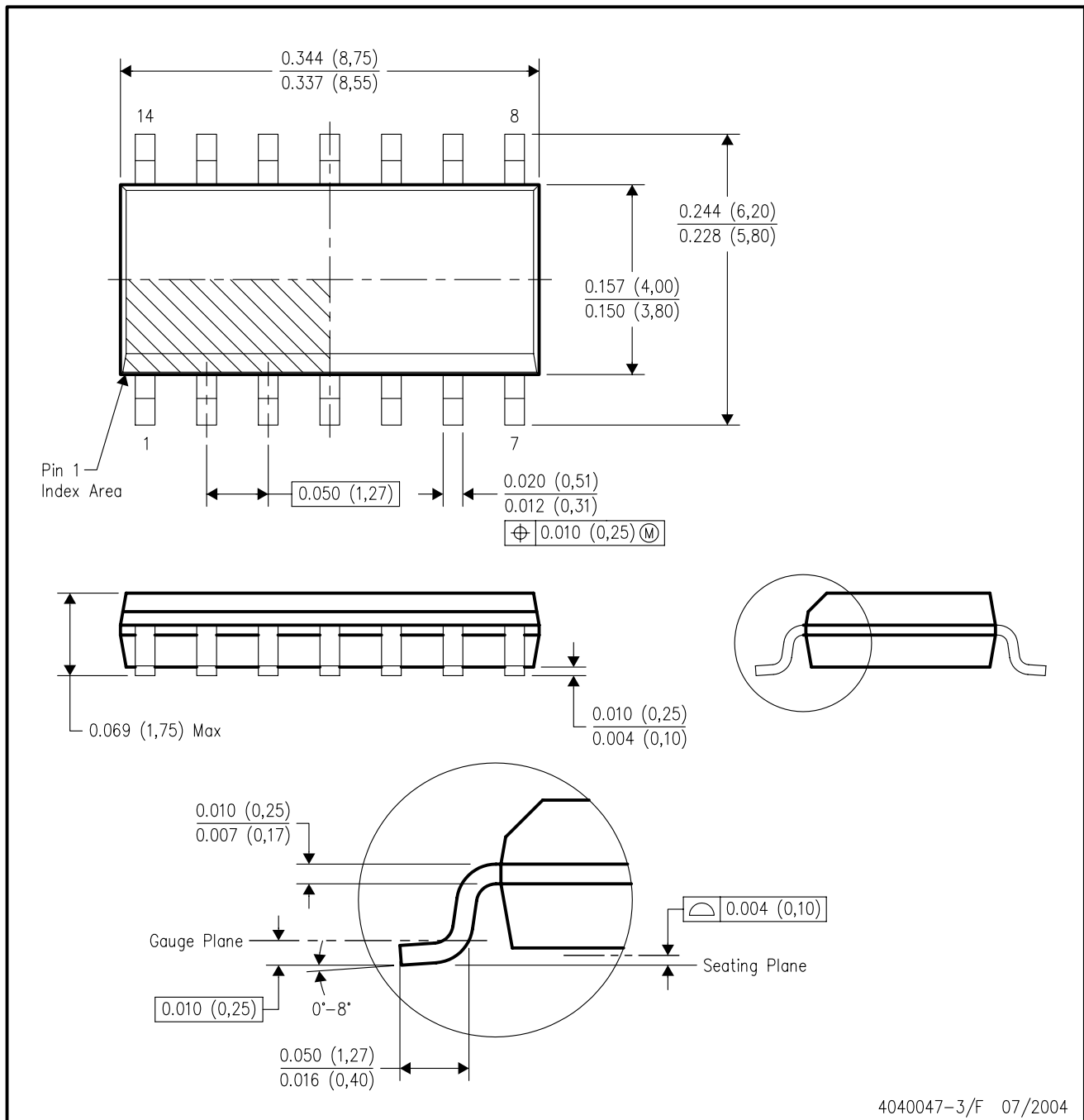
- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-001

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

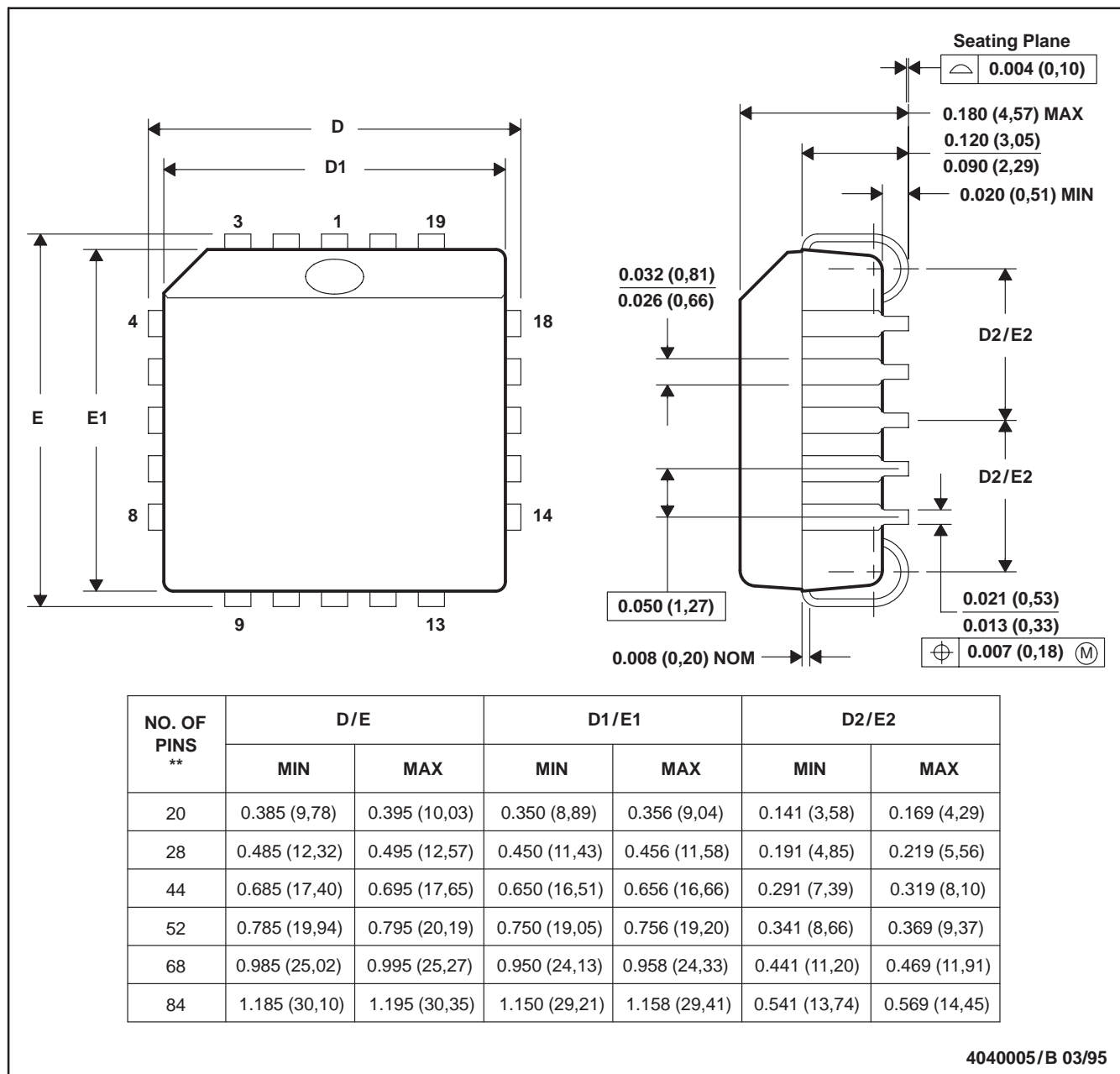


- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
  - D. Falls within JEDEC MS-012 variation AB.

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

PLASTIC J-LEADED CHIP CARRIER

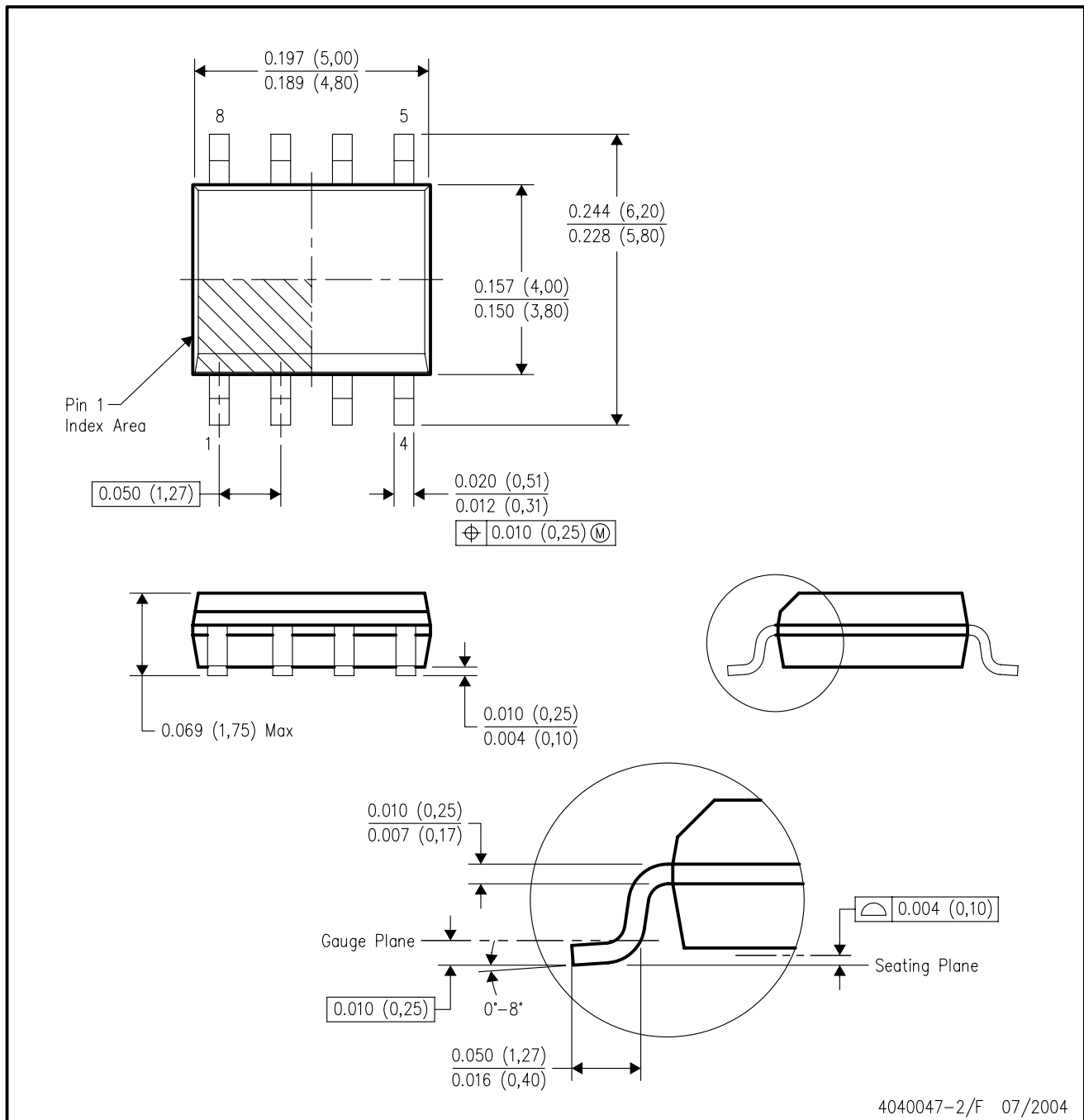
20 PIN SHOWN



- 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)

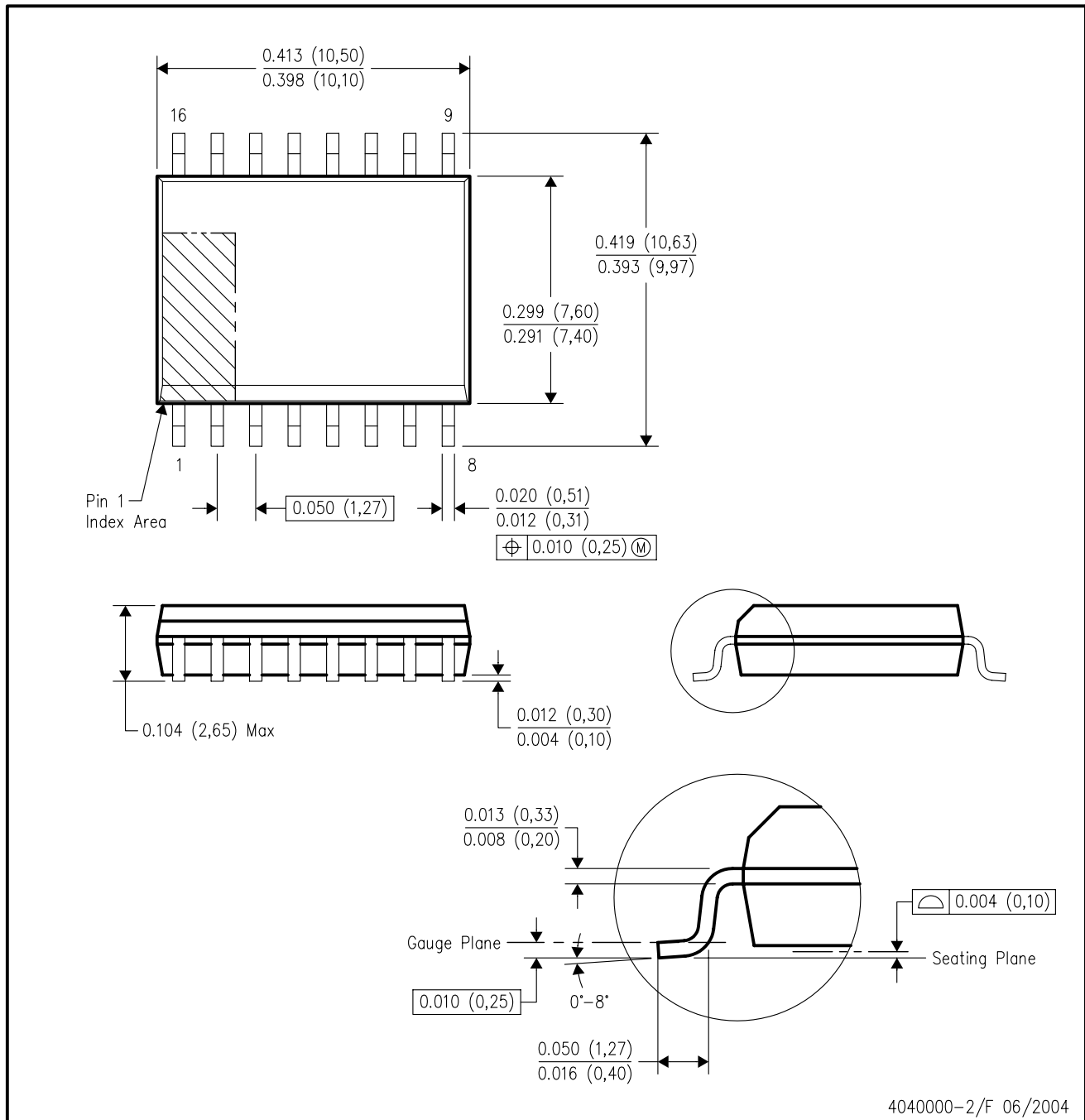
PLASTIC SMALL-OUTLINE PACKAGE



- 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.

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