

/ Descriptions

BRCL4054DME 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 SOT23-5 package and low external component count make the BRCL4054DME ideally suited for portable applications. Furthermore, the BRCL4054DME 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 BRCL4054DME 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 BRCL4054DME automatically enters a low current state dropping the battery drain current to less than 3 μ A. Other features include charge current monitor, under-voltage lockout, automatic recharge and one status pins to indicate charge and charge termination.

/ Features

Preset 4.20V charge voltage with $\pm 1\%$ accuracy

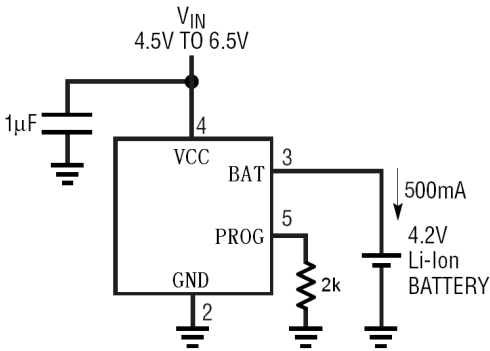
Maximum allowable input voltage is 8V

/ Features

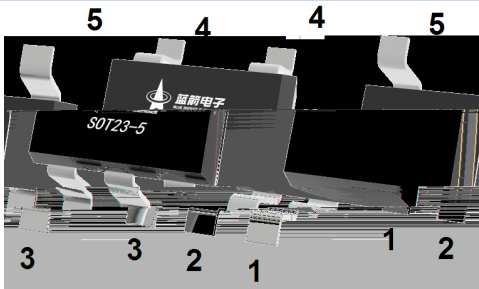
Halogen-free Product.

/ Applications

/ Typical Application



/ Pinning



	CHRG	
	GND	
	BAT	
	VDD	
	PROG	

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25$)

Parameter	Symbol	Rating	Unit
VDD to GND	V_{DD}	-0.3~8	V
BAT to GND	V_{BAT}	-0.3~7	V
CHRG to GND	V_{chrg}	-0.3~8	V
PROG to GND	V_{prog}	-0.3~8	V
Storage Temperature	T_{STG}	-50~+125	
Operating Temperature Range	T_{opr}	-40~+85	
Lead Temperature Soldering 10s	T_{solder}	260	

/ Electrical Characteristics($T_a=25$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
				±	±	

/ Description of the Principle

BRCL4054DME

Rev.B Jul.-2023

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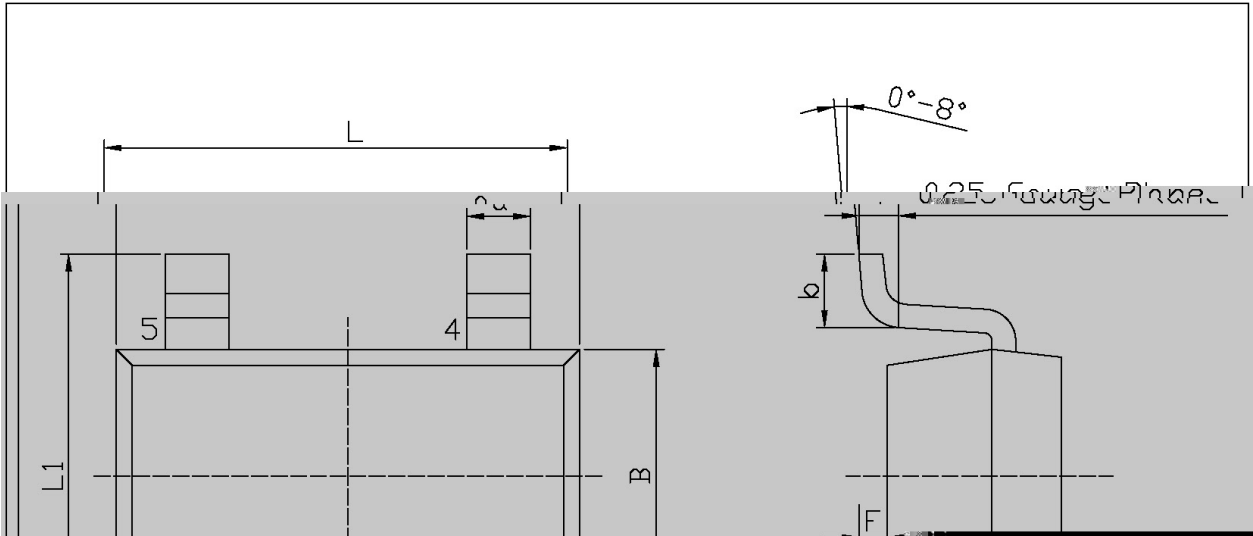
BRCL4054DME

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$$R_{\text{prog}}(\text{kohm}) = \frac{1000}{I_{\text{bat}}(\text{mA})} \text{ (误差} \pm 10\% \text{)}$$

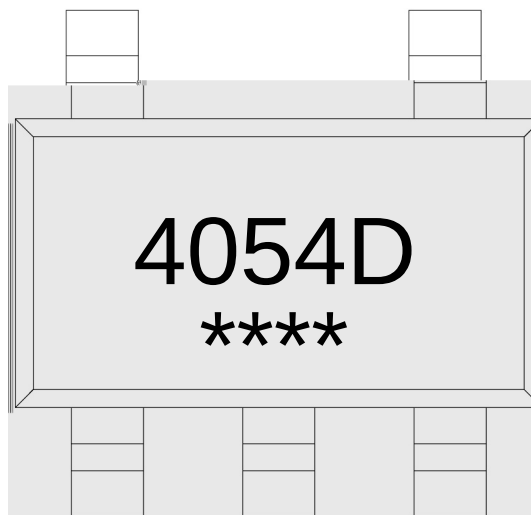
/ Package Dimensions



Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters	
	Min	Max		Min	Max
L	2.02	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20



/ Marking Instructions



Note:

4054D: Product Type Code

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



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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
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/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SOT23-5/6	3,000	10	30,000	4	120,000	7 ×8	210×205×205	445×435×230

/ Notices