

/ Descriptions

BRCL4056BSE / BRCL4056BSE
ESOP-8
BRCL4056BSE USB
PMOSFET
4.20V 4.20V
1/10 BRCL4056BSE
USB BRCL4056BSE
3uA BRCL4056BSE

BRCL4056BSE 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 ESOP-8 package and low external component count make the BRCL4056BSE ideally suited for portable applications. Furthermore, the BRCL4056BSE is specifically designed to work within USB power specifications.

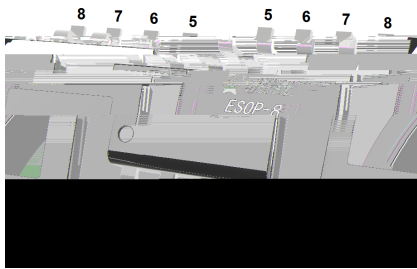
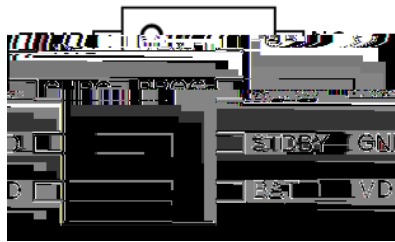
No external sense resistor is needed and no blocking diode is required due to the internal P-MOSFET architecture. Thermal feedback regulates the charge current to limit the die temperature during high power operation or high ambient temperature .The charge voltage is fixed at 4.2V,and the charge current can be programmed externally with a single resistor. The BRCL4056BSE 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 BRCL4056BSE automatically enters a low current state dropping the battery drain current to less than 3μA. 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 allowable input voltage is 8V
BAT-VIN
With BAT-VIN anti-backflow function
1A MOSFET / /
Linear charge mode,built-in 1A MOSFET,Trickle /Constant current/Constant voltage three stage charging ,externally adjustable charging current
0V
Supports 0V battery charging

Short circuit protection,battery polarity reverse polarity protection
USB
Charges single cell Li-ion batteries Directly from USB port



1	TEMP	/External temperature sensing pin
2	PROG	/Charge current regulator
3	GND	/Chip ground
4	VDD	5V/External input DC 5V
5	BAT	/Battery input
6	STDBY	/Battery charge completion indicator
7	CHRG	/Charging indicator
8	NC	/Vacant

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
VDD to GND	V _{DD}	-0.3~8	V
BAT to GND	V _{BAT}	-0.3~7	V
CHRG/STDBY to GND	V _{chrg} /V _{stdby}	-0.3~8	V
PROG to GND	V _{prog}	-0.3~8	V
TEMP to GND	V _{teD}		

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}	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		

BRCL4056BSE

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BRCL4056BSE

Rev.G Dec.-2024



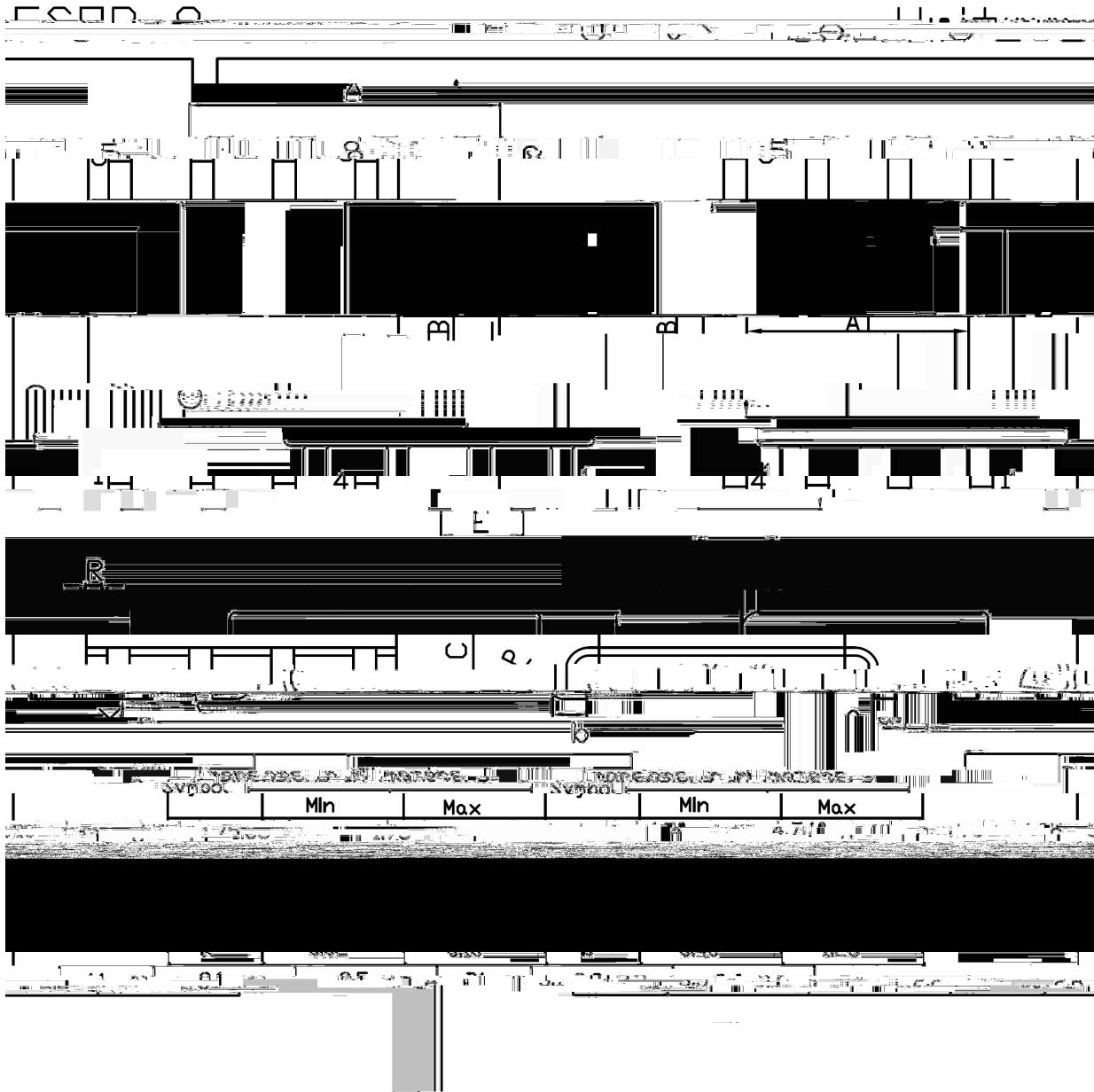
蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

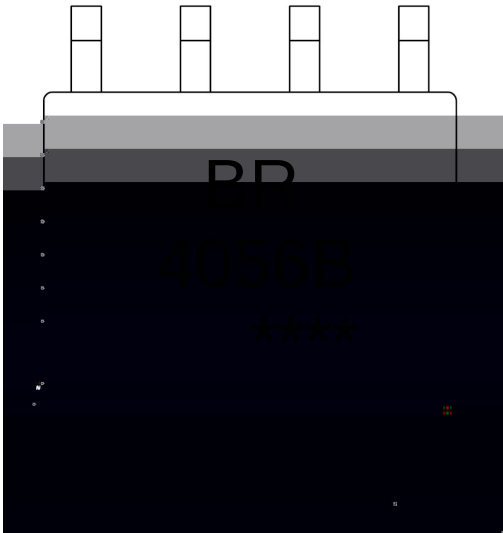
The BRCL4056BSE is a complete CC/CV linear charger for single cell lithium-ion batteries. CC/CV to charger batter by internal MOSFET. It can deliver up to 1A of charge current .No blocking diode or external current sense resistors required. BRCL4056BSE include two

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/ Package Dimensions



/ Marking Instructions



BR:

4056B

Note:

BR:

4056B:

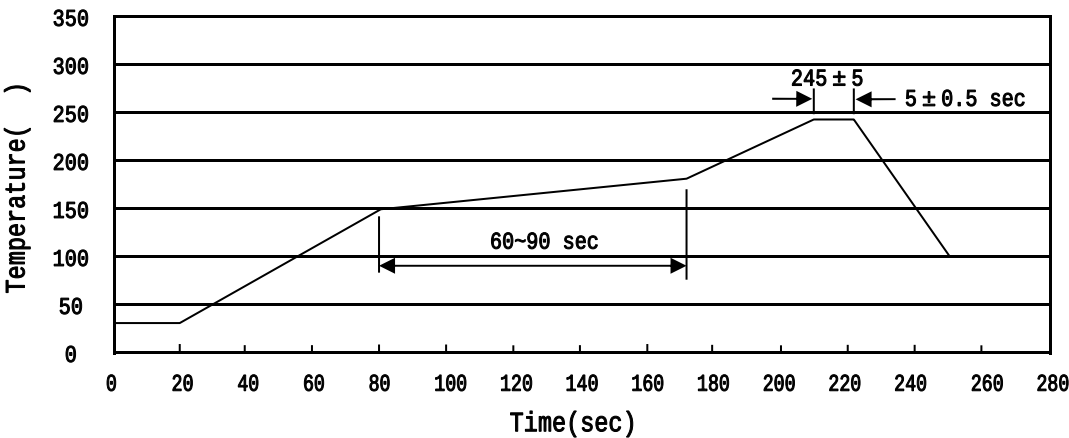
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Company Code

Product Type Code

Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

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 mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices