

BRCL4079MF-4.2

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5V

USB

MOSFET

4.2V

1/10

BRCL4079MF-4.2

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SOT23-6

-40±C

+85±C

36V

6.1V

600mA

MOSFET

/

USB

4.2V

1%

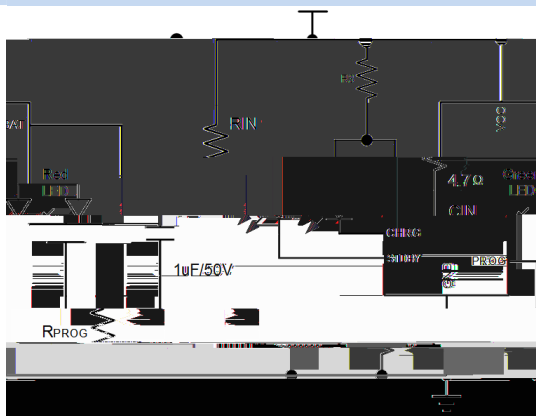
2.5V

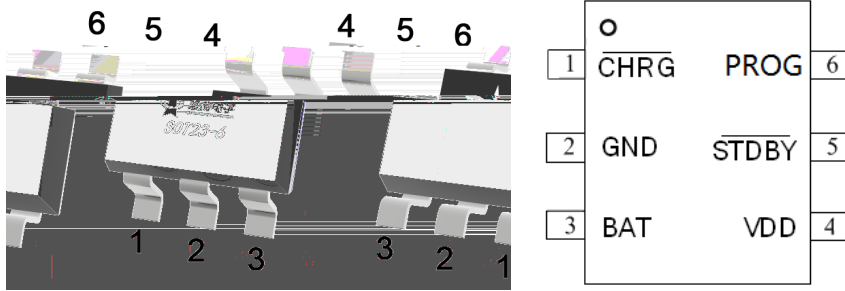
C/10

55μA

SOT23-6

SGD P S6

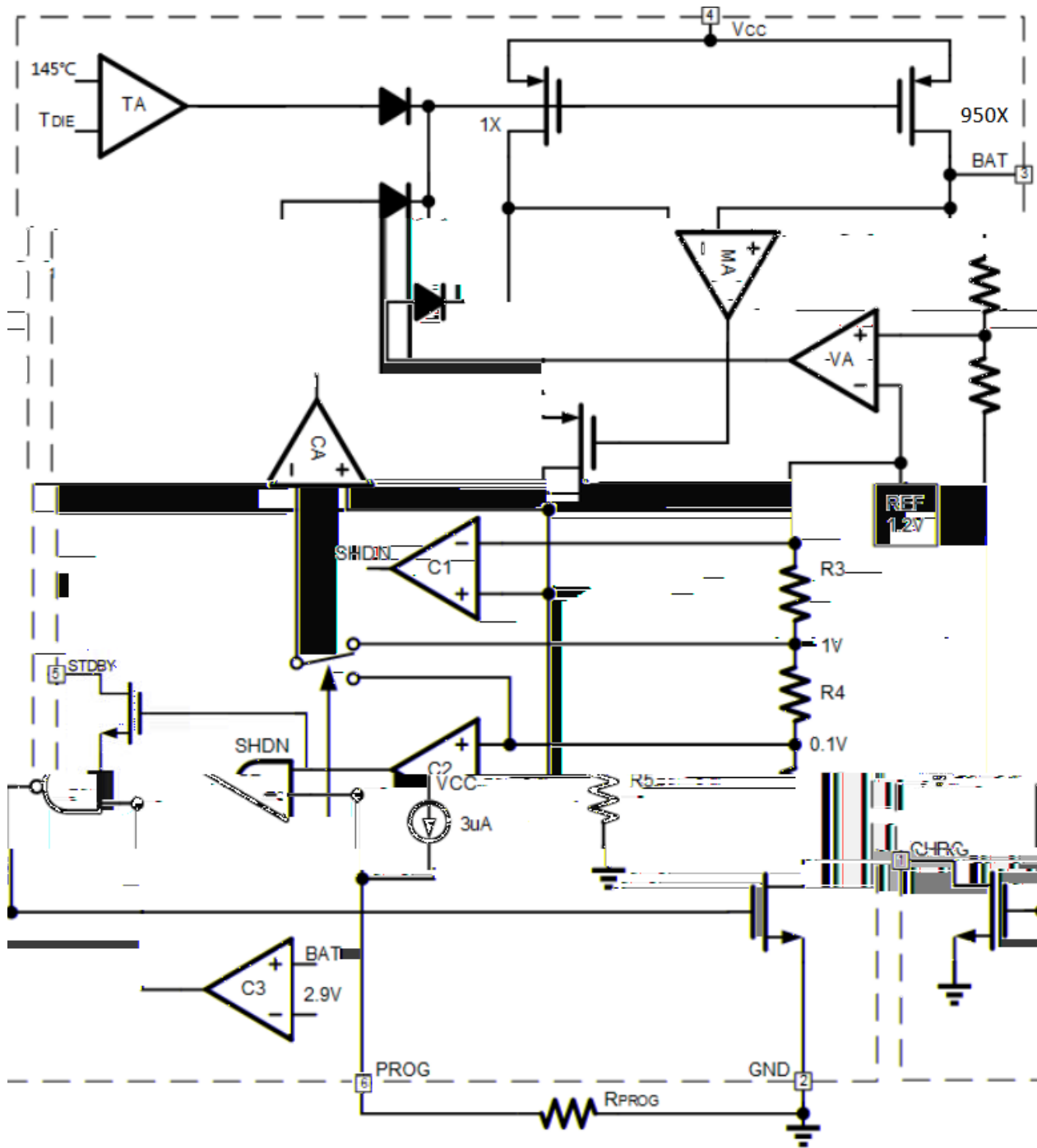




Pin	Function	
1	CHRG	
2	GND	
3	BAT	
4	VCC	
5	STDBY	
6	SUR J	

Parameter	Symbol	Value	Unit
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		

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 ≤ T _A ≤ 85 °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
V _{CC} Undervoltage Lockout Threshold	V _{UV}	From V _{CC} Low to High	3.5	3.7	3.9	V
V _{CC} Undervoltage Lockout Hysteresis	V _{UVHYS}	From V _{CC} High to Low	100	200	300	mV
V _{CC} -V _{BAT} 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 _{STDBG} = 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



BRCL4079MF-4.2 / PCB
 600mA $\pm 1\%$ 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

$$R_{\text{PROG}} = 950 / I_{\text{CHG}} \quad I_{\text{CHG}} = 950 / R_{\text{PROG}}$$

PROG BAT

$$I_{\text{BAT}} = (V_{\text{PROG}} \times 950) / R_{\text{PROG}}$$

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

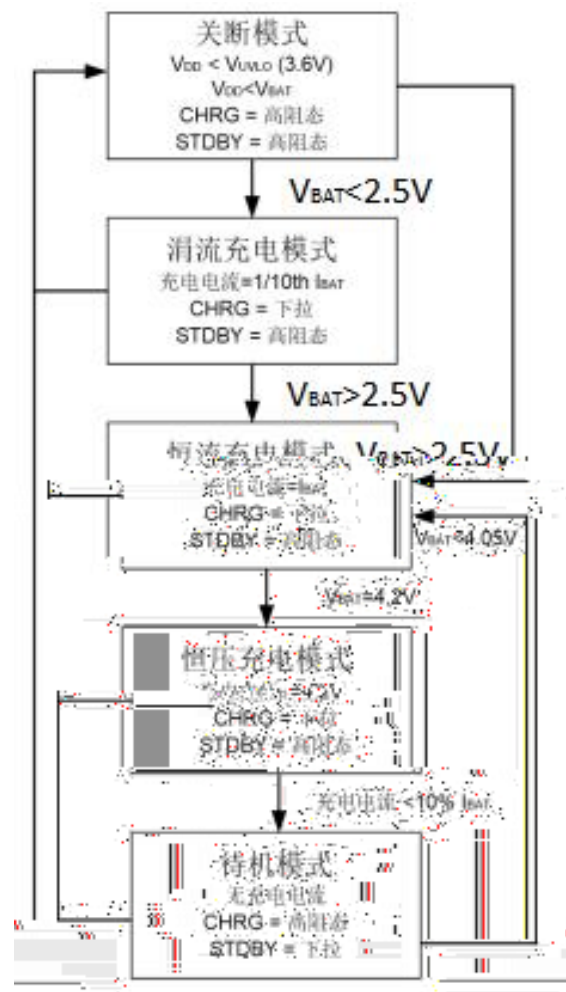
EUF073: <P I 0715

EDW

7138Y

Y_{UHF}KUJ

SUR J



EUF073:<P I07I5

FKUJ VWGEY

EUF073:<P I07I5

FKUJ

FKUJ

VWGEY

FKUJ VWGEY

EDW

43μI

OHG

OHG

407v

	LED CHRG	LED STDBY
UVLO		
BAT 10μF	OHG OHG 407v	

145±C

BRCL4079MF-4.2

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VCC

UVLO

200mV

MOSFET

VCC

30mV

UVLO

UVLO

VCC

100mV

BRCL4079MF-4.2

1.8ms

tRECHARGE

BAT

4.05V

80% 90%

CHRG



PROG

20k

100kHz

PROG

CPROG

RPROG

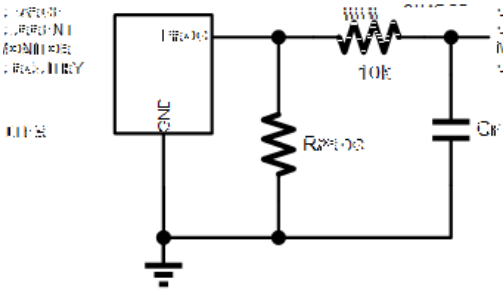
$$R_{\text{PROG}} \leq \frac{1}{2\pi \cdot 10^5 \cdot C_{\text{PROG}}}$$

BAT

RC

PROG

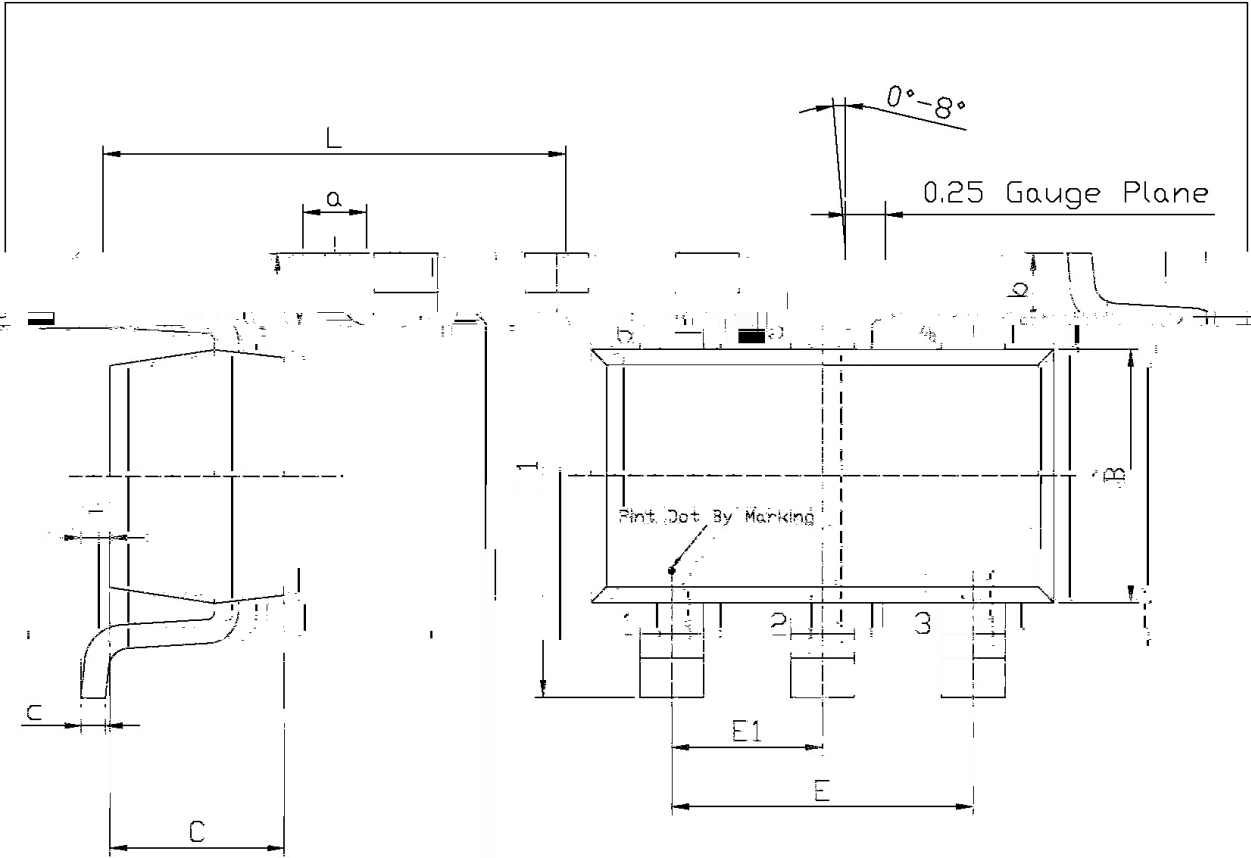
10k



PCB

P_D

$$T_J = P_D \times \theta_{JA} + T_A$$

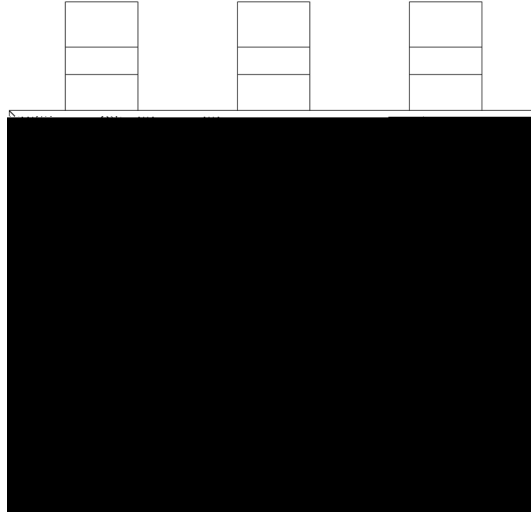


Unit: mm

Dimensions In Millimeters	
Min	Max
0.85	1.05
0.35	0.50
0.10	0.20
0.35	0.55
0	0.15

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

SOT23-6



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.

260^{±5}

10^{±1} sec.

Temp.:260±5

Time:10±1 sec

/ REEL