

/ 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		

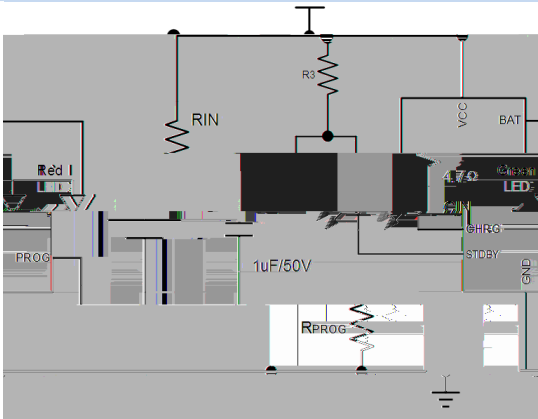
/ Features

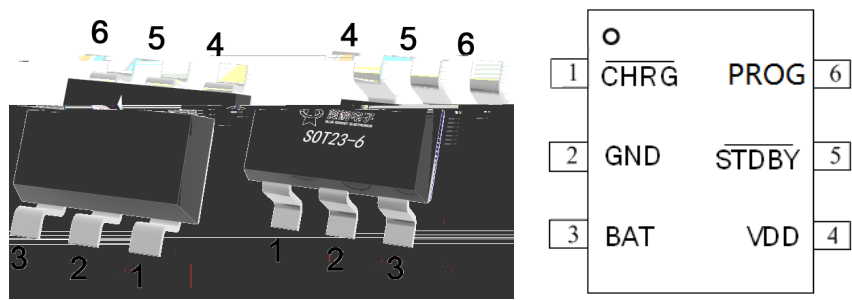
36V	6.1V
	600mA
MOSFET	
/	
USB	
4.2V	1%
2.5V	
C/10	
55μA	
SOT23-6	

/ Applications

SGD PS6

/ Application Circuit





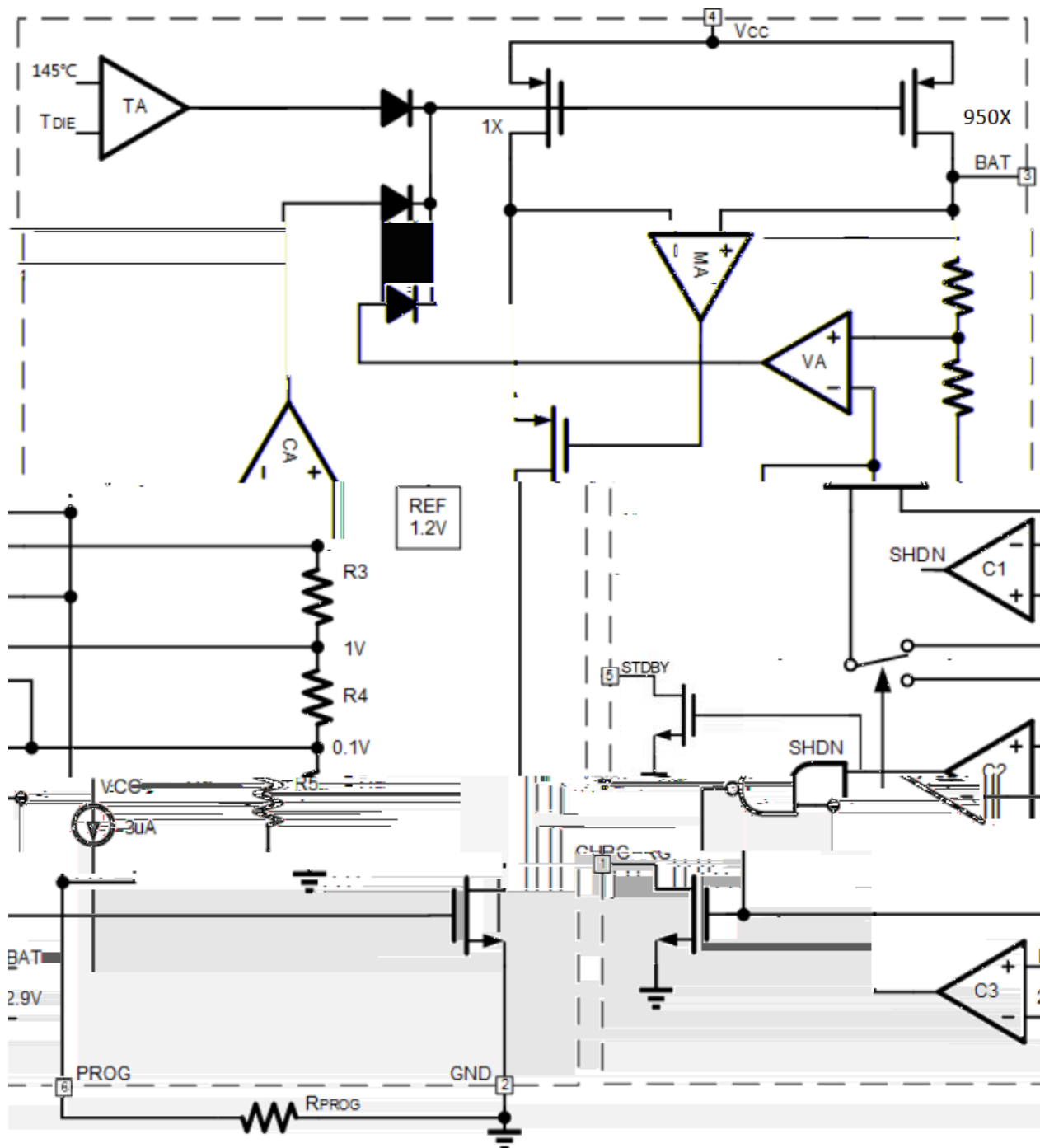
PIN Num.	Symbol	Function
1	CHRG	
2	GND	
3	BAT	
4	VCC	
5	STDBY	
6	SUR J	

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($V_{IN}=5V$, $V_{BAT}=3.6V$, $T_a=25^\circ C$, 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}	$0 \leq T_A \leq 85^\circ C$, $R_{PROG} = 2.0k$	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

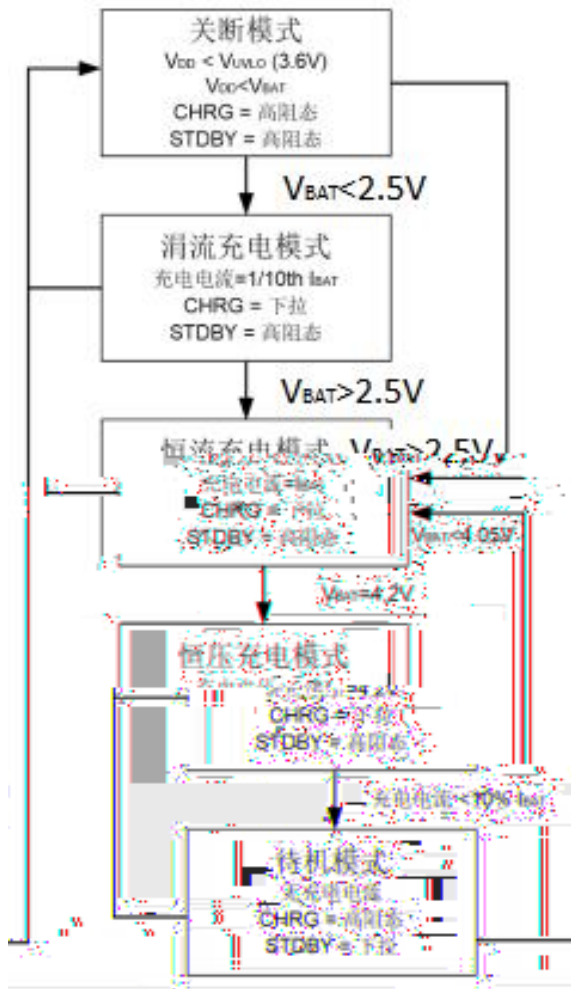


/ Function description

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

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

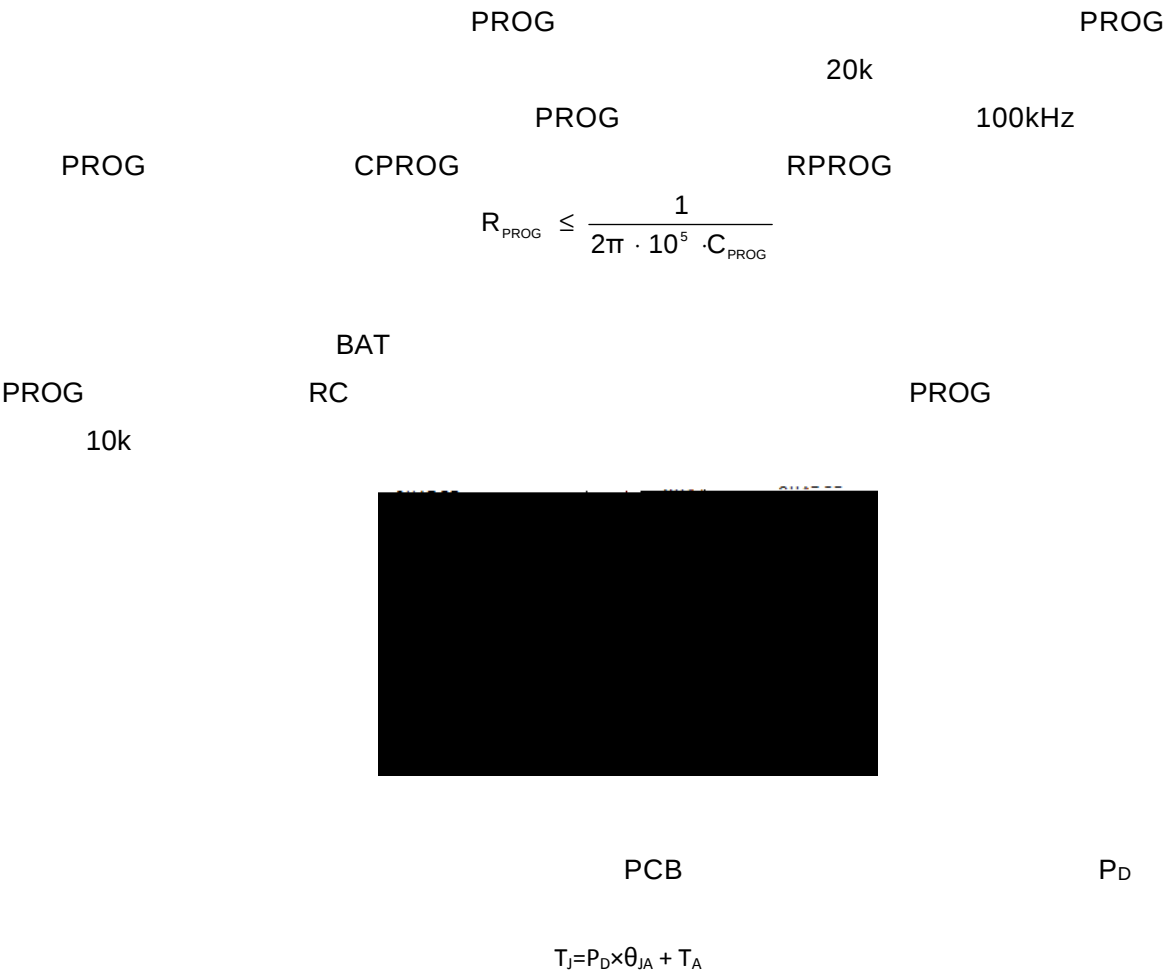
4.05V

80%

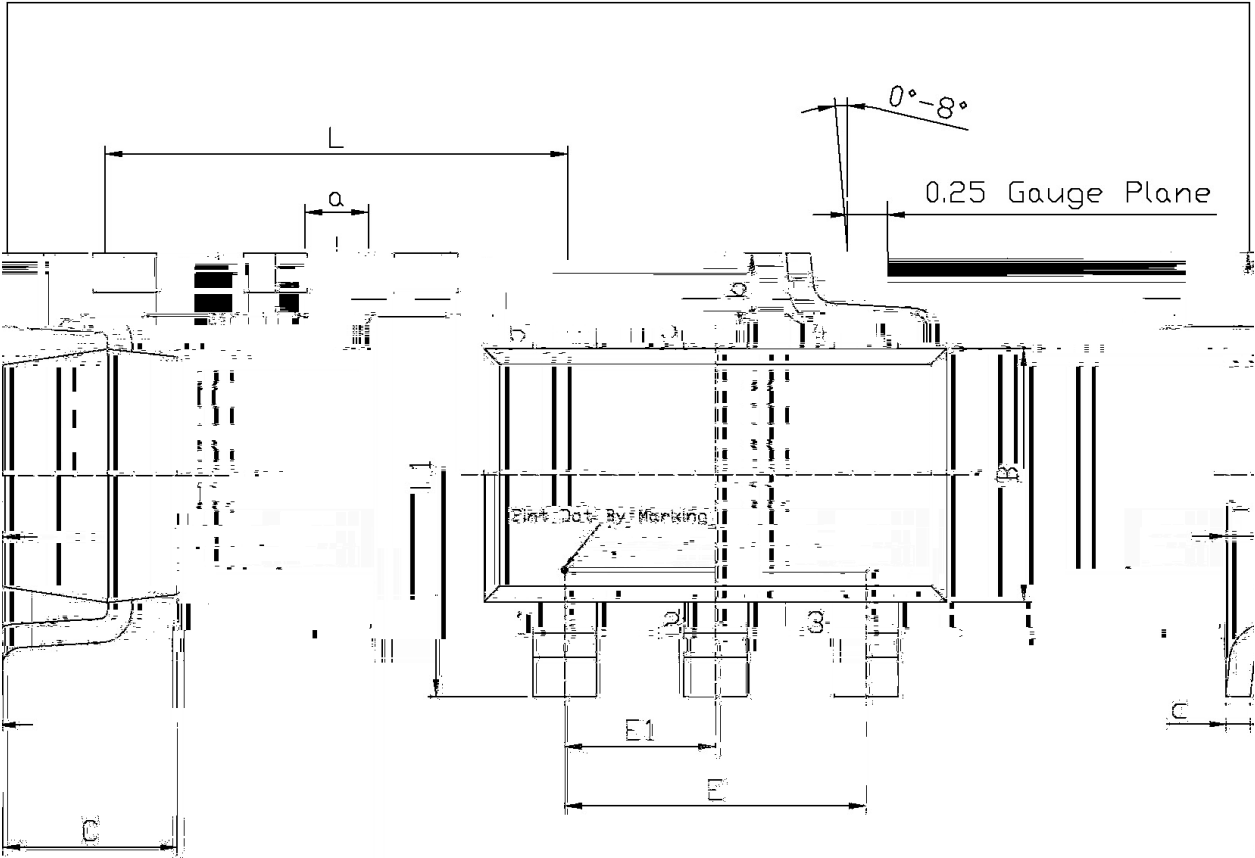
90%

CHRG

/ Function description



/ Package Dimensions



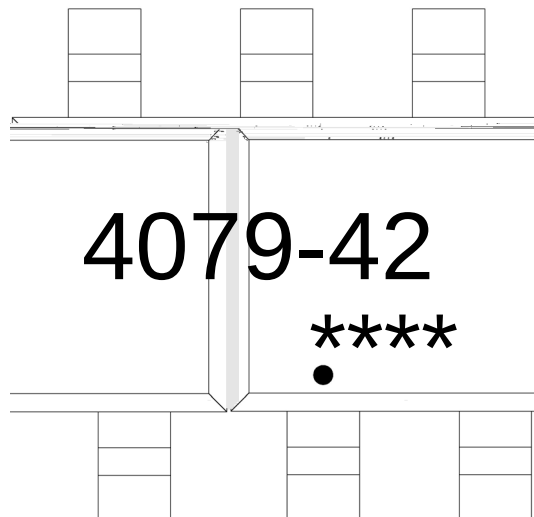
Unit: mm

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

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- Note:

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

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

3. Cooling Speed: 2~10℃/sec.
- 1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 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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