



# Product Preview

## 1 to 4 Cells Lithium Battery Safety IC

The MC33344 is a Lithium Battery Safety Integrated Circuit designed to control the charge and discharge voltage safety limits of one to four lithium-ion or lithium polymer rechargeable cells. This device is designed to be placed inside the battery pack together with the cells and other external components, to form a smart battery pack. Its main purpose is to ensure safe battery pack charging and discharging.

The circuit also protects the integrity of the Li-ion cells. In effect, it avoids the degradation of the cells in case of overdischarge by causing the battery pack to go in a zero current SLEEPMODE™ state. This state interrupts any further leakage of the cells.

Integrated into the MC33344 are two seriesed N-FETs designed to interrupt the battery charge or discharge current.

### Charge Control:

- Fully programmable for 1 to 4 Lithium-Ion (Li-ion) or Lithium-Polymer Rechargeable Cells
- Precision Cell Voltage Measurement with an Accuracy of 1.0%
- Programmable Voltage and Current Limits
- Automatic Cell Balancing for Optimization of the Charge of each Cell

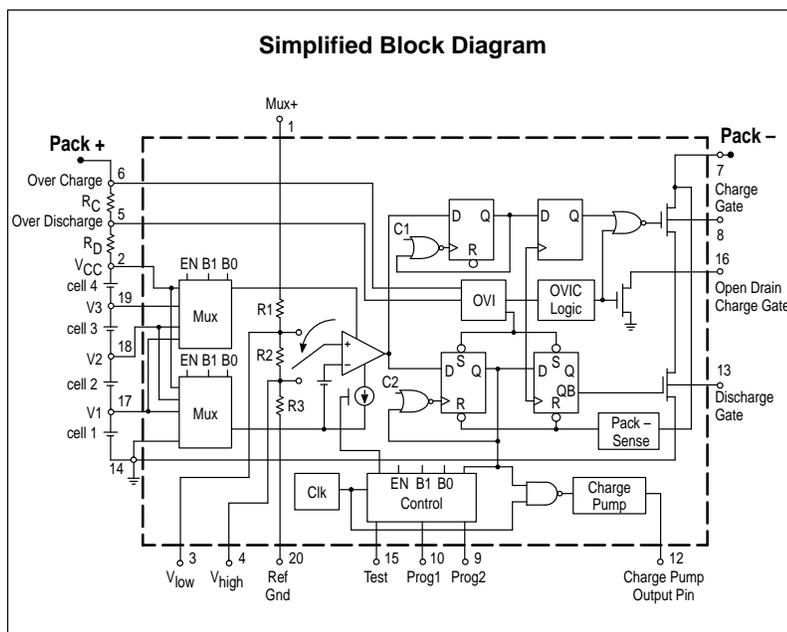
### Protection Features:

- Zero Current Sleepmode in Order to Avoid the Degradation of a Cell in the Event of an Undervoltage Condition
- Overvoltage and Undervoltage Cell Protection
- Overcurrent Protection during Charge and Discharge

### Designed for Smart Battery Pack Integration:

- Surface Mount 20 Pin Package
- On-Chip Series N-FETs capable of up to 1.5 A Load Current

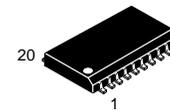
SLEEPMODE is a trademark of Motorola, Inc.



# MC33344

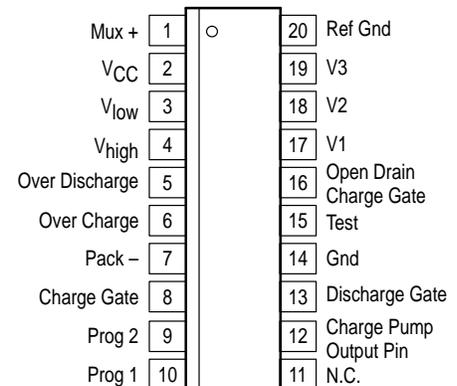
## 1 TO 4 CELLS LITHIUM BATTERY SAFETY IC

### SEMICONDUCTOR TECHNICAL DATA



**DW SUFFIX**  
PLASTIC PACKAGE  
CASE 751D  
(SO-20L)

### PIN CONNECTIONS



(Top View)

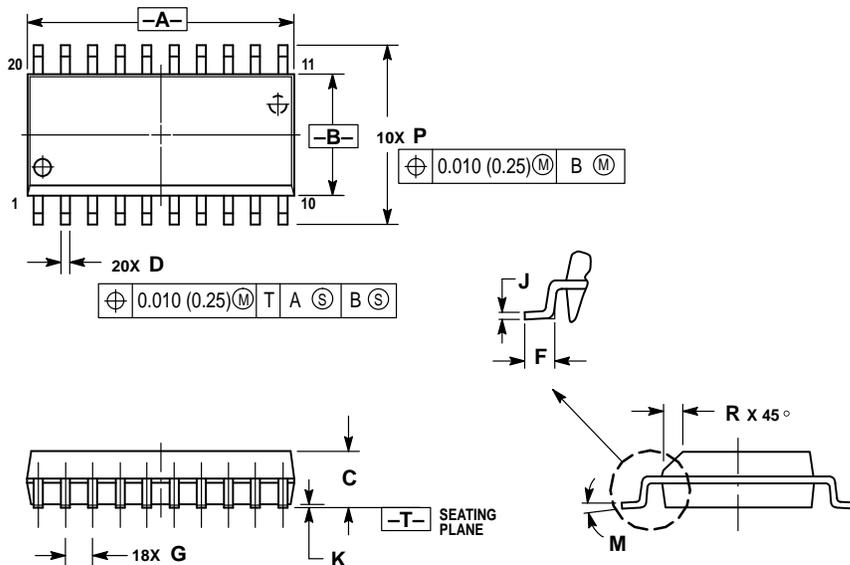
### ORDERING INFORMATION

Device	Operating Temperature Range	Package
MC33344DW	T <sub>A</sub> = -40° to +85°C	SO-20L

# MC33344

## OUTLINE DIMENSIONS

**DW SUFFIX**  
**PLASTIC PACKAGE**  
**CASE 751D-04**  
**(SO-20L)**  
**ISSUE E**



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETER.
  3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
  4. MAXIMUM MOLD PROTRUSION 0.150 (0.006) PER SIDE.
  5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.13 (0.005) TOTAL IN EXCESS OF D DIMENSION AT MAXIMUM MATERIAL CONDITION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	12.65	12.95	0.499	0.510
B	7.40	7.60	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
F	0.50	0.90	0.020	0.035
G	1.27 BSC		0.050 BSC	
J	0.25	0.32	0.010	0.012
K	0.10	0.25	0.004	0.009
M	0°	7°	0°	7°
P	10.05	10.55	0.395	0.415
R	0.25	0.75	0.010	0.029

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