

Product Preview

Lithium Battery Protection Circuit for Three or Four Cell Battery Packs

The MC33346 is a monolithic lithium battery protection circuit that is designed to enhance the useful operating life of three or four cell rechargeable battery packs. Cell protection features consist of independently programmable charge and discharge limits for both voltage and current with a delayed current shutdown, cell voltage balancing with on—chip balancing resistors, and virtually zero current sleepmode state when the cells are discharged. Additional features consists of a six wire microcontroller interface bus that can selectively provide a pulse output that represents the internal reference voltage, cell voltage, cell current and temperature, as well as control the states of four internal balancing and two external MOSFET switches. A microcontroller time reference output is available for gas gauge implementation. This protection circuit requires a minimum number of external components and is targeted for inclusion within the battery pack. The MC33346 is available in standard and low profile 24 lead surface mount packages.

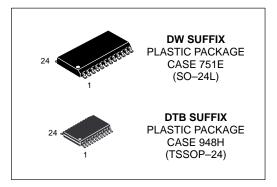
- Independently Programmable Charge and Discharge Limits for Both Voltage and Current
- Delayed Current Shutdown
- Cell Voltage Balancing with On–Chip Resistors
- Six Wire Microcontroller Interface Bus
- Data Output for Reference, Voltage, Current, and Temperature
- Microcontroller Time Reference Output for Gas Gauging
- Virtually Zero Current Sleepmode State when Cells are Discharged
- Programmable for Three or Four Cell Applications
- Minimum External Components for Inclusion within the Battery Pack
- Available in Low Profile Surface Mount Packages

ORDERING INFORMATION

Device	Operating Temperature Range	Package
MC33346DW	$T_A = -40^{\circ} \text{ to } +85^{\circ}\text{C}$	SO-24L
MC33346DTB		TSSOP-24

MC33346

LITHIUM BATTERY PROTECTION CIRCUIT FOR THREE OR FOUR CELL SMART BATTERY PACKS



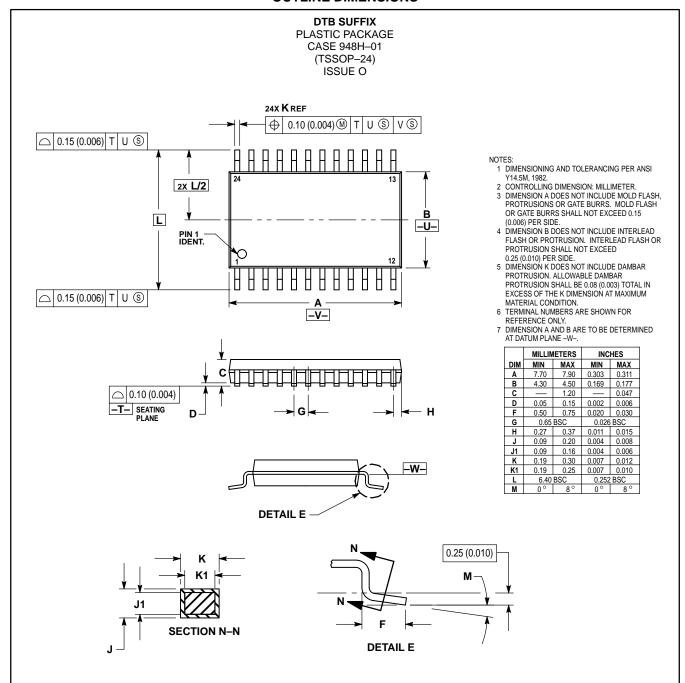
Current Charge Charge Gate Drive Charge Gate Drive Cell 4/V_{CC}/ Discharge Sense Current Gate Drive Limit Commor Current Limit Cell Voltage Discharge Voltage Cell 3 24 Charge Voltage Cell 2 23 Cell Voltage MC33346 Cell 1 22 Data Output Ref/V/I/T Ground Cell 15 Program Reference Clock Output 19 11 Interrupt Output A-to-D -Charge Gate V_C Logic Address Turn Off/

Typical Four Cell Smart Battery Pack

This device contains 4760 active transistors.

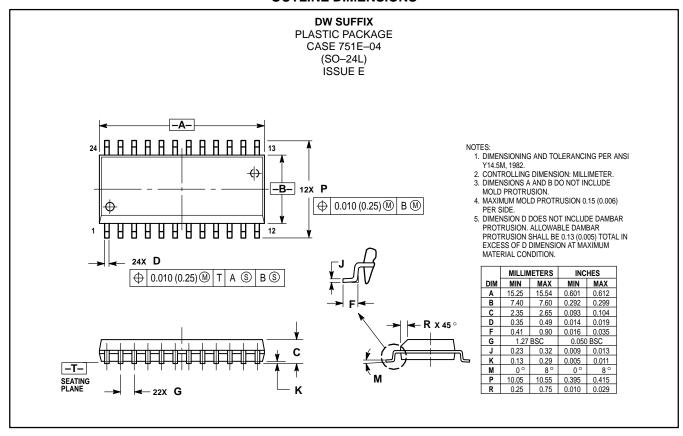
MC33346

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How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447 or 602–303–5454

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MFAX: RMFAX0@email.sps.mot.com - TOUCHTONE 602-244-6609 INTERNET: http://Design-NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, 6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–81–3521–8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park, 51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298



