

Y / Descriptions

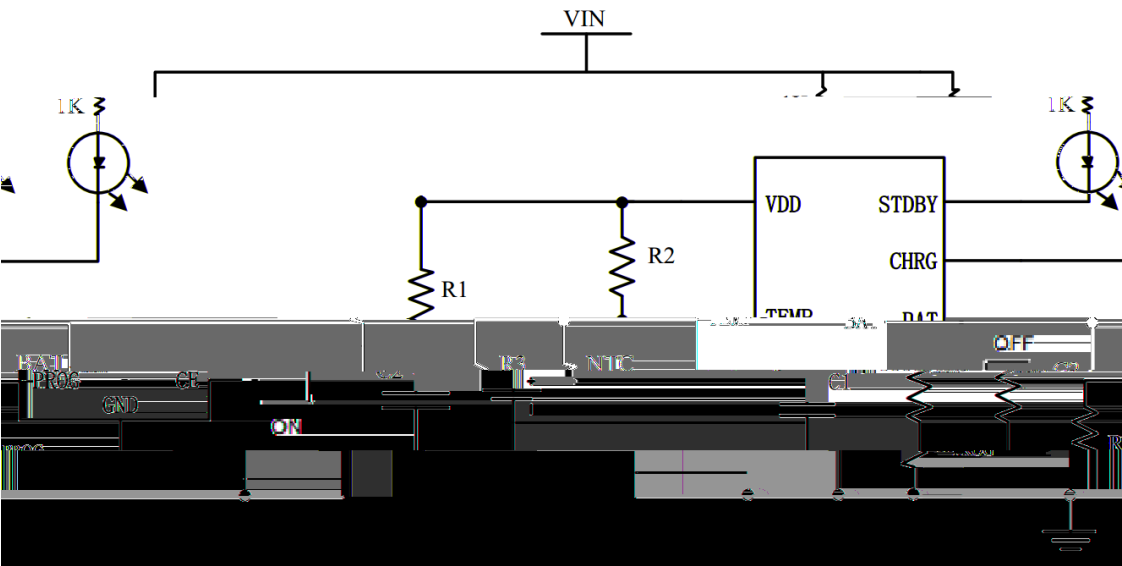
BRCL4058NSE	1A	/	BRCL4058NSE
P-MOSFET		4.2V	4.2V
	4.2V	1/10	
BRCL4058NSE			

• / Features

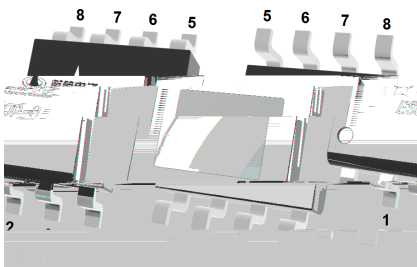
	6.8V OVP
VDD	36V
0V	
	1A
/	/
2.8V	
ESOP-8	
RoHS	

z v / Applications

z v ε / Application Circuit



Pinning



PIN Num.	Symbol	Function
1	TEMP	
2		
3	GND	
4	VDD	
5	BAT	
6	STDBY	
7	CHRG	
8	CE	

Absolute Maximum Ratings(Ta=25)

PARAMETER	SYMBOL	RATINGS	UNITS
VDD/CHRG/STDBY Pin Voltage	V _{VDD/CHRG/STDBY}	-0.3~36	V
VCE Pin Voltage	V _{CE}	-0.3~32	
BAT Pin Voltage	V _{BAT}	-5~15	
PROG Pin Voltage	V _{PROG}	-0.3~6	
TEMP Pin Voltage	V _{TEMP}	-0.3~15	
Operating Ambient Temperature Range	T _{OP}	-40~+85	°C
Storage Temperature	T _{stg}	-55~+150	°C
Lead Temperature (Soldering, 10s)	T _{solder}	260	°C
ESD	HBM	2000	V
	MM	200	V

1.3 Electrical Characteristics(Ta=25℃)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Power Supply						
Input Supply Voltage	V _{DD}		4.5	5.0	6.0	V
V _{DD} Under Voltage Lockout Threshold	V _{DD_UV}	V _{DD} from Low to High		3.8		V
V _{DD} Under voltage Lockout Hysteresis	V _{DD_UV_HYS}	V _{DD} from High to Low		200		mV
Input Over-Voltage Protection Voltage	V _{DD_OVP}		6.3	6.8	7.3	V
Input Over-Voltage Protection Voltage Hysteresis	V _{DD_OVP_HYS}			500		mV
Input Power Supply Current	I _{CC}	Charging mode (R _{PROG} =1K)		240	360	μA
		Standby mode, charging terminated		70	120	μA
		Shutdown mode (R _{PROG} not connected, V _{CC} <V _{BAT})		50	100	μA
Charging Current Setting						
R _{PROG} voltage at Constant Current Mode	V _{PROG}	V _{DD} =5V;R _{PROG} =1K	0.85	1	1.15	V
BAT Pin Current	I _{BAT}	V _{DD} =5V;V _{BAT} =3.6V R _{PROG} =1K		1000		mA
		V _{DD} not connected V _{BAT} =4V		0.5	1	
Trickle Charge Current	I _{TRIKL}	V _{BAT} V _{TRIKL} R _{PROG} =1K		100		mA
C/10 Charging Termination Current	I _{TERM}	R _{PROG} =1K		100		mA
Trickle Charge Threshold	V _{TRIKL}	V _{BAT} from Low to High		2.8		V
Trickle Charge Hysteresis	V _{TR_HYS}	V _{BAT} from High to Low		150		mV
Battery Terminal BAT						
Regulated Output (Float) Voltage	V _{FLOAT}	V _{DD} =5V;R _{PROG} =1K	4.158	4.2	4.242	V
Rechargeable Battery Voltage	V _{RECHRG}	V _{FLOAT} -V _{RECHARH}		150		mV
Recharge Comparator Filtering Time	T _{RECHARG}	V _{BAT} from High to Low	0.8	2	4	mS
Static Drain-Source On-Resistance	R _{DS(on)}	V _{BAT} =3.8V;R _{PROG} =1K		700		mΩ

BRCL4058NSE-4.2

Rev.B Aug.-2025



DATA SHEET

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Indicator Pin Status CHRG/STDBY						
CHRG Pin Output Current	I _{CHRG}	V _{DD} =5V;V _{CHRG} =1V	1	2.5	5	mA
STDBY Pin Output Current	I _{STDBY}	V _{DD} =5V;V _{STDBY} =1V	1	2.5	5	mA
Internal Temperature Compensation						
Internal Temperature Compensation	T _{OTC}			140		
Overtemperature Detection Threshold	T _{OTPH}					

功能描述 / Function description

器件名称

BRCL4058NSE / BRCL4058NSE
USB AC 1A , 36V 6.8V

主要特性

VDD UVLO PROG 1%
BAT 2.8V,
1/10
BAT 2.8V
BAT
BRCL4058NSE
1/10

典型应用

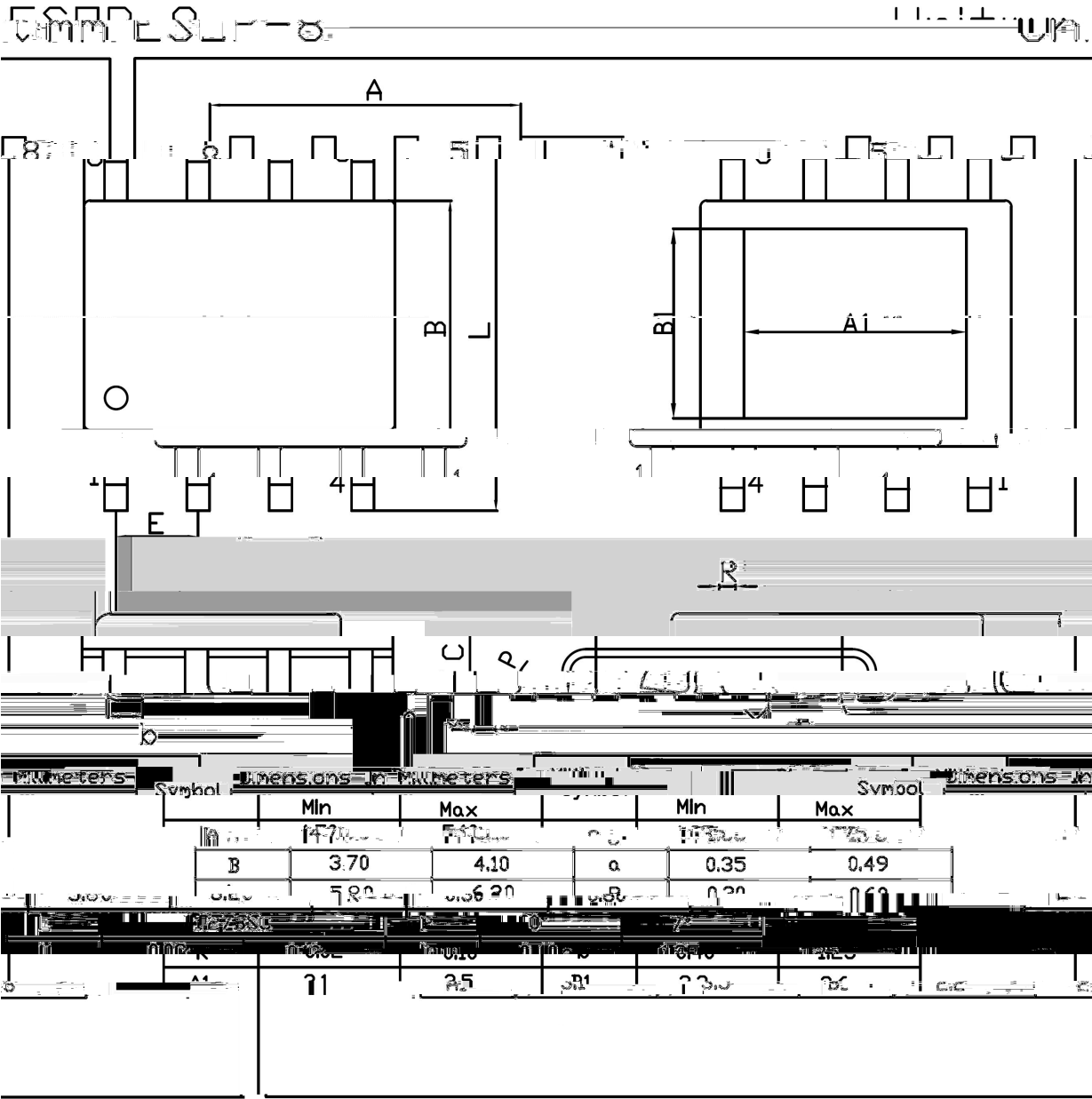
$I_{CH} = 1000 / R_{PROG}$ I_{CH}
 R_{PROG} R_{PROG} 200mA
 $R_{PROG} = 1000 / 0.2 = 5K$
 R_{PROG} 1%
 R_{PROG}

$R_{PROG}(K\Omega)$	$I_{CH}(mA)$
1	1000
1.2	830
1.5	666
5	200

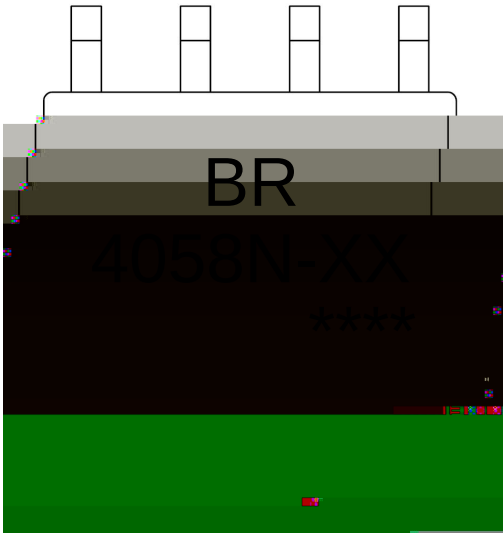
充电时间

BRCL4058NSE 2ms $T_{RECHARGE}$
BAT 4.05V 80 90

Package Dimensions



4. L^Q / Marking Instructions



BRCL4058NSE-4.2	BR/4058N-42/****

温度特性 / Whp shudwxuh Suriloh i ru LU Uhior z Vroghulqj+Se0lueh,

- 1

150 180

60 90sec;
- 2

245 5

5 0.5sec;
- 3

2 10

/sec.
- Note:

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

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

3. Cooling Speed: 2~10 /sec.