1997 CD-ROM
Quick Reference

Micrel 1997 Databook

(Databook.pdf)

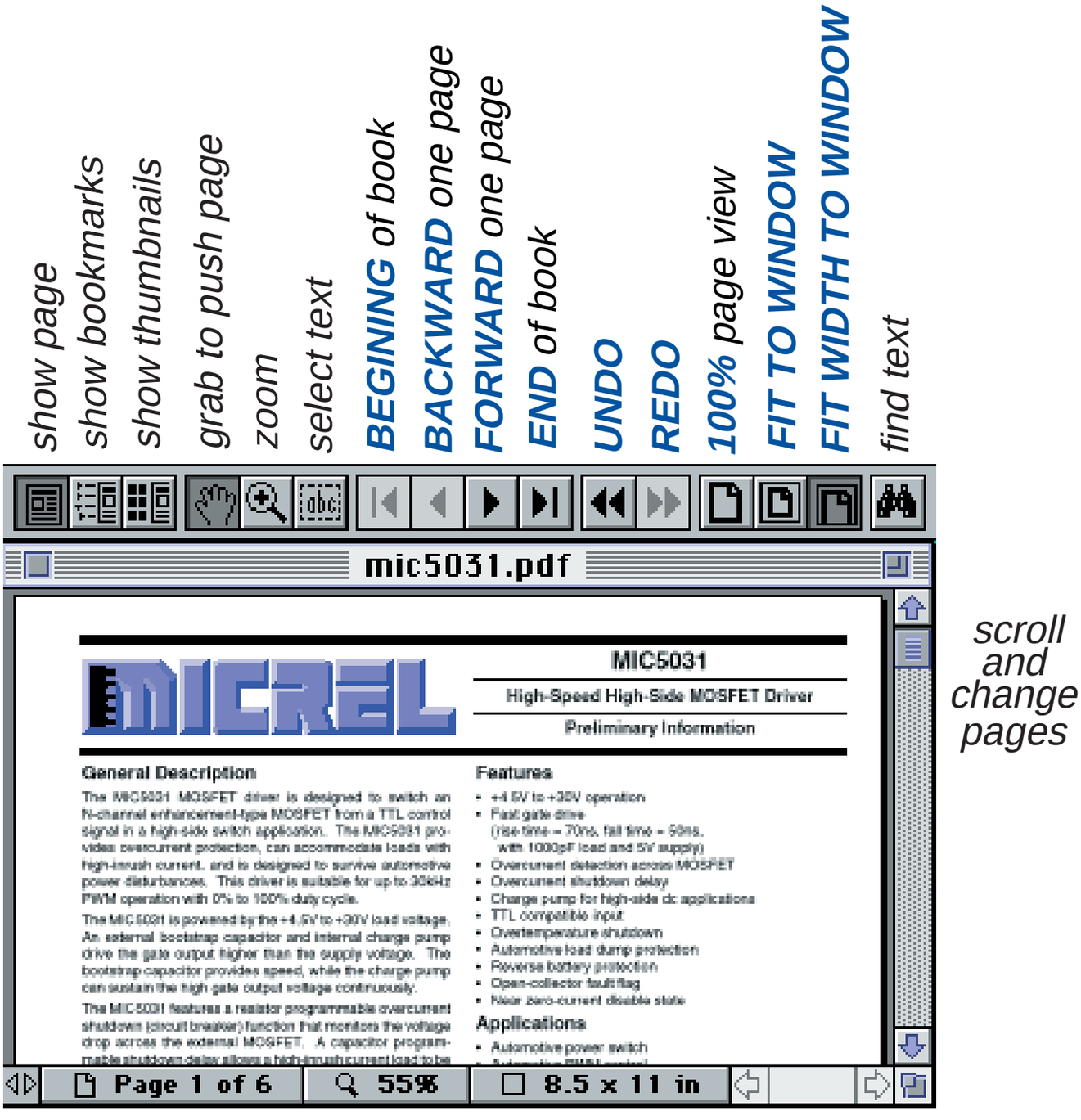
Designing with Low-Dropout Voltage Regulators

(LDOBk.pdf)

Designing PCMCIA Power Control

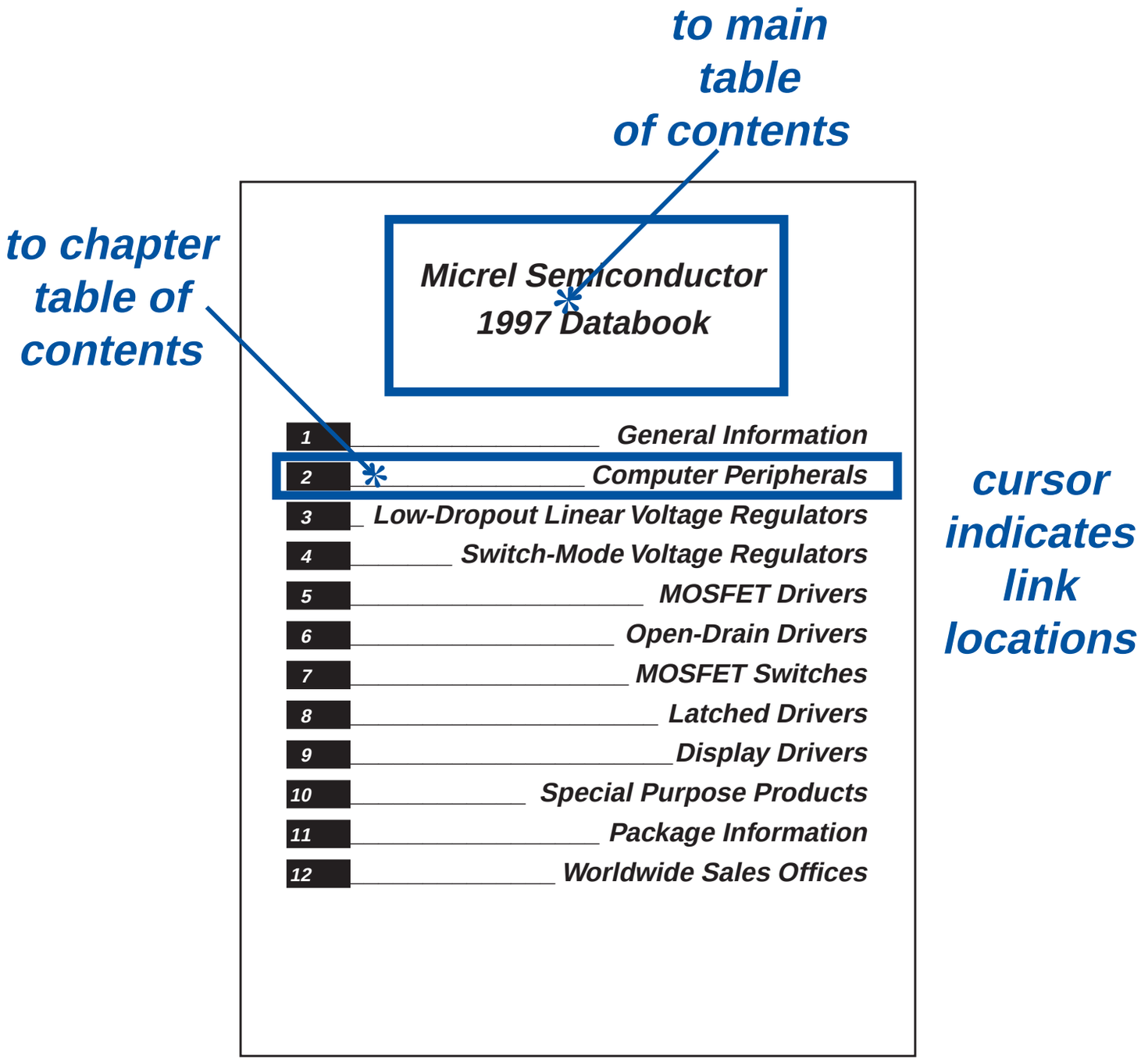
(PCCardBk.pdf)

Adobe™ Acrobat™ Reader Commands



Home, **End**, **Page Up**, *and* **Page Down**
are active keyboard functions

Selecting A *Databook* Chapter



"Click" on item to navigate the Databook.

Tables of contents and selection guides are fully linked.

Navigating *Databook* Datasheets

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to chapter table of contents

MIC1555/1557

IttyBitty™ RC Timer / Oscillator

Advance Information

General Description

The MIC1555 IttyBitty™ CMOS RC timer/oscillator and MIC1557 IttyBitty CMOS RC oscillator are designed to provide rail-to-rail pulses for precise time delay or frequency generation.

The devices are similar in function to the industry standard "555", without a frequency control (F_C) pin or an open-collector discharge (D) pin. The threshold pin (TH) has precedence over the trigger (TR) input, ensuring that the BiCMOS output is off when TR is high.

The MIC1555 may be used as an astable (oscillator) or monostable (one-shot) with separate threshold and trigger inputs. In the one-shot mode, the output pulse width is precisely controlled by an external resistor and a capacitor. Time delays may be accurately controlled from microseconds to hours. In the oscillator mode, the output is used to provide precise feedback, with a minimum of one resistor and one capacitor producing a 50% duty cycle square wave.

The MIC1557 is designed for astable (oscillator) operation only, with a chip select/reset (CS) input for low power shutdown. One resistor and one capacitor provide a 50% duty cycle square wave. Other duty-cycle ratios may be produced using two diodes and two resistors.

The MIC1555/7 is powered from a +2.7V to +18V supply voltage.

The MIC1555/7 is available in the SOT-23-5 5-lead package, and is rated for –40°C to +85°C ambient temperature range.

Features

- +2.7V to +18V operation
- Low current
  - <1µA typical shutdown mode (MIC1557)
  - 200µA typical (TRG and THR low) at 3V supply
- Timing from microseconds to hours
- TTL compatible inputs and output
- "Zero" leakage trigger and threshold inputs
- 50% square wave with one Resistor, one Capacitor
-
- <15Ω output on resistance
- No output cross-conduction current spikes
- <0.005%/°C temperature stability
- <0.055%/V supply stability
- Small SOT-23-5 surface mount package

Applications

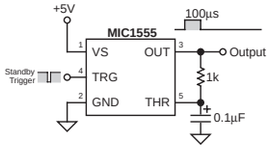
- Precision timer
- Pulse generation
- Sequential timing
- Time-delay generation
- Missing pulse detector
- Micropower oscillator to 5MHz
- Charge-pump driver
- LED blinker
- Voltage converter
- Linear sweep generator
- Variable frequency and duty cycle oscillator
- Isolated feedback for power supplies

Threshold precedence over trigger input

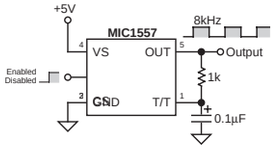
Ordering Information

Part Number	Temperature Range	Package
MIC1555BM5	–40°C to +85°C	SOT-23-5
MIC1557BM5	–40°C to +85°C	SOT-23-5

Typical Applications



Monostable (One-Shot)



Astable (Oscillator)

Using the *Databook* Cross-Reference Guide

(Located in the "General Information" chapter)

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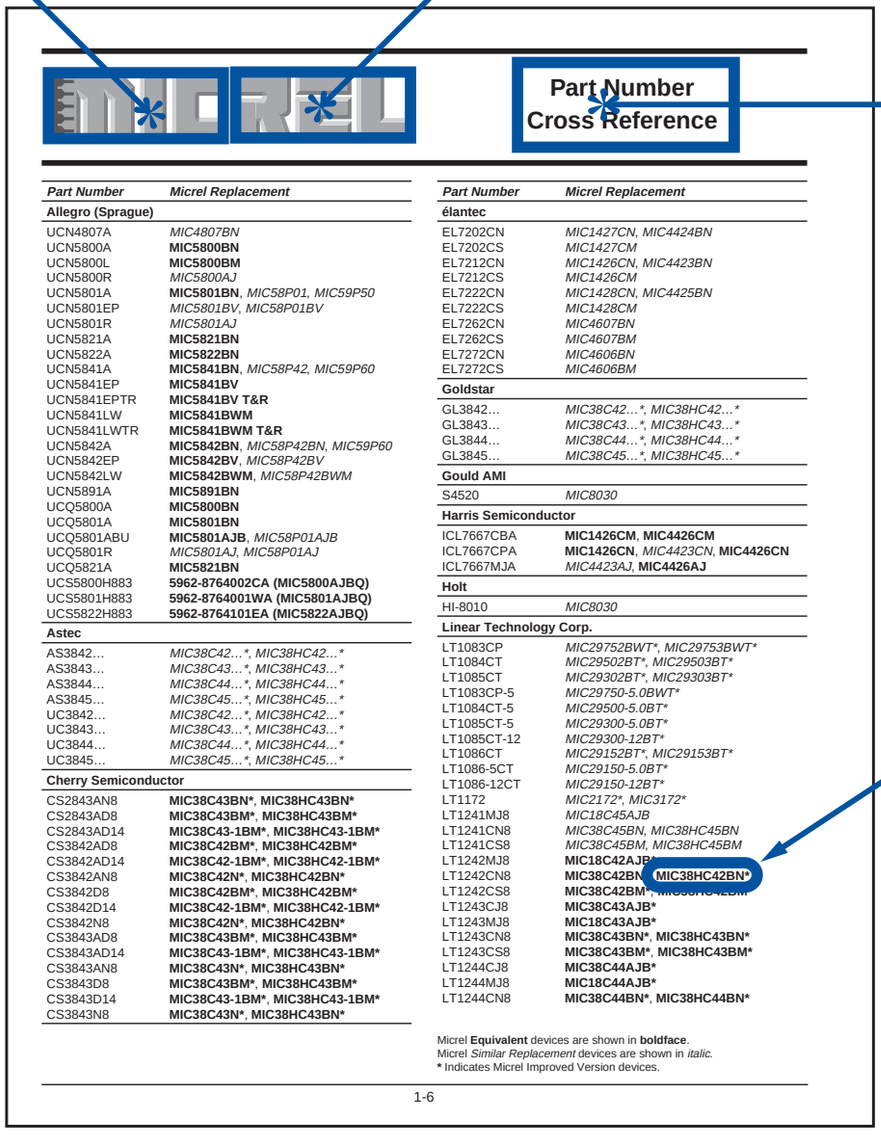
to specific datasheet



MICREL

Part Number Cross Reference

Part Number	*Micrel Replacement*
Allegro (Sprague)	
UCN4807A	*MIC4807BN*
UCN5800A	**MIC5800BN**
UCN5800L	**MIC5800BM**
UCN5800R	*MIC5800AJ*
UCN5801A	**MIC5801BN**, *MIC58P01*, *MIC59P50*
UCN5801EP	*MIC5801BV*, *MIC58P01BV*
UCN5801R	*MIC5801AJ*
UCN5821A	**MIC5821BN**
UCN5822A	**MIC5822BN**
UCN5841A	**MIC5841BN**, *MIC58P42*, *MIC59P60*
UCN5841EP	**MIC5841BV**
UCN5841EPTR	**MIC5841BV T&R**
UCN5841LW	**MIC5841BWM**
UCN5841LWTR	**MIC5841BWM T&R**
UCN5842A	**MIC5842BN**, *MIC58P42BN*, *MIC59P60*
UCN5842EP	**MIC5842BV**, *MIC58P42BV*
UCN5842LW	**MIC5842BWM**, *MIC58P42BWM*
UCN5891A	**MIC5891BN**
UCQ5800A	**MIC5800BN**
UCQ5801A	**MIC5801BN**
UCQ5801ABU	**MIC5801AJB**, *MIC58P01AJB*
UCQ5801R	*MIC5801AJ*, *MIC58P01AJ*
UCQ5821A	**MIC5821BN**
UCS5800H883	**5962-8764002CA (MIC5800AJBQ)**
UCS5801H883	**5962-8764001WA (MIC5801AJBQ)**
UCS5822H883	**5962-8764101EA (MIC5822AJBQ)**
Astec	
AS3842…	*MIC38C42…*, MIC38HC42…**
AS3843…	*MIC38C43…*, MIC38HC43…**
AS3844…	*MIC38C44…*, MIC38HC44…**
AS3845…	*MIC38C45…*, MIC38HC45…**
UC3842…	*MIC38C42…*, MIC38HC42…**
UC3843…	*MIC38C43…*, MIC38HC43…**
UC3844…	*MIC38C44…*, MIC38HC44…**
UC3845…	*MIC38C45…*, MIC38HC45…**
Cherry Semiconductor	
CS2843AN8	**MIC38C43BN***, **MIC38HC43BN***
CS2843AD8	**MIC38C43BM***, **MIC38HC43BM***
CS2843AD14	**MIC38C43-1BM***, **MIC38HC43-1BM***
CS3842AD8	**MIC38C42BM***, **MIC38HC42BM***
CS3842AD14	**MIC38C42-1BM***, **MIC38HC42-1BM***
CS3842AN8	**MIC38C42N***, **MIC38HC42BN***
CS3842D8	**MIC38C42BM***, **MIC38HC42BM***
CS3842D14	**MIC38C42-1BM***, **MIC38HC42-1BM***
CS3842N8	**MIC38C42N***, **MIC38HC42BN***
CS3843AD8	**MIC38C43BM***, **MIC38HC43BM***
CS3843AD14	**MIC38C43-1BM***, **MIC38HC43-1BM***
CS3843AN8	**MIC38C43N***, **MIC38HC43BN***
CS3843D8	**MIC38C43BM***, **MIC38HC43BM***
CS3843D14	**MIC38C43-1BM***, **MIC38HC43-1BM***
CS3843N8	**MIC38C43N***, **MIC38HC43BN***

Part Number	*Micrel Replacement*
élantec	
EL7202CN	*MIC1427CN*, *MIC4424BN*
EL7202CS	*MIC1427CM*
EL7212CN	*MIC1426CN*, *MIC4423BN*
EL7212CS	*MIC1426CM*
EL7222CN	*MIC1428CN*, *MIC4425BN*
EL7222CS	*MIC1428CM*
EL7262CN	*MIC4607BN*
EL7262CS	*MIC4607BM*
EL7272CN	*MIC4606BN*
EL7272CS	*MIC4606BM*
Goldstar	
GL3842…	*MIC38C42…*, MIC38HC42…**
GL3843…	*MIC38C43…*, MIC38HC43…**
GL3844…	*MIC38C44…*, MIC38HC44…**
GL3845…	*MIC38C45…*, MIC38HC45…**
Gould AMI	
S4520	*MIC8030*
Harris Semiconductor	
ICL7667CBA	**MIC1426CM**, **MIC4426CM**
ICL7667CPA	**MIC1426CN**, *MIC4423CN*, **MIC4426CN**
ICL7667MJA	*MIC4423AJ*, **MIC4426AJ**
Holt	
HI-8010	*MIC8030*
Linear Technology Corp.	
LT1083CP	*MIC29752BWT*, MIC29753BWT**
LT1084CT	*MIC29502BT*, MIC29503BT**
LT1085CT	*MIC29302BT*, MIC29303BT**
LT1083CP-5	*MIC29750-5.0BWT**
LT1084CT-5	*MIC29500-5.0BT**
LT1085CT-5	*MIC29300-5.0BT**
LT1085CT-12	*MIC29300-12BT**
LT1086CT	*MIC29152BT*, MIC29153BT**
LT1086-5CT	*MIC29150-5.0BT**
LT1086-12CT	*MIC29150-12BT**
LT1172	*MIC2172*, MIC3172**
LT1241MJ8	*MIC18C45AJB*
LT1241CN8	*MIC38C45BN, MIC38HC45BN*
LT1241CS8	*MIC38C45BM, MIC38HC45BM*
LT1242MJ8	**MIC18C42AJB***
LT1242CN8	**MIC38C42BN***, **MIC38HC42BN***
LT1242CS8	**MIC38C42BM***, **MIC38HC42BM***
LT1243CJ8	**MIC38C43AJB***
LT1243MJ8	**MIC18C43AJB***
LT1243CN8	**MIC38C43BN***, **MIC38HC43BN***
LT1243CS8	**MIC38C43BM***, **MIC38HC43BM***
LT1244CJ8	**MIC38C44AJB***
LT1244MJ8	**MIC18C44AJB***
LT1244CN8	**MIC38C44BN***, **MIC38HC44BN***

Micrel **Equivalent** devices are shown in **boldface**.
Micrel *Similar Replacement* devices are shown in *italic*.
***** Indicates Micrel Improved Version devices.

1-6

Same instructions apply to selection guides.

Navigating the *Designing PCMCIA Power Control* Book

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Micrel's Guide to

Designing PCMCIA Power Control

Second Edition

February 1996

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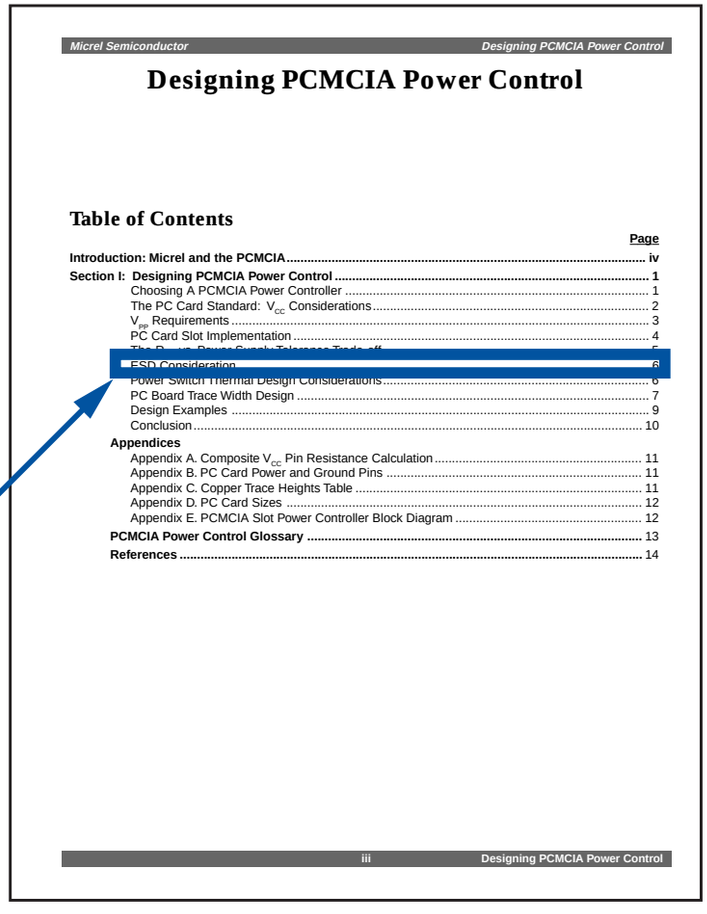

Designing PCMCIA Power Control

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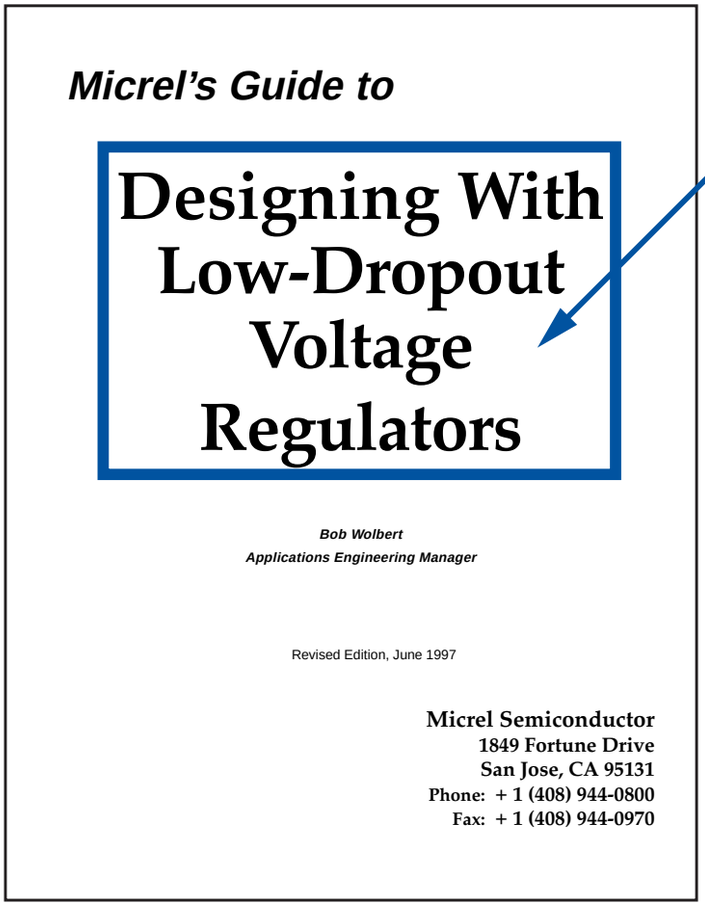
Navigating the *Designing with Low-Dropout Voltage Regulators* Book



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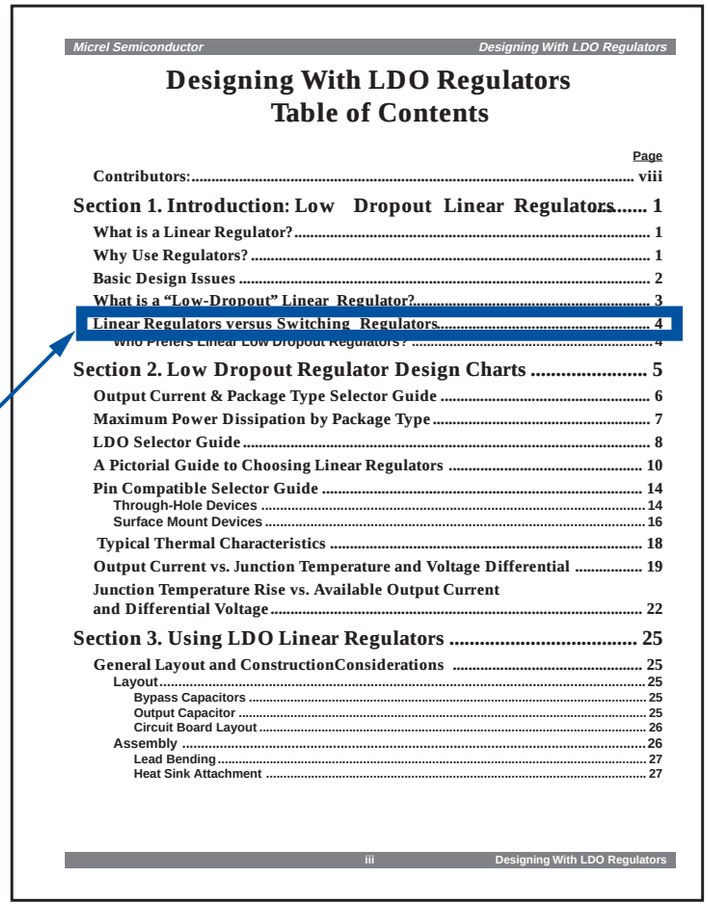

Designing With LDO Regulators
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See **`http://www.micrel.com`** *for the latest product information.*

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- Print areas vary from printer to printer. You may need to select a "Fit to Page" option, if available.
- Individual data sheet files (**DATASHTS** subdirectory/folder) are also included.