

BRCL4055ZF / BRCL4055ZF

DFN2×2-6L

BRCL4055ZF USB

PMOSFET

4.20V 4.20V 1/10

BRCL4055ZF

USB

BRCL4055ZF

3uA

DFN2×2-6L

4.20V±1%

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 charging

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

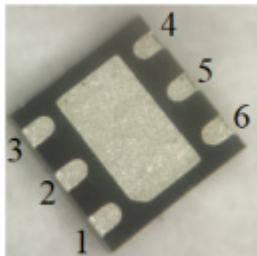
Charges single cell Li-ion batteries Directly from USB port

Automatic recharge

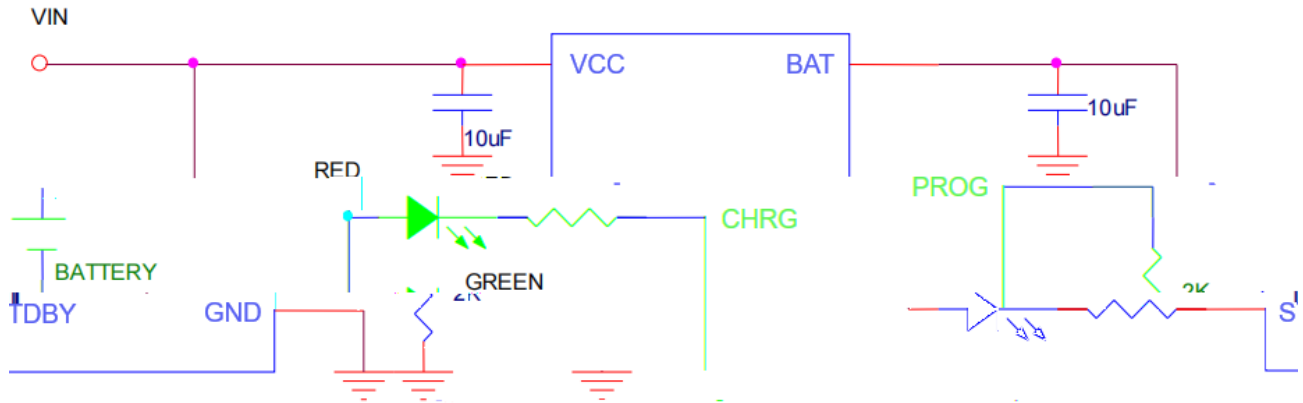
4KV ESD

USB

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



1		/Charge current regulator
2		/Battery charge completion indicator
3		5V/External input DC 5V
4		/Battery input
5		/Chip ground
6		/Charging indicator



	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}	$V_{CC} = 3.5V$ $V_{BAT} = 4.2V$		± 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		

800mA

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

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.

CHRG

2.8V

2.8V

PROG

GND

RPROG

4.2V

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.

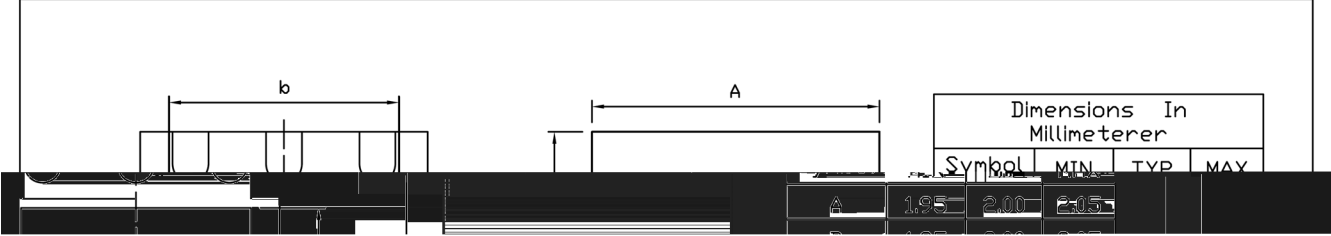
1%

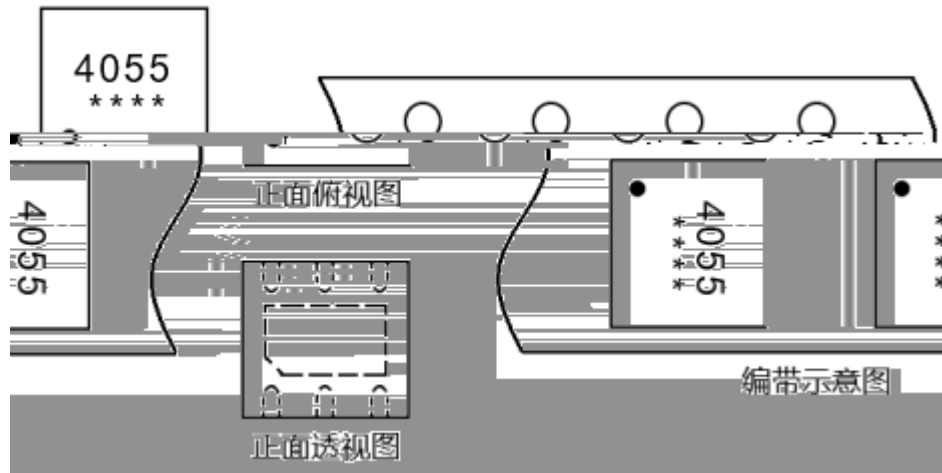
3uA

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 with 1% accuracy which can meet the requirement of lithion ou th ! e j e e o le

DFN2×2-6L-0.5

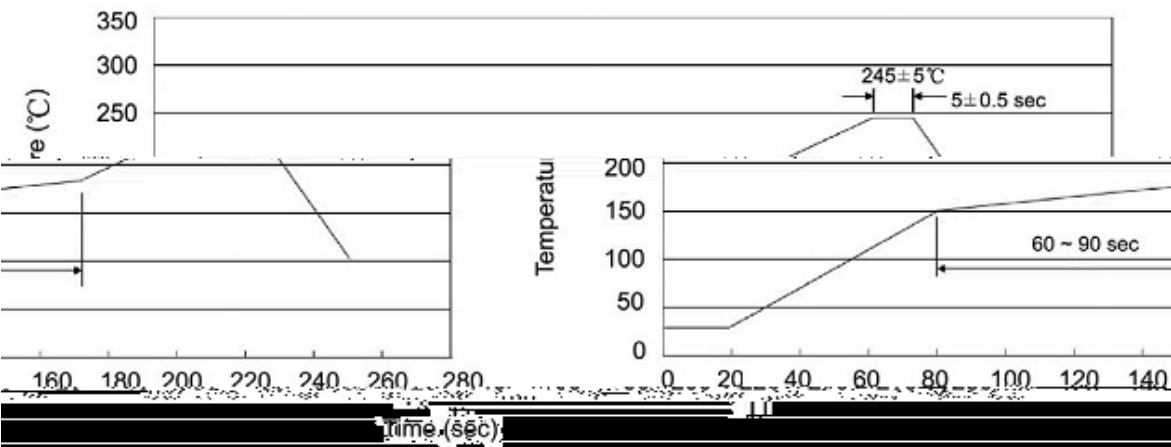
Unit:mm





4055

Temperature Profile for IR Reflow Soldering(Pb-Free)



± ± ± ±

± ± ± ±

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	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