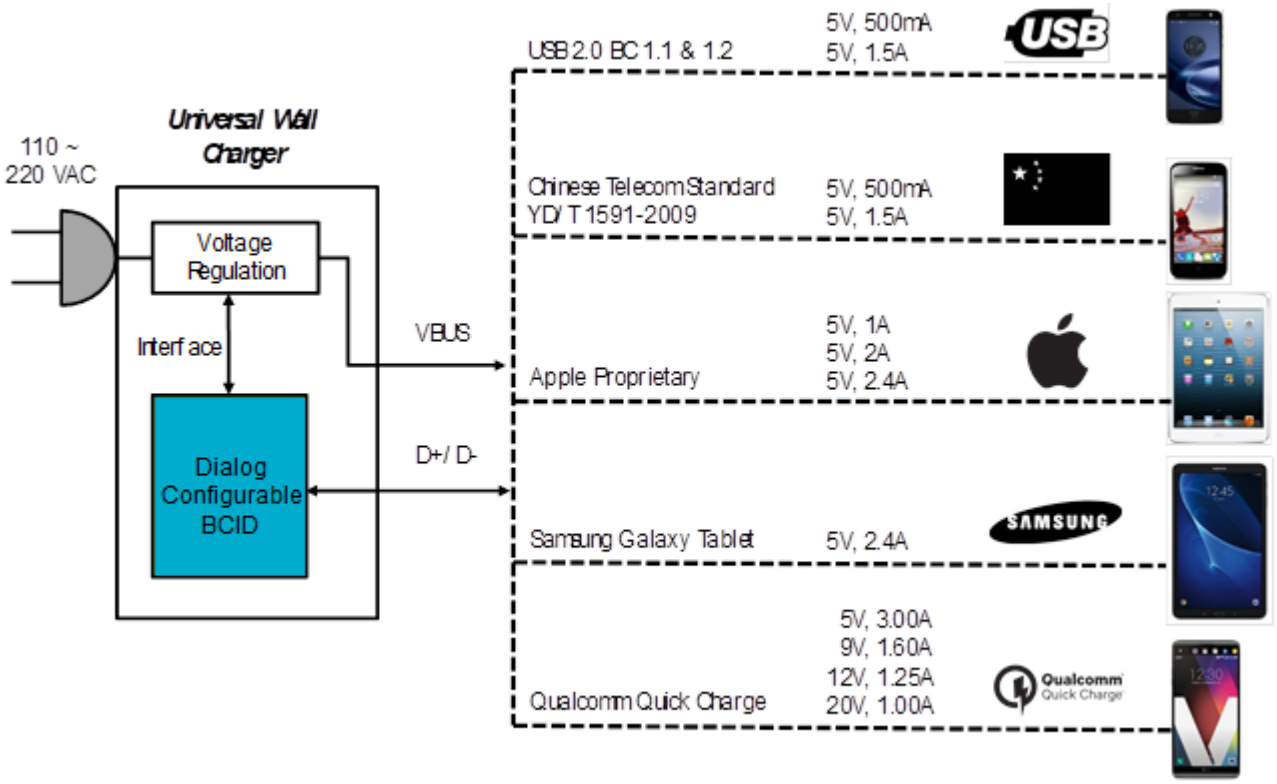
Battery Charger ID

Dialog Battery Charger Identification (BCID) products are USB devices that combine high-speed USB switches with a USB host charger (dedicated charger) identification circuit. These devices support the most current USB Battery Charging specification Revision 1.2 including data contact detection and set resistor biases for Apple* and Samsung** compliant devices. These devices also support legacy USB D+/D- short detection using data-line pull up resistors.

Dialog BCID Products Enable Universal Charging Solutions



BCID Features

- USB 2.0 Battery Charging Specifications (BC) 1.1 & 1.2
- Chinese Telecom Standard YD/T 1591-2009
- Proprietary Apple* dedicated charger scheme (2.4 A)
- Supports Samsung** Galaxy Tab charging scheme
- Supports Full/Low speed mouse/keyboard wake-up function from S3 (Sleep) mode
- Supports SDP, CDP, DCP Handshaking Protocol
- Smart-CDP Function
- Small 2 x 2 mm, TDFN-8 packaging
- Low supply current operation

* Apple iPhone, iPad, and iPod are trademarks of Apple Inc., registered in the U.S. and other countries.

** Samsung Galaxy Tab are trademarks of Samsung Electronics, registered in Korea and other countries

For more information please visit www.dialog-semiconductor.com

Or email your questions to cmic@diasemi.com

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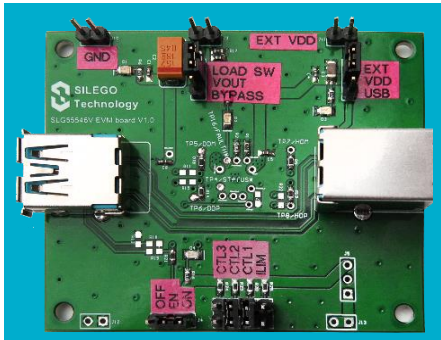
Battery Charger ID

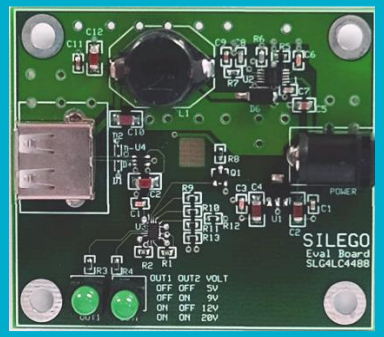
Feature New Products: SLGC55545V and SLG55546V

- **Single Chip BCID Solution**
  - BCID Fast Charge Identification
  - USB 480 Mbps Bus Switch
  - 2.5 A USB Current Limiter
- **Auto-DCP mode**: Automatically detects and selects the right resistor divider values by monitoring D+/D- voltage and timing.
- **CDP Support (SLGC55545V):** Supports newer smartphones that are compatible with CDP.
- **Smart-CDP function (SLG55546V)**: Automatically switches between SDP and CDP mode to support older version of smartphones that don't support CDP.
- **Auto wake up power saving mode**: BCID will automatically wake up or power down when USB cable is plug in or out of the connector. This features reduces system power consumption to comply with European standby power requirement.
- **Key board & mouse** wake up for notebook Always-On-USB Port application: Maintains D+/D- communicate line between mouse/keyboard USB Dongle to chipset during notebook hibernate state. This allows chipset to wake up when a user clicks on or touches the mouse/keyboard.
- **Port Power Management.** When two BCID are deployed, in parallel, in the same system, one BCID can send STATUS# signal to another BCID to select current allocation.



SLGC55545V & SLG55546
Evaluation Board

SLG55596AV
Evaluation Board



SLG4LC4480
Evaluation Board

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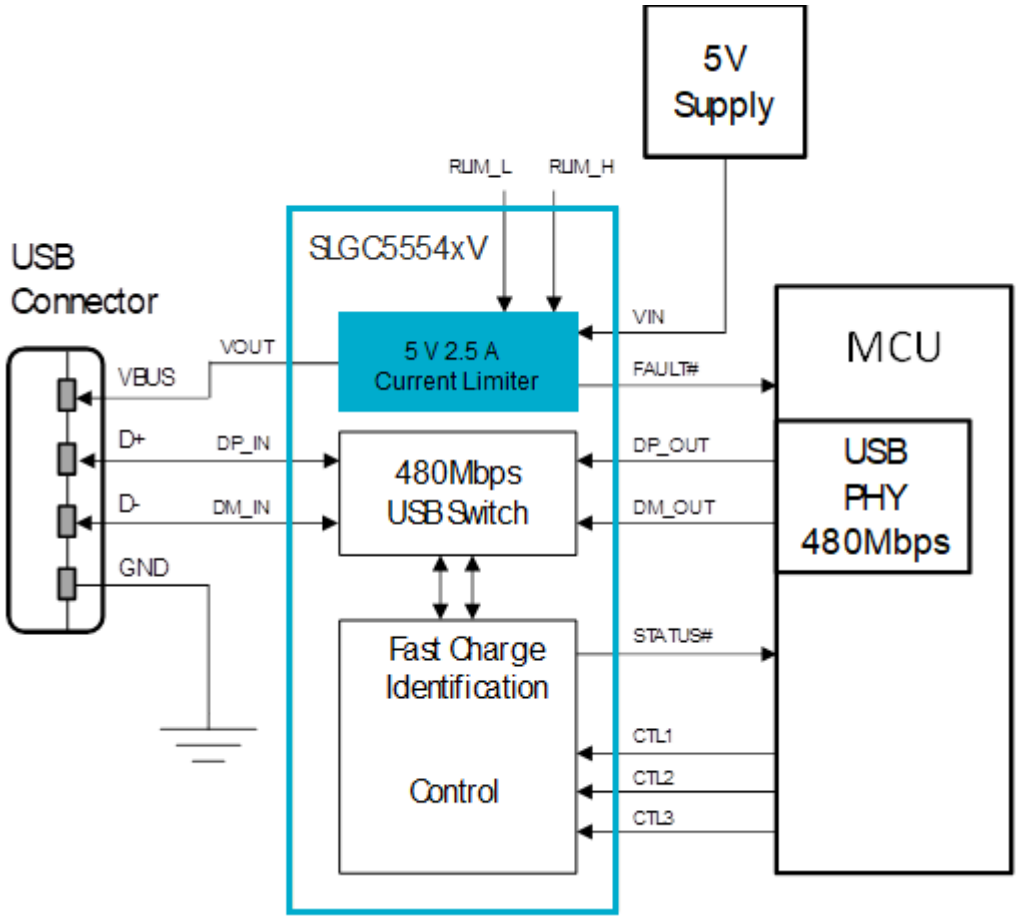
Battery Charger ID

SLGC5554xV Application Block Diagram



Dialog BCID Advantages

- Supports many USB charging standards
- Easily add new features & functions with NVM configurable technology
- Quickly customizable and ready for mass production within days
- Change indicators, flags, LED driver, etc.
- Small form factor and cost effective solution
- Underwriters Laboratories (UL) certified and Qualcomm approved

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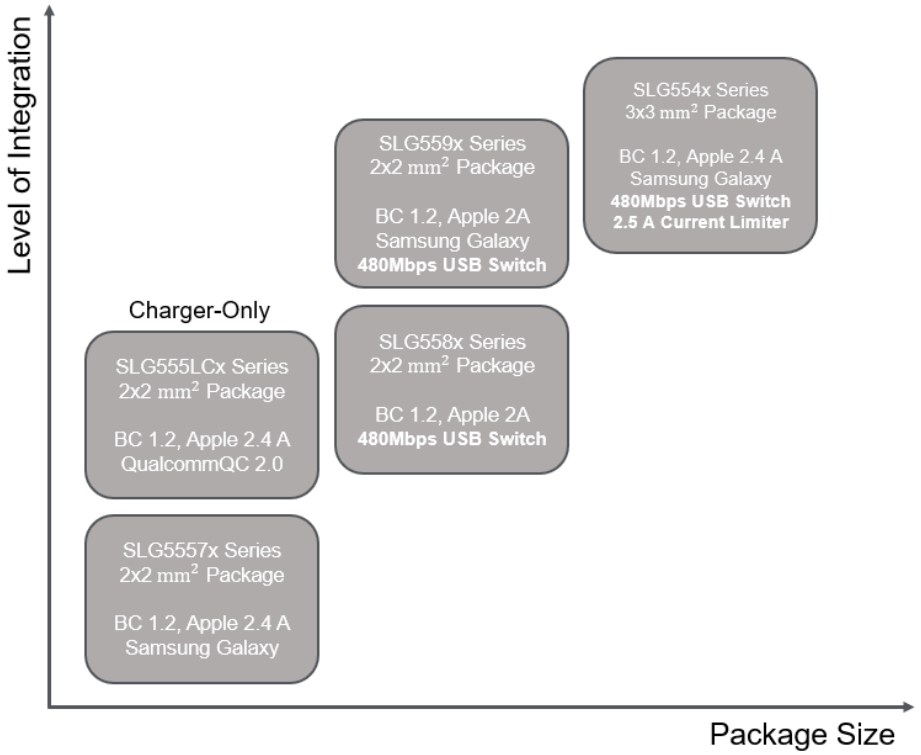
Battery Charger ID

BCID Product Portfolio



BCID Products with Qualcomm Quick Charge 2.0 Technology

Part Number	Description	QC 2.0	Smart CDP	YD/T 1591-2009	Custom Standard (2.7V)			Package
					1A	2A	2.4A	
SLG5LC4412V	BCID with Configurable Digital Control Interface	✓	✓	✓	✓	✓	✓	TDFN-20
SLG555LC20V								TDFN-8
SLG5LC4438V	BCID with Analog Feedback	✓	✓	✓	✓	✓	✓	TDFN-20
SLG555LC20V								TDFN-8
SLG4LC44xx	Companion ICs to SLG555xx BCID Products	✓	Configurable Hand Shaking & Control Loop Interface. Contact Dialog Sales for more information					
SLG4LC45xx								

Product Compatibility

Dialog has officially tested compatibility with hundreds of USB devices, including smart phones, tablets, PCs, media players, GPS receivers, and other portable devices in the market.

To request a test results document, please contact your local Dialog sales office.

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Battery Charger ID

General BCID Products

Part Number	Description	480Mbps USB Data Switch	BC 1.1 BC 1.2			Smart CDP	YD/T 1591-2009	Custom Standard (2.7V)			Galaxy Tablet	Package
			DCP	SDP	CDP			1A	2A	2.4A		
SLG55550AV	BCID. External Resistor Divider, CEN Active High	✓	✓	✓			✓	✓	Resistor	Resistor		TDFN-10 (3.0 x 3.0 mm)
SLG55550V	BCID. External Resistor Divider, CEN# Active Low	✓	✓	✓			✓	✓	Resistor	Resistor		TDFN-10 (3.0 x 3.0 mm)
SLG55566AV	BCID. External Resistor Divider, CEN Active High	✓	✓	✓			✓	✓				TDFN-8 (2.0 x 2.0 mm)
SLG55566V	BCID. External Resistor Divider, CEN# Active Low	✓	✓	✓			✓	✓				TDFN-8 (2.0 x 2.0 mm)
SLG55570AV	BCID. Integrated Resistor Divider, CEN Active High		✓				✓	✓	✓	✓	✓	TDFN-8 (2.0 x 2.0 mm)
SLG55583AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓	✓			TDFN-8 (2.0 x 2.0 mm)
SLG55583V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓	✓			TDFN-8 (2.0 x 2.0 mm)
SLG55584AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓				TDFN-8 (2.0 x 2.0 mm)
SLG55584V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓				TDFN-8 (2.0 x 2.0 mm)
SLG55587AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓		✓		✓	✓	✓			TDFN-8 (2.0 x 2.0 mm)
SLG55587V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓		✓		✓	✓	✓			TDFN-8 (2.0 x 2.0 mm)
SLG55590AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓	✓		✓	TDFN-8 (2.0 x 2.0 mm)
SLG55590V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓	✓		✓	TDFN-8 (2.0 x 2.0 mm)
SLG55593AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓	✓		✓	TDFN-8 (2.0 x 2.0 mm)
SLG55593V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓	✓		✓	TDFN-8 (2.0 x 2.0 mm)
SLG55594AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓			✓	TDFN-8 (2.0 x 2.0 mm)
SLG55594V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓			✓	TDFN-8 (2.0 x 2.0 mm)
SLG55596AV	BCID. Integrated Resistor Divider, CEN Active High	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	TDFN-8 (2.0 x 2.0 mm)
SLG55596V	BCID. Integrated Resistor Divider, CEN# Active Low	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	TDFN-8 (2.0 x 2.0 mm)

BCID Products with Integrated Current Limit

Part Number	Description	480Mbps USB Data Switch	BC 1.1 BC 1.2			Smart CDP	YD/T 1591-2009	Custom Standard (2.7V)			Galaxy Tablet	Package
			DCP	SDP	CDP			1A	2A	2.4A		
SLG55544V	BCID with integrated 2.5A Current Limiter	✓	✓	✓	✓	✓	✓	✓	✓		✓	TQFN-16 (3.0 x 3.0 mm)
SLGC55544CV	BCID with integrated 2.5A Current Limiter	✓	✓	✓	✓	✓	✓	✓	✓		✓	TQFN-16 (3.0 x 3.0 mm)
SLGC55545V	BCID with integrated 2.5A Current Limiter	✓	✓	✓	✓		✓	✓	✓		✓	TQFN-16 (3.0 x 3.0 mm)
SLG55546V	BCID with integrated 2.5A Current Limiter	✓	✓	✓	✓	✓	✓	✓	✓		✓	TQFN-16 (3.0 x 3.0 mm)

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