

Special Feature

Experiment study of performance and use of evolving electric storage device

Utilization technique of latest batteries in new eco-era

- 60** Introduction Combination of latest lithium ion rechargeable battery and large capacitor
 Experimental study of ideal battery with storage and instantaneous capability

1st part BATTERY

- 64** Chapter 1 Evolving batteries and capacitors
 Types and performance of electric storage devices

- 76** Chapter 2 From lithium ion rechargeable battery to nickel-hydrogen rechargeable battery
 Types of rechargeable battery and charge-discharge power supply

- 89** Appendix1 Repeated use and long discharge duration are no good
 Experiment study: Cycle characteristic of nickel-hydrogen batteries

- 94** Chapter 3 Having much accumulation is pointless if the detection accuracy of remaining amount is low
 Technology for accurately detecting the remaining amount of battery and practical examples

- 100** Appendix2 Jargon-filled batteries
 Glossary for rechargeable battery

2ndpart CAPACITOR

- 103** Chapter 4 Application for electric double layer capacitor and lithium ion capacitor
 Power circuit designed by using Super capacitor

- 116** Appendix3 Realize high-efficiency battery power supply by using instant charging capability
 Application of super capacitor for stored energy reuse

- 118** Chapter 5 50% improvements in energy efficiency of elevating machine by using capacitors
 Design example of motor drive circuit with regeneration capability

- 127** Chapter 6 Realize high torque drive and long run! Electric wheelchair with super capacitor
 Design example of high-efficient motor drive power supply with regeneration capability

- 134** Chapter 7 Necessary for designing a high efficient charge-discharge circuit
 Basic knowledge of switching power devices

USB

- 155** Transmission speed at 5Gbps/ 3 sec to send 1G byte
 Ultra high-speed communication standard "USB3.0"

- 189** Transistor Gijutsu Special Number
 Enjoy the latest/ best performance "H8 supplemental board"

Fabrication

- 163 Natural energy use in eco-era <1>
Nursery cabinet with LED and solar panel
-
- 169 Introduction to digital filter without mathematical formula <5>
Evaluation tool for designed filter coefficient
-
- 179 Application for MI sensor capable of detecting $\pm 15\text{nT}$ at 60ms
Magnetic canceller made with sensitive magnetic sensor and coil
-
- 192 Synchronization technique for video signals from multiple cameras is the key
Hardware for stereo camera capable of ranging and 3D image composition
-
- 201 Realize simple and low cost
-24dB/oct 4th-order filter by using a single OP amplifier

Running story

- 209 Challenge to CMOS analog IC design <8th>
AC analysis and transient analysis
-
- 215 CMOS analog circuit to the future <8th>
Technology to realize a resistance with condenser and switch
-
- 221 Ethiopian news <final>
Repair of oscilloscope
-
- 224 Learn from one's mistakes <2nd>
3.6V output from 2.5V voltage regulator ?
-
- 226 Realize 1/50 of silicon on-resistance
Toward the practical use of SiC power transistors
-
- 228 Prescription for surge precaution <1st>
Fine adjustment of gain by using a potentiometer
-
- 230 Brain teaser
Stop the abnormal operation of noninverted amplifier
-
- 231 Reader's Forum 232 Information 234 Next issue/Editorial voice

CQ Publishing Co., Ltd.
1-14-2 Sugamo Toshima ward Tokyo, 170-8461 JAPAN
Phone : Sales +81-3-5395-2141
Advertisement +81-3-5395-2131
Editorial +81-3-5395-2123
Postal Transfer : 00100-7-10665

Publisher : Sanae Mizoguchi
Editor-in-chief : Yuji Teramae
Copyright © 2010 by CQ Publishing Co., Ltd.
Issue : February 1st, 2010 (Monthly issued on the 1st day)
Joint to the Japan Audit Bureau of Circulations
(ABC)
(Retail price is on the back cover)

Printing : Sanko Printing Co., Ltd. / Dainippon Printing Co., Ltd. /
Miwa Printing Co., Ltd. / Sankyo Graphics Co., Ltd. /
Kuni-media Co., Ltd.
Binding : Hoshino Binding Books Co., Ltd.
Printed in Japan

