/ Descriptions

BRCL4055ZF /
DFN2×2-6L BRCL4055ZF
BRCL4055ZF USB
PMOSFET

4.20V 4.20V 1/10
BRCL4055ZF
USB BRCL4055ZF
3uA BRCL4055ZF

BRCL4055ZF is a complete CC/CV linear charger for single cell lithium-ion batteries,It has the function of positive and negative electrode protection for battery.Its DFN2×2-6L package and low external component count make the BRCL4055ZF ideally suited for portable applications. Furthermore, the BRCL4055ZF is specifically designed to work within USB power specifications.

No external sense resistor is needed and no blocking diode is required due to the internal P-MOSFET architecture. Thermal feedback regulates the charge current to limit the die temperature during high power operation or high ambient temperature .The charge voltage is fixed at 4.2V,and the charge current can be programmed externally with a single resistor. The BRCL4055ZF automatically terminates the charge cycle when the charge current drops to 1/10th the programmed value after the final float voltage is reached.

When the input supply (wall adapter or USB supply) is removed the BRCL4055ZF automatically enters a low current state dropping the battery drain current to less than 3 A. Other features include charge current monitor, under-voltage lockout, automatic recharge and two status pins to indicate charge and charge termination.

/ Features

4.20V±1%
Preset 4.20V charge voltage with ±1% accuracy
8V
Maximum input voltage is 8V
BAT-VIN
With BAT-VIN anti-backflow function
800mA / /
Linear charge mode,The maximum charging current can reach 800 mA .Trickle /Constant current/Constant voltage three stage charging ,externally adjustable charging charging current
0V
Supports 0V battery charing

/ Features

Short circuit protection,battery polarity reverse polarity protection

130 0

Intelligent temperature control technology,charging current will decrease with increasing temperature,130 began to decline,the lowest can be reduced to 0

Soft-Start limits inrush current

USB

Charges single cell Li-ion batteries Directly from USB port

Automatic recharge

4KV ESD

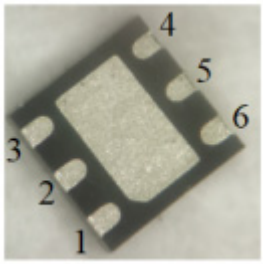
Halogen-free Product.

/ Applications

USB

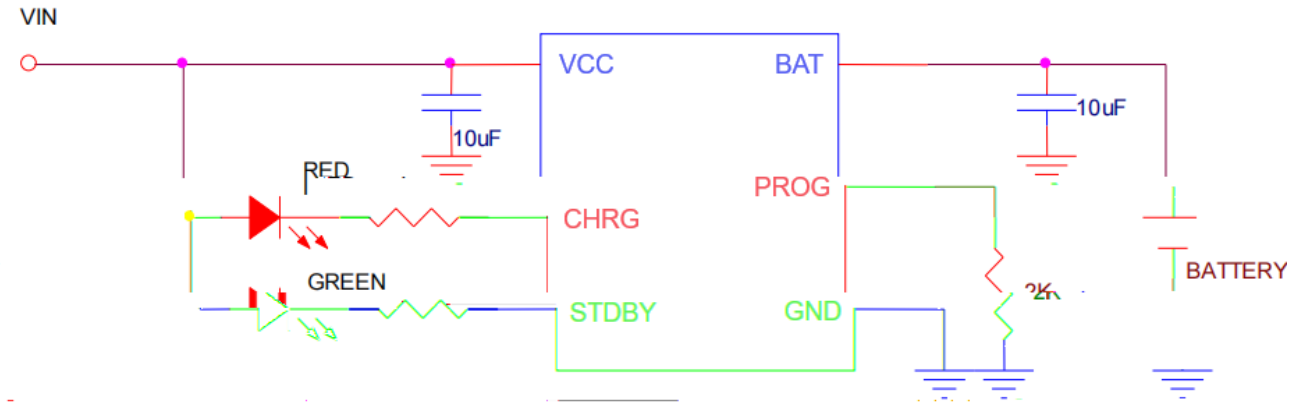
Suitable for USB power and adapter power,Bluetooth applications and other portable devices.

/ Pinning



1	PROG	/Charge current regulator
2	STDBY	/Battery charge completion indicator
3	VDD	5V/External input DC 5V
4	BAT	/Battery input
5	GND	/Chip ground
6	CHRG	/Charging indicator

/ Typical Application



/ Marking

See Marking Instructions.

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
	V_{DD}		4	5	6	V
V_{DD}	V_{DD}	V_{DD}>BAT		100		mV
V_{DD}		V_{DD}>BAT		30		mV
	V_{BAT}	V_{DD}=5V	4.158	4.20	4.242	V
BAT	I_{BAT}	Vcc=3.5V Vbat=4.2V		±0.5	±5	μA
	V_{TRKL}	V_{BAT}		2.8		V
	V_{TRHYS}			100		mV
V_{DD}	V_{UV}	V_{DD}		3.7		V
V_{DD}	V_{UVHYS}			200		mV
	V_{msd}			1.2		V
	V_{msdHYS}			50		mV
PROG	V_{prog1}			0.1		V
PROG	V_{prog2}			1.0		V
	OTR	V_{DD}=5V		130		

BRCL4055ZF

800mA BRCL4055ZF
CHRG STDBY

The BRCL4055ZF is a complete CC/CV linear charger for single cell lithium-ion batteries. CC/CV to charger batter by internal MOSFET. It can deliver up to 800mA of charge current .No blocking diode or external current sense resistors required. BRCL4055ZF include two Open-Drain charge status Pins: Charge status indicator CHRG and battery charge completion status output STDBY.

130

BRCL4055ZF

The internal thermal regulation circuit reduces the programmed charge current if the die temperature attempts to rise above a preset value of approximately 130 .This feature protects the BRCL4055ZF from excessive temperature, and allows the user to push the limits of the power handling capability of a given circuit the external components. Another benefit of adopting thermal regulation is that charge current can be set according to typical, not worst-case, ambient temperatures for a given application with the assurance that the charger will automatically reduce the current in worst-case conditions.

BRCL4055ZF
CHRG 2.8V
2.8V PROG GND
RPROG 4.2V BRCL4055ZF
CHRG STDBY
10%

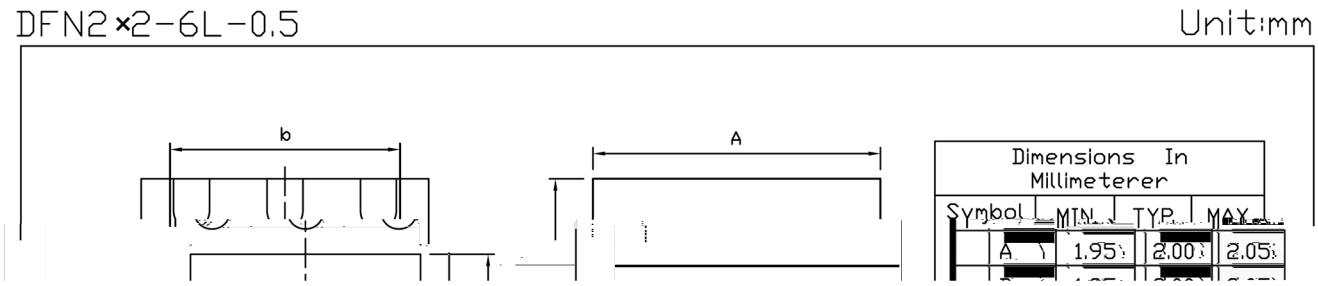
The charge cycle begins when the voltage at the VCC pin rises above the UVLO level, a current set resistor is connected from the PROG pin to ground. The CHRG pin outputs a logic low to indicate that the charge cycle is on going. At the beginning of the charge cycle, if the battery voltage is below 2.8V, the charge is in pre charge mode to bring the cell voltage up to a safe level for charging. The charger goes into the fast charge CC mode once the voltage on the BAT pin rises above 2.8V. In CC mode, the charge current is set by RPROG. When the battery approaches the regulation voltage 4.2V, the charge current begins to decreases the BRCL4055ZF enters the CV mode. When the current drops to charge termination threshold, the charge cycle is terminated, and CHRG pin assumes a high impedance state to indicate that the charge cycle is terminated and STDBY pin is pulled low. The charge termination threshold is 10% of the current in CC mode.

1%

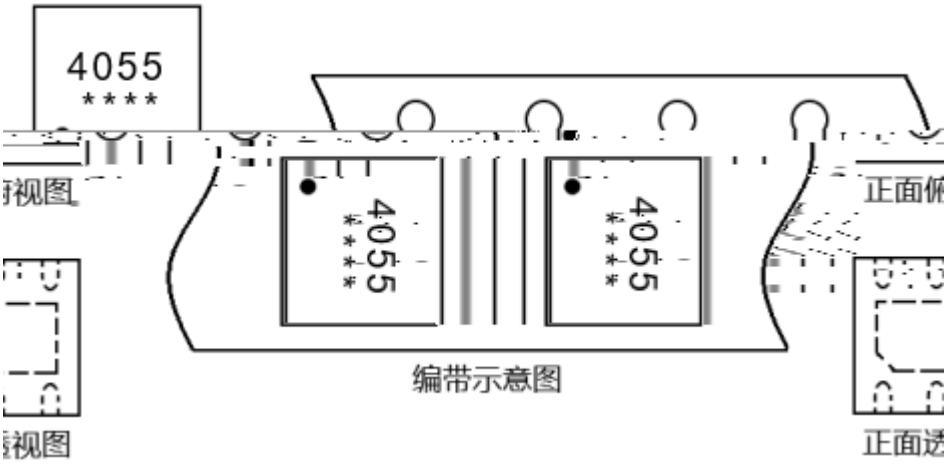
3uA

To restart the charge cycle, remove the input voltage and reapply it. The charge cycle can also be automatically restarted if the BAT pin voltage falls below the recharge threshold. The on-chip reference voltage, error amplifier and the resistor divider provide regulation voltage wfe a h

/ Package Dimensions



/ Marking Instructions



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Note:

4055: Product Type.

****: Lot No. Code, code change with Lot No.

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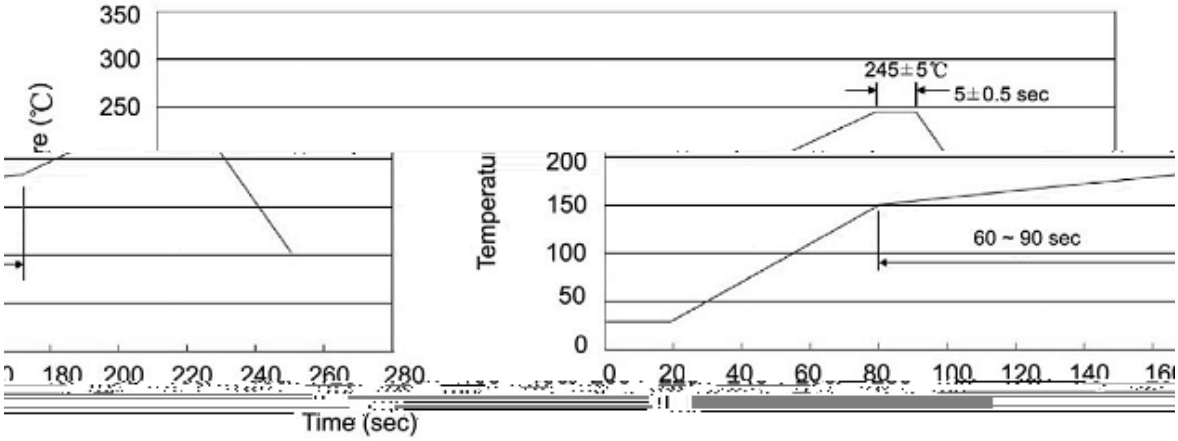

Note:

1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 2 10 /sec.

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	nner Boxes/Outer Bo /	Units/Outer Box /	Reel	Inner Box	Outer Box
DFN2×2-3L/6L	4,000	10	40,000	4	160,000	7 ×8	210×210×205	445×445×230

/ Notices