RICOH

R5433V Series

Li-ion/polymer 3/4/5Cell protector

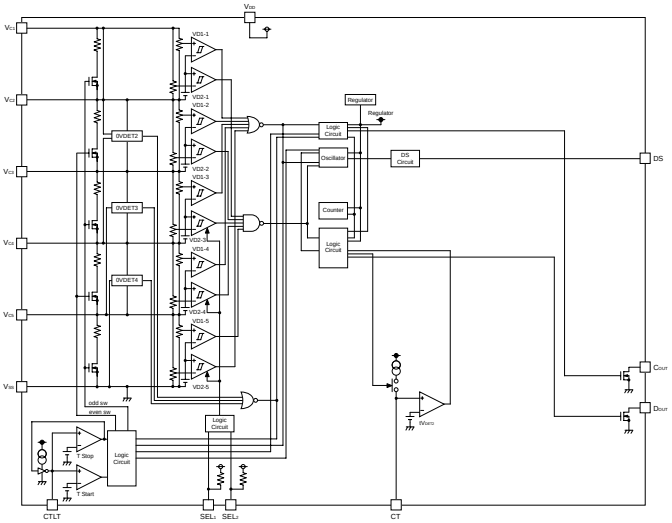
The R5433V Series are high voltage CMOS-based protection ICs for over-charge/discharge of rechargeable 3/4/5cell Li-ion/Lithium polymer battery. Each of these ICs is composed of ten voltage detectors, reference units, a delay circuit, an oscillator, a counter, and logic circuits. Disconnection between the battery and the protection board can be detected.
SSOP-16 package is available.

FEATURES

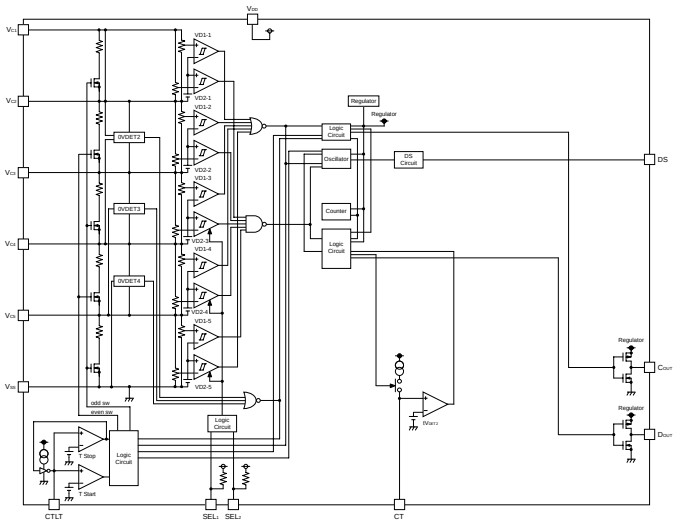
- Supply Voltage (V_{DD}) ····· 30V (Absolute Maximum Rating)
- Operating Input Voltage Range (V_{DD}) ····· 1.7V to 25.0V
- Supply Current (I_{DD}) ····· Typ.6.0μA
- Over-charge (V_{DET1})
  - Detector Threshold Range ····· 3.6V to 4.5V (0.005V Steps)
  - Voltage Accuracy ····· ±25mV
  - Output Delay Time (tV_{DET1}) ···· 1.0s
- Over-discharge (V_{DET2})
  - Detector Threshold Range ····· 2.0 to 3.0V (0.005V Steps)
  - Voltage Accuracy ····· ±2.5%
  - Output Delay Time (tV_{DET2}) ····· Settable by Ext.capacitance1
- 0V-battery charge ····· Available
- Package ····· SSOP-16

BLOCK DIAGRAMS

R5433VxxxxA



R5433VxxxxB



SELECTION GUIDE

Halogen Free	Package	Quantity per Reel	Part No.
H/F	SSOP-16	2,000pcs	R5433Vxxx$✱-E2-FE

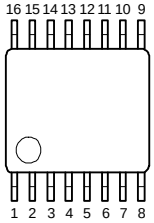
xxx: Serial Number for the R5433V Series designing input two thresholds such as over-charge and over-discharge.

✱: Select the output type from (A) Nch. open drain or (B) CMOS.

$: Designation of Output delay option of Over-charge and Over-discharge.
(A) tV_{DET1} : 1s, tV_{DET2} : 3.64 × C1(nF)

PACKAGE

SSOP-16



1	D_{OUT}	9	NC
2	C_{OUT}	10	NC
3	SEL_2	11	V_{C5}
4	SEL_1	12	V_{C4}
5	DS	13	V_{C3}
6	CT	14	V_{C2}
7	CTLT	15	V_{C1}
8	V_{SS}	16	V_{DD}

APPLICATIONS

- Li-ion/Li polymer protector of over-charge and over-discharge for battery pack
- Over-charge and discharge for notebook PCs, power tools, and any other gadgets using on board Li-ion/Li Polymer battery.

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RICOH COMPANY., LTD. Electronic Devices Company

■Ricoh presented with the Japan Management Quality Award for 1999.
Ricoh continually strives to promote customer satisfaction, and shares the achievements of its management quality improvement program with people and society.

■Ricoh awarded ISO 14001 certification.
The Ricoh Group was awarded ISO 14001 certification, which is an international standard for environmental management systems, at both its domestic and overseas production facilities. Our current aim is to obtain ISO 14001 certification for all of our business offices.

RoHS Compliant
Ricoh completed the organization of the Lead-free production for all of our products. After Apr. 1, 2006, we will ship out the lead free products only. Thus, all products that will be shipped from now on comply with RoHS Directive.

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RICOH COMPANY, LTD.
Electronic Devices Company
● Higashi-Shinagawa Office (International Sales)
3-32-3, Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-8655, Japan
Phone: +81-3-5479-2857 Fax: +81-3-5479-0502

RICOH EUROPE (NETHERLANDS) B.V.
● Semiconductor Support Centre
Prof. W.H.Keesomlaan 1, 1183 DL Amstelveen, The Netherlands
P.O.Box 114, 1180 AC Amstelveen
Phone: +31-20-5474-309 Fax: +31-20-5474-791

RICOH ELECTRONIC DEVICES KOREA Co., Ltd.
11 floor, Haesung 1 building, 942, Daechidong, Gangnamgu, Seoul, Korea
Phone: +82-2-2135-5700 Fax: +82-2-2135-5705

RICOH ELECTRONIC DEVICES SHANGHAI Co., Ltd.
Room403, No.2 Building, 690#Bi Bo Road, Pu Dong New district, Shanghai 201203, People's Republic of China
Phone: +86-21-5027-3200 Fax: +86-21-5027-3299

RICOH COMPANY, LTD.
Electronic Devices Company
● Taipei office
Room109, 10F-1, No.51, Hengyang Rd., Taipei City, Taiwan (R.O.C.)
Phone: +886-2-2313-1621/1622 Fax: +886-2-2313-1623