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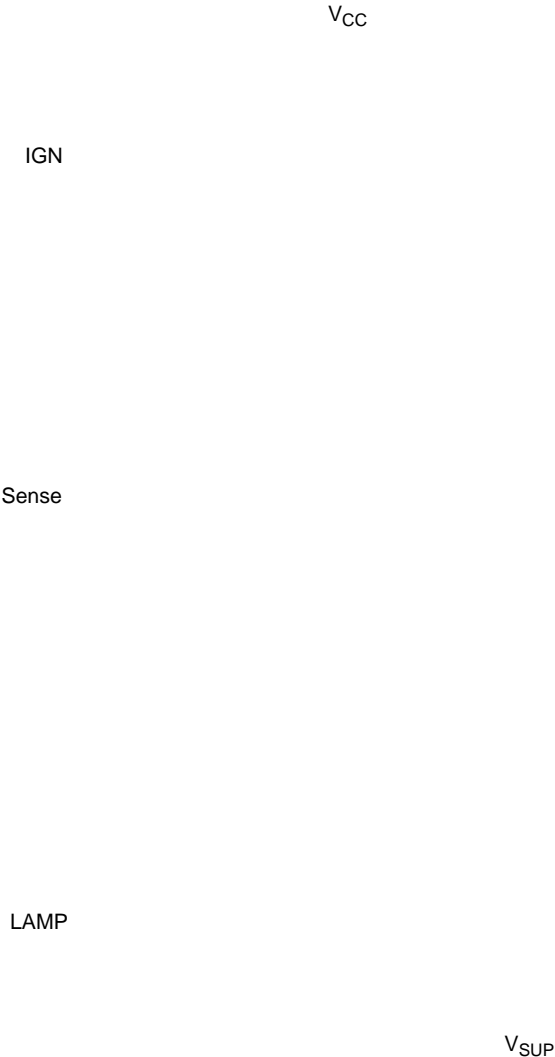
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**CS3341, CS3351, CS387**



**Figure 1. Block Diagram**

## CS3341, CS3351, CS387

**ELECTRICAL CHARACTERISTICS** ( $-40^{\circ}\text{C} < T_A < 125^{\circ}\text{C}$ ,  $-40^{\circ}\text{C} < T_J < 150^{\circ}\text{C}$ ,  $9.0\text{ V} \leq V_{CC} \leq$

## CS3341, CS3351, CS387

### PACKAGE PIN DESCRIPTION

PACKAGE PIN #		PIN SYMBOL	FUNCTION
SOIC-14	Flip Chip		
1	1	Driver	Output driver for external power switch-Darlington
2	2	GND	Ground
3, 6, 7, 9, 13	3	NC	No Connection
4	4	OSC	Timing capacitor for oscillator
5	5	Lamp	Base driver for lamp driver indicates no stator signal or overvoltage condition
8	6	IGN	Switched ignition powerup
10	7	Stator	Stator signal input for stator timer (CS3351 also powerup)
11	8	Sense	Battery sense voltage regulator comparator input and protection
12	9	V <sub>CC</sub>	Supply for IC
14	10	SC	Short circuit sensing

### ORDERING INFORMATION

Device	Package	Shipping†
CS3341YD14	SOIC-14	55 Units/Rail
CS3341YD14G	SOIC-14 (Pb-Free)	55 Units/Rail
CS3341YDR14	SOIC-14	2500 Tape & Reel
CS3341YDR14G	SOIC-14 (Pb-Free)	2500 Tape & Reel
CS3351YD14	SOIC-14	55 Units/Rail
CS3351YD14G	SOIC-14 (Pb-Free)	55 Units/Rail
CS3351YDR14	SOIC-14	2500 Tape & Reel
CS3351YDR14G	SOIC-14 (Pb-Free)	2500 Tape & Reel
CS387H	Flip Chip	Contact Sales

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

TYPICAL PERFORMANCE CHARACTERISTICS

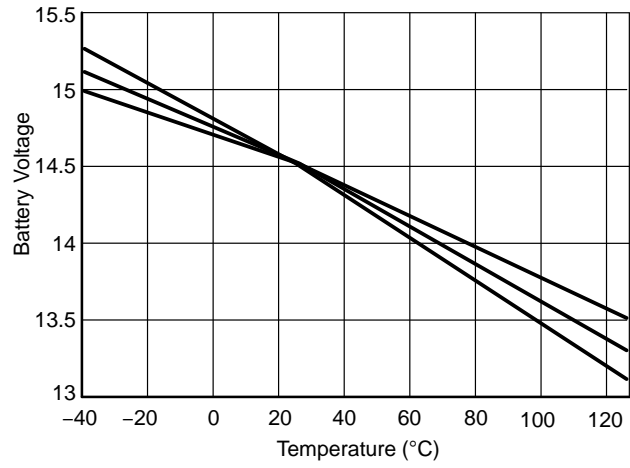


Figure 2. Battery Voltage vs. Temperature (°C)  
Over Process Variation

## REGULATION WAVEFORMS

The CS3341/3351/387 utilizes proportion control to maintain regulation. Waveforms depicting operation are shown in Figures 4, 5 and 6, where  $V_{BAT/N}$  is the divided down voltage present on the Sense pin using R1 and R2 (Figure 7). A sawtooth waveform is generated internally. The amplitude of this waveform is listed in the electric parameter section as proportion control. The oscillator voltage is summed with  $V_{BAT/N}$ , and compared with the internal voltage regulator ( $V_{REG}$ ) in the regulation

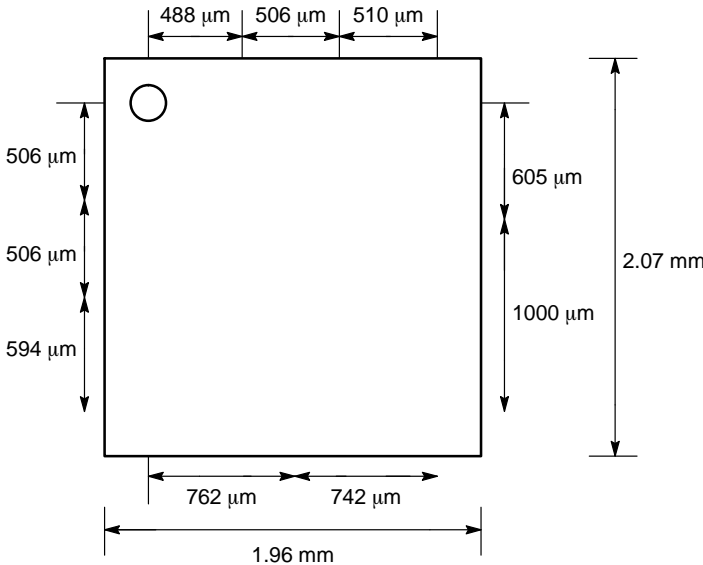
comparator which controls the field through the output “Device Driver.”

Figure 4 shows typical steady state operation. A 50% duty cycle is maintained.

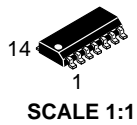
Figure 5 shows the effect of a drop in voltage on ( $V_{BAT/N} + V_{OSC}$ ). Notice the duty cycle increase to the field drive.

Figure 6 shows the effect of an increase in voltage (above the regulation voltage) on ( $V_{BAT/N}$

CS3341, CS3351, CS387

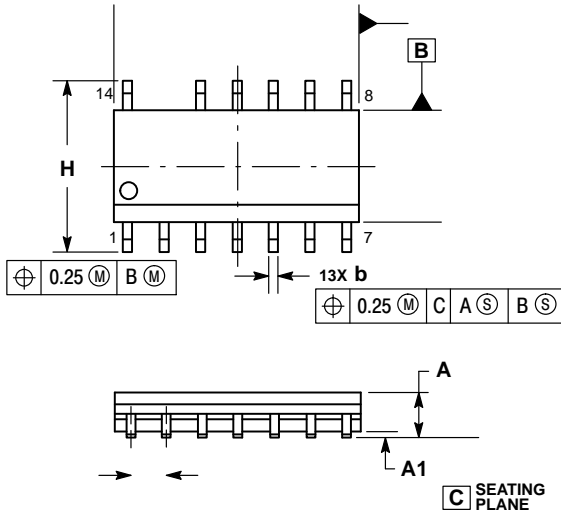






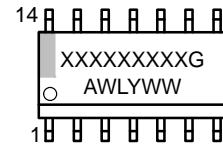
**SOIC 14 NB**  
CASE 751A-03  
ISSUE L

DATE 03 FEB 2016



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
  2. CONTROLLING DIMENSION: MILLIMETERS.
  3. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE PROTRUSION SHALL BE 0.13 TOTAL IN EXCESS OF AT MAXIMUM MATERIAL CONDITION.
  4. DIMENSIONS D AND E DO NOT INCLUDE MOLD PROTRUSIONS.
  5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.

**GENERIC MARKING DIAGRAM\***



- XXXXXX = Specific Device Code
- A = Assembly Location
- WL = Wafer Lot
- Y = Year
- WW = Work Week
- G = Pb-Free Package

STYLES ON PAGE 2

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STYLE 7:  
PIN 1. ANODE/CATHODE  
2. COMMON ANODE  
3. COMMON CATHODE  
4. ANODE/CATHODE  
5. ANODE/CATHODE

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