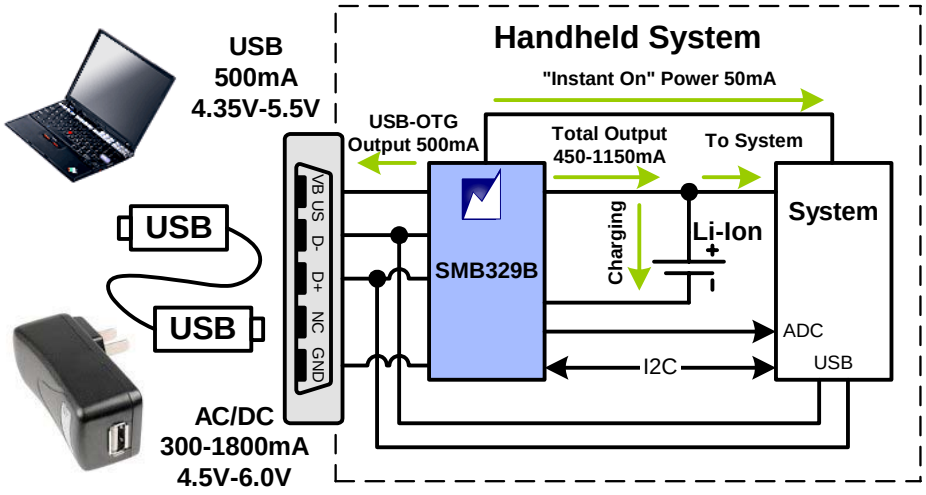
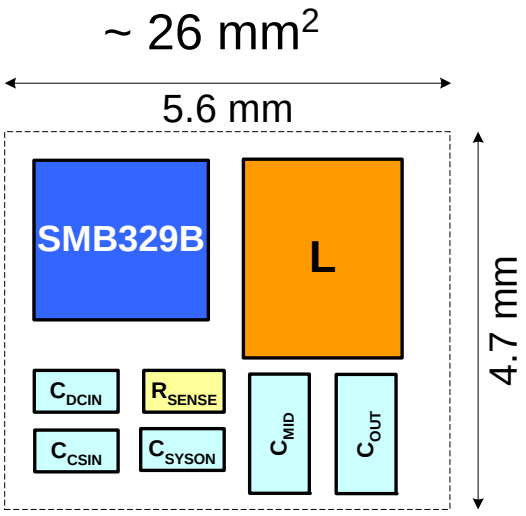
Tiny Li+ Charger IC Enables True Universal USB Battery Charging And Fastest Charging Time

Automatic Input Current Limit*, Dead-battery Charging & Automatic Power Source Detection meet latest battery charging specifications and reduce system cost



High Integration and Low Power Dissipation Enable Small Industrial Designs without Compromising Performance



SMB329B Features

- **TurboCharge™* for 50% Current Gain from Current-limited Power Sources**
- **Automatic Charger Input Current Adjustment based on Wall Adapter Current Limit – as low as 275mA for China Chargers ***
- **Automatic Power Source Detection per USB 1.0 Charging Specification**
- **Integrated USB On-the-Go Power Support (+5V @ 500mA)**
- **"Instant-on" Power for "Dead Battery" Boot-up**
- **Analog Output Voltage for Direct Charge Current Measurement**
- **+3.5V to +6.2V Operating Input (+20V Protection)**
- **3MHz Switch-Mode Operation (Chip Inductors)**
- **Very low reverse leakage and shutdown current**
- **I²C Programmable (Volatile and Non-volatile)**
  - **Fast/Pre-Charge/Termination Current**
  - **Float Voltage**
  - **Pre-Charge/Dead-battery Thresholds**
  - **Safety Watchdog Timers**
- **Built-in Safety – supports IEEE 1725 standard**
  - **Input OV Protection to +20V**
  - **Battery OV/OC Protection**
  - **Trickle Charge for Deeply-Discharged Cells**
  - **Watchdog and Safety Timers**
  - **Digital Fault Monitors**
  - **Battery Temperature Monitor**
- **2.2mm x 1.9mm CSP and 4x4 QFN Packaging**

SMB329B Applications

- **Mobile/Smart Phones**
- **Digital Cameras/Camcorders**
- **Portable Media Players/Games**
- **Handheld GPS Terminals**

** Patent pending*

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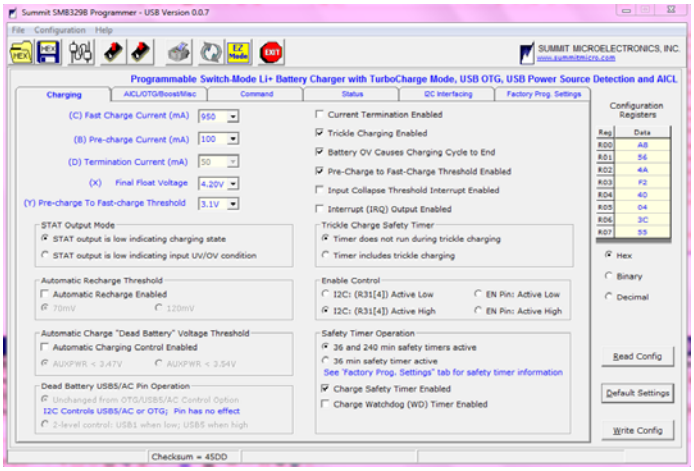
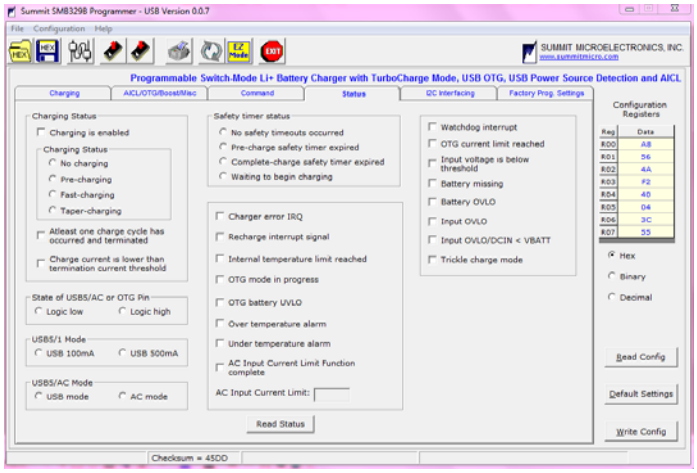
GUI allows easy programming of all functions and parameters in a real-time environment

Battery Charger Configuration



Real-time Status/Fault Control



Battery Charging Product Portfolio

	SMB137B	SMB136	SMB329B	SMB338	SMB135/235	SMB139/239
Topology	Switch-mode	Switch-mode	Switch-mode	Switch-mode	Switch-mode	Linear-mode
Input Voltage Range (V)*	4.35 to 6.2 (18)	4.35 to 6.2 (18)	4.35 to 6.2 (20)	4.35 to 6.2 (18)	4.35 to 6.5 (10)	4.35 to 6.5 (10)
# of Inputs/Outputs	2/2	1/2	1/1	1/1	1/1	1/1
Maximum Charge Current (mA)	1500	1500	1150	1250	900	210/525
Maximum Input Current (mA)	1400	1400	1150	1250	NA	NA
TurboCharge™ Output	Automatic	Automatic	Automatic	Automatic	Software/uC	
CurrentPath™ Control	X	X				
USB On-The-Go Power	X	X	X	X		
Instant-On System Boot			X			
Charge Current Voltage Output			X			
Low-Battery Recovery Mode	X	X				
I2C Interface	X	X	X	X	X	X
Programmable Float Voltage	X	X	X	X	X	X
Programmable Charge/Term. Current	X	X	X	X	X	X
Programmable Input Current Limit	X	X	X	X		
Input/Battery OV/UV	X	X	X	X	X	X
Hardware Safety Timer	X	X	X	X	X	X
Software Watchdog Timer	X	X	X	X		
Battery Thermal Protection	X	X	X		X	X
Automatic Input Current Limit	X	X	X	X		
Automatic Power Source Detection **	X	X	X			
IC Thermal Protection	X	X	X	X	X	X
Package	3.0x2.5 CSP-30	3.0x2.5 CSP-30	2.2x1.9 CSP-20 4x4 QFN-24	2.1x1.9 CSP-20	2.1x1.3 CSP-15 5x5 QFN-32	2.1x1.3 CSP-15 2.1x1.3 CSP-8

* () Indicates overvoltage "holdoff" tolerance
** Per USB Battery Charging Specification 1.0

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