

Rev.B Aug.-2025

BRCL4058NSE

1A

/  
BRCL4058NSE

P-MOSFET

4.2V

1/10

4.2V

BRCL4058NSE

VDD 6.8V OVP  
36V

0V

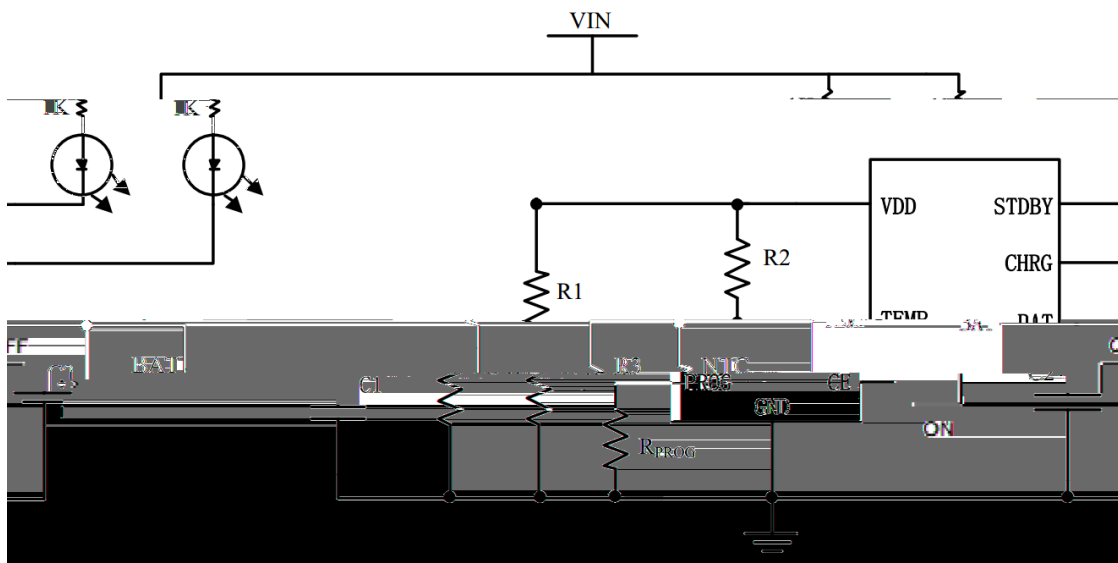
1A

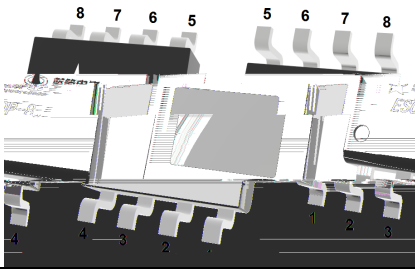
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2.8V

ESOP-8

RoHS





1	TEMP	
2		
3	GND	
4	VDD	
5	BAT	
6	STDBY	
7	CHRG	
8	CE	

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

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

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	$T_{OTC}$			140		
Overtemperature Detection Threshold	$T_{OTPH}$					

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

VDD UVLO PROG 1%  
 BAT 2.8V,

1/10  
 BAT 2.8V  
 BAT BRCL4058NSE  
 1/10

$I_{CH} = 1000/R_{PROG}$   $I_{CH}$   
 $R_{PROG}$   $R_{PROG}$  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

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

140

BRCL4058NSE

UVLO                      VDD                      VDD  
                                  VDD                      200mV

BRCL4058NSE

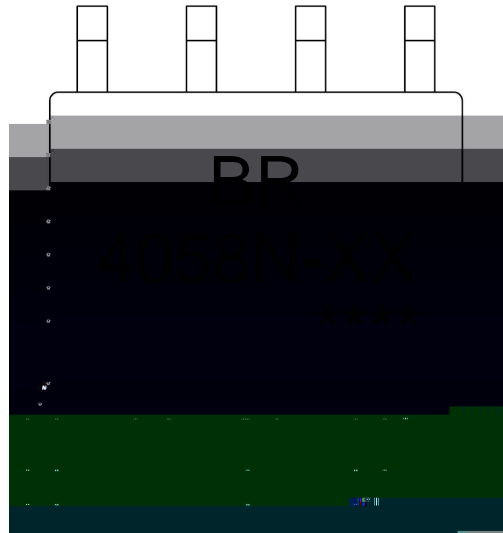
VDD

VDD

BRCL4058NSE                      CHRG STDBY  
 CHRG                      STDBY                      CHRG STDBY

	CHRG/	STDBY/





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

K\d g\iXk i\`Gif]`d`]fi`@`I`]\fn`Jfd`li`e^ZGS=i\\z


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.            |