

/ Descriptions

BRCL4079MF-4.2

/

BRCL4079MF-4.2

5V

USB

MOSFET

4.2V

1/10

BRCL4079MF-4.2

BRCL4079MF-4.2

SOT23-6

-40±C

+85±C

/ Features

36V

6.1V

600mA

MOSFET

/

USB

4.2V

1%

2.5V

C/10

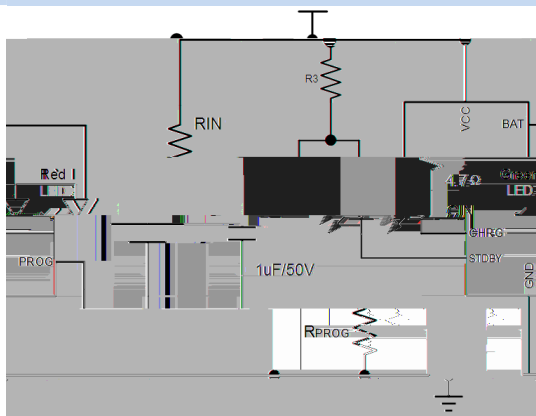
55μA

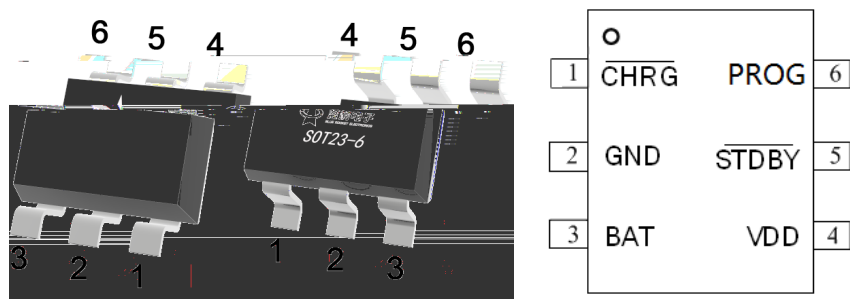
SOT23-6

/ Applications

SGD P S6

/ Application Circuit





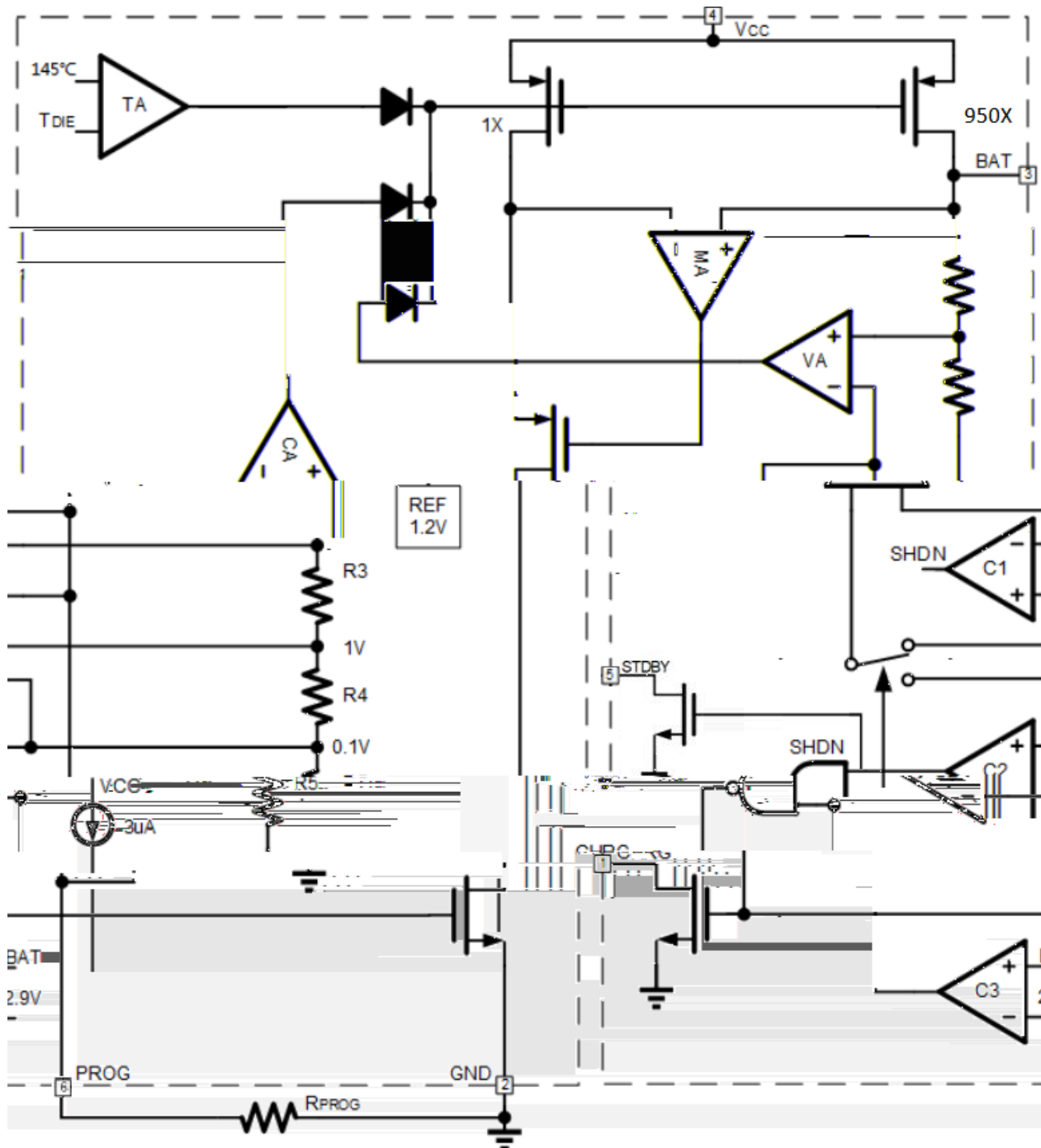
PIN Num.	Symbol	Function
1	CHRG	
2	GND	
3	BAT	
4	VCC	
5	STDBY	
6	SUR J	

PARAMETER	SYMBOL	RATINGS	UNITS
Input Pin Voltage	V _{VCC}	-0.3~36	V
BAT Pin Voltage	V _{BAT}	-4.2~18	
Other Pin Voltage	V _{PROG}	-0.3~5.5	
CHRG/STDBY Pin Voltage	V _{CHRG/STDBY}	-0.3~13	
Storage Temperature	T _{stg}	-65~+150	
Junction Temperature	T _J	150	
Operating Ambient Temperature Range	T _{OP}	-40~+85	
Lead Temperature (Soldering, 10s)	T		

/ Electrical Characteristics($V_{IN}=5V$, $V_{BAT}=3.6V$, $T_a=25$, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{CC}		4.5	5	36	V
Quiescent Supply Current	I_Q	Charge Mode $R_{PROG}=2.0k$		240	360	μA
		Standby Mode (Charge Terminated)		220	300	μA
		Shutdown Mode (R_{PROG} Not Connected, $V_{CC} < V_{BAT}$, or $V_{CC} < V_{UV}$)		220	300	μA
		OVP state		120	250	μA
Regulated Output (Float)Voltage	V_{FLOAT}	$0 \leq T_A \leq 85$, $R_{PROG} = 2.0k$	4.158	4.200	4.242	V
BAT Pin Current	I_{BAT}	$R_{PROG} = 2.0k$, Current Mode	427.5	475	522.5	mA
		Standby Mode, $V_{BAT} = 4.2V$	0	-2.5	-6	μA
		Shutdown Mode (R_{PROG} Not Connected)		± 1	± 2	μA
		Sleep Mode, $V_{CC} = 0V$		-1	-2	μA
Trickle Charge Current	I_{TRIKL}	$V_{BAT} < V_{TRIKL}$, $R_{PROG} = 2.0K$	35	47.5	60	mA
Trickle Charge Threshold Voltage	V_{TRIKL}	$R_{PROG} = 2.0k$, V_{BAT} Rising	2.3	2.5	2.7	V
Trickle Charge Hysteresis Voltage	V_{TRHYS}	$R_{PROG} = 2.0k$	120	160	200	mV
VCC Undervoltage Lockout Threshold	V_{UV}	From V_{CC} Low to High	3.5	3.7	3.9	V
VCC Undervoltage Lockout Hysteresis	V_{UVHYS}	From V_{CC} High to Low	100	200	300	mV
VCC-VBAT Lockout Threshold Voltage	V_{ASD}	V_{CC} from Low to High	100	125	150	mV
		V_{CC} from High to Low	30	65	100	mV
C/10 Termination Current Threshold	I_{TERM}	$R_{PROG} = 2.0k$	35	47.5	60	mA
PROG Pin Voltage	V_{PROG}	$R_{PROG} = 2.0k$, Current Mode	0.9	1.0	1.1	V
CHRG Pin Output Low Voltage	V_{CHRG}	$I_{CHRG} = 5mA$		0.3	0.6	V
STDBY Pin Output Low Voltage	V_{STDBY}	$I_{STDBY} = 5mA$		0.3	0.6	V
Recharge Battery Threshold Voltage	ΔV_{RECHRG}	$V_{FLOAT} - V_{RECHRG}$	100	150	200	mV
Junction Temperature in Constant Temperature Mode	T_{LIM}			145		
Soft-Start Time	t_{SS}	$I_{BAT} = 0$ to $I_{BAT} = 950V/R_{PROG}$		20		μs
Recharge Comparator Filter Time	$t_{RECHARGE}$	V_{BAT} High to Low	0.8	1.8	4.0	ms
Termination Comparator Filter Time	t_{TERM}	I_{BAT} Falling Below $I_{CHG}/10$	0.8	1.8	4.0	ms
PROG Pin Pull-Up Current	I_{PROG}			1.0		μA

/ Principle block diagram

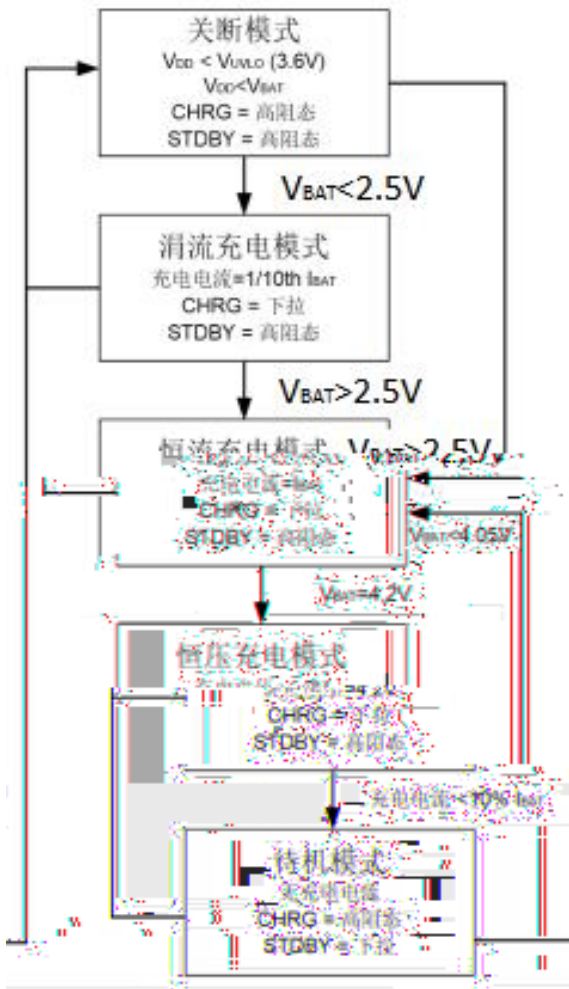


/ Function description

BRCL4079MF-4.2	/	PCB
600mA	± 1% BRCL4079MF-4.2	P
MOSFET		
BRCL4079MF-4.2	USB	
VCC	UVLO	1% PROG
	BAT	2.5V
BRCL4079MF-4.2	1/10	
BAT	2.5V	BAT
	4.2V	BRCL4079MF-4.2
1/10		
	PROG	PROG 950
	$R_{PROG}=950/I_{CHG}$	$I_{CHG}=950/R_{PROG}$
PROG	BAT	
	$I_{BAT}= (V_{PROG}\times 950)/R_{PROG}$	

/ Function description

		1/10		
PROG	PROG	100mV	tTERM	
BRCL4079MF-4.2			55μA	
C/10				
EDW		SUR J		4243
433mY	41; mv	W _{WHUP}		
		4243	EUF073:<P I0715	EDW
	EDW			
EUF073:<P I0715		EDW		7138Y
Y _{UHFKUJ}				
		SUR J		



EUF073:<P I07I5

FKUJ

FKUJ

FKUJ

VWGEY

FKUJ

VWGEY

FKUJ

VWGEY

FKUJ

VWGEY

FKUJ

VWGEY

EDW	43μI	0HG	0HG	407v
	LED			LED
	CHRG			STDBY
UVLO				
BAT	10μF	0HG	0HG	407v

145±C

BRCL4079MF-4.2

BRCL4079MF-4.2

UVLO

UVLO

200mV

30mV

UVLO

VCC

VCC

VCC

MOSFET

UVLO

VCC

100mV

BRCL4079MF-4.2

1.8ms

tRECHARGE

BAT

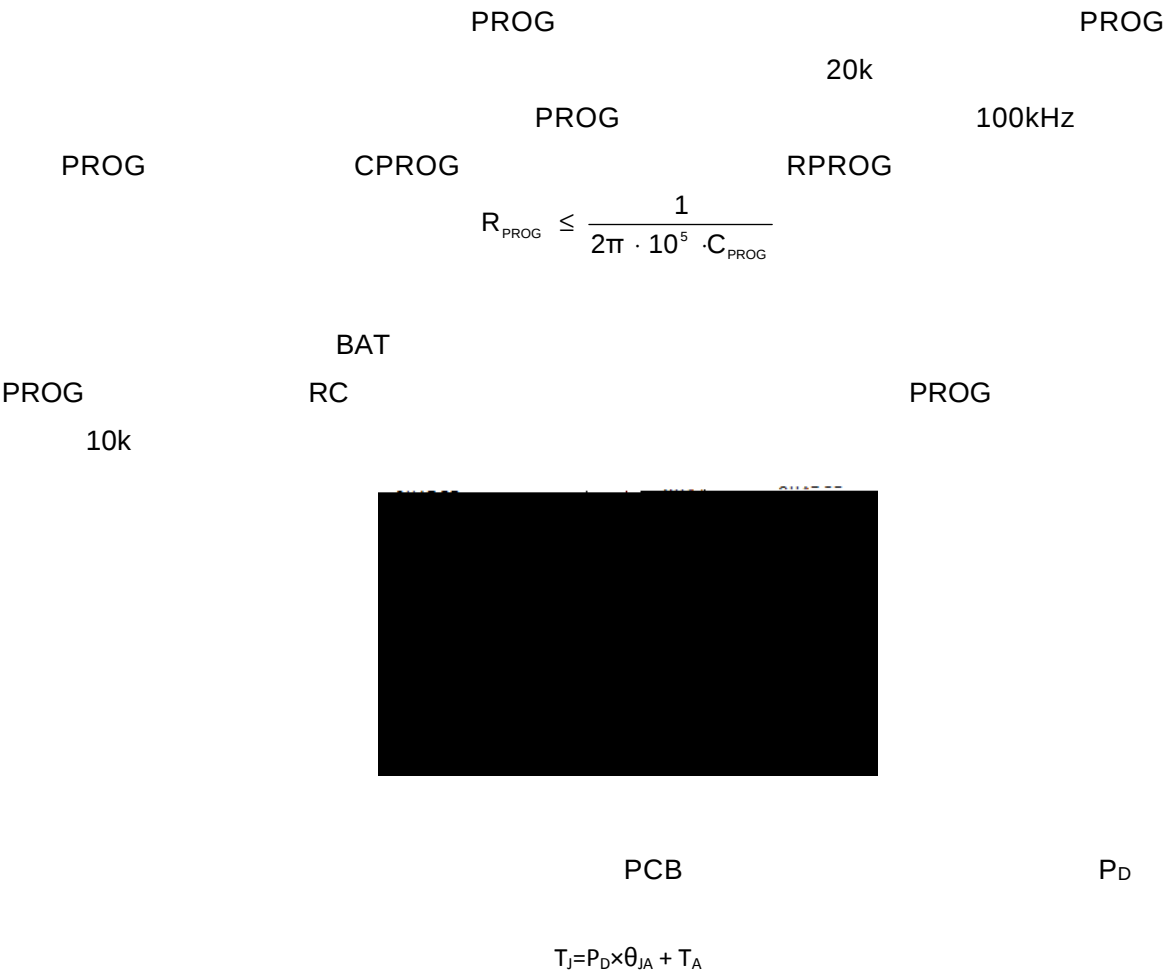
4.05V

80%

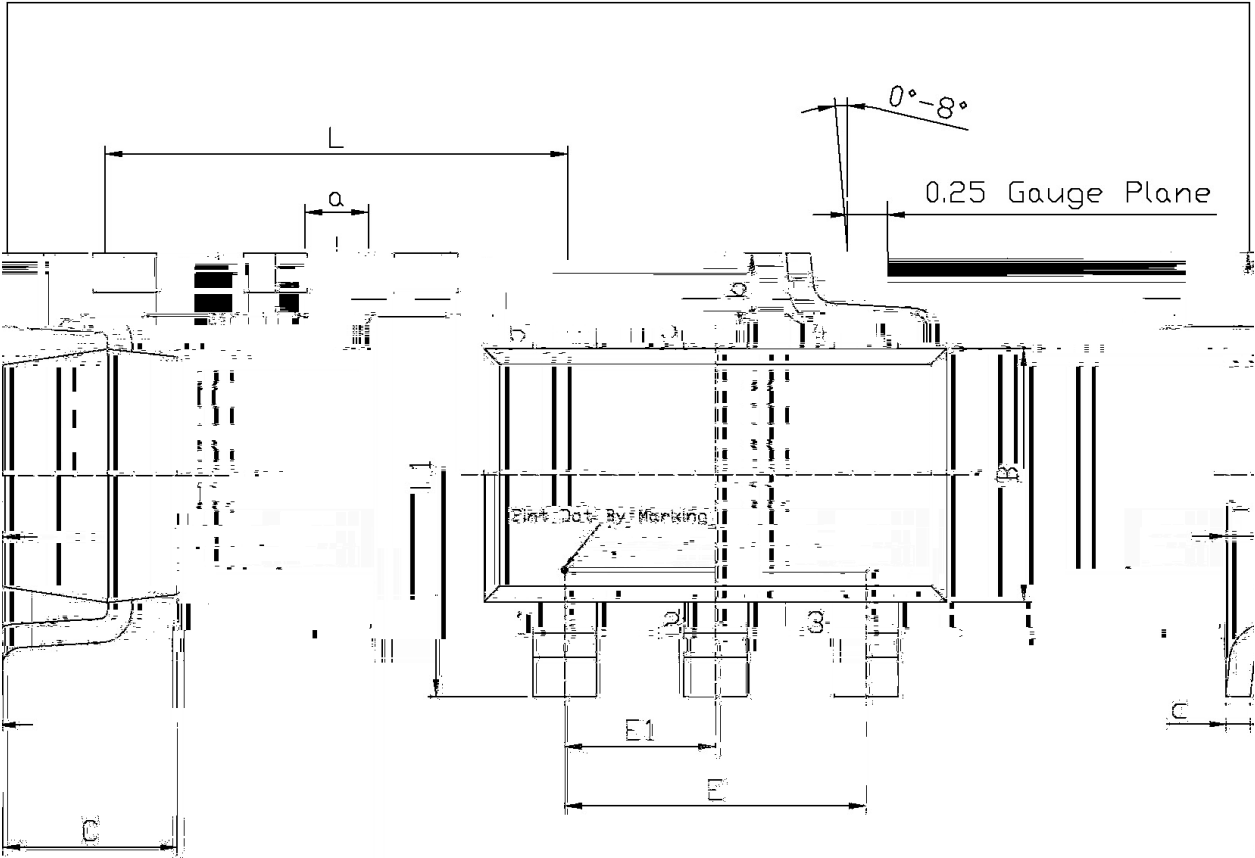
90%

CHRG

/ Function description



/ Package Dimensions



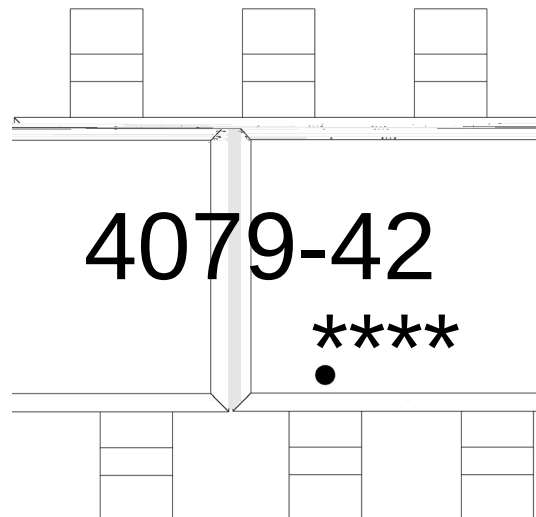
Unit: mm

In Millimeters	
Max	
1.05	
0.50	
0.20	
0.55	
0.15	

Symbol	Dimensions In Millimeters		Symbol	Dimensions
	Min	Max		Min
L	2.82	3.32	E1	0.85
B	1.50	1.70	a	0.35
C	0.90	1.30	c	0.10
L1	2.60	3.00	b	0.35
E	1.80	2.00	F	0

SOT23-6

/ Marking Instructions



73: <075

() /

- 1

150 180

60 90sec;
- 2

245^{±5}

5^{±0.5}sec;
- 3

2 10 /sec.
- Note:

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

2.Peak Temp.:245^{±5} , Duration:5^{±0.5}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

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