

/ Descriptions

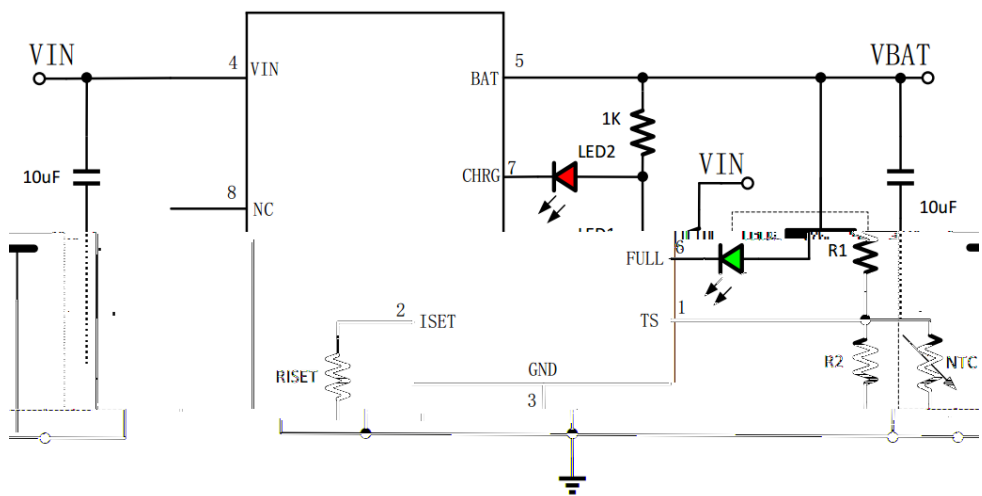
BRCL4056CSE /
BRCL4056CSE MOSFET
4.2V ISET
1/10 BRCL4056CSE
BRCL4056CSE 1μA

/ Features

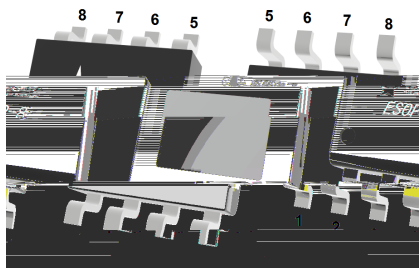
1.0A
1% 4.2V
MOSFET
ESOP-8
RoHS

/ Applications

/ Application Circuit



/ Pinning



PIN Num.	Symbol	Function
1	TS	
2	ISET	1% R1SET $IBAT=1400*V_{ISET}/R1SET$
3	GND	
4	VIN	
5	BAT	
6	FULL	
7	CHRG	
8	NC	

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNITS
Input Supply Voltage	V_{IN}	-0.3~10	V
BAT Pin Voltage	V_{BAT}	-0.3~10	
Other Pin Voltage	V_{Other}	-0.3~6.5	
Operating Ambient Temperature Range	T_A	-40~+85	$^\circ\text{C}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$
Lead Temperature (Soldering, 10s)	T_{solder}	260	$^\circ\text{C}$
ESD	HBM	2000	V
	MM	200	V
Continuous Output Current	I_O	1.0	A

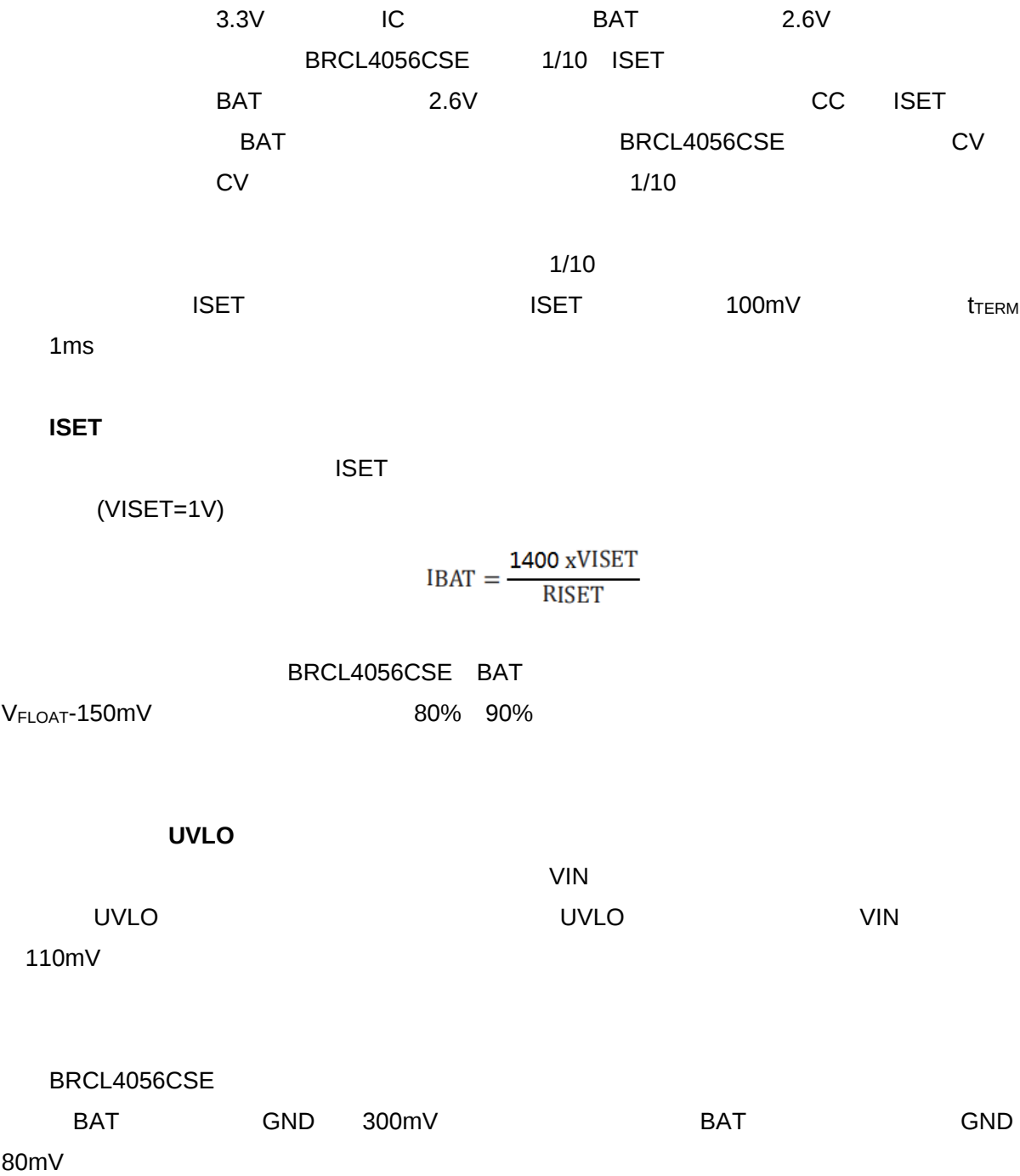
/ Electrical Characteristics($T_a=25^\circ\text{C}$, $V_{IN}=5.0\text{V}$, $C_{IN}=10\mu\text{F}$, $C_{BAT}=10\mu\text{F}$)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Supply Voltage	V_{IN}		4.5	5.0	6.0	V
Input Power Supply Current	I_{IN}	$V_{BAT}=V_{FLOAT}+0.1\text{V}$		90	300	A
V_{IN} Under Voltage Lockout Threshold	V_{UVL}	V_{IN} from High to Low $V_{BAT}=2.7\text{V}$	3.09	3.3	3.39	V
V_{IN} Under voltage Lockout Hysteresis	V_{UVL}			100	190	mV
Regulated Output (Float) Voltage	V_{FLOAT}	$I_{BAT}=40\text{mA}$	3.96	4.0	4.04	V
			4.158	4.2	4.242	
			4.307	4.35	4.394	
Recharge Battery Threshold	V_{RECHRG}	$V_{FLOAT}-V_{RECHRG}$		150		mV

/ Electrical Characteristics(Ta=25 ,V_{IN}=5.0V,C_{IN}=10μF, C_{BAT}=10μF)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
BAT Pin Current	I _{BAT}	R _{ISSET} =14k, Constant Current Mode		100		mA
		R _{ISSET} =2.8k, Constant Current Mode		500		mA
		R _{ISSET} =1.4k, Constant Current Mode		1000		mA
		V _{BAT} =V _{FLOAT} , Standby Mode		2.5	10	A
		Shutdown Mode (V _{BAT} = V _{FLOAT} , R _{PROG} not Connected / V _{IN} =0)		0.1	1	A
		Battery Reverse Connection (V _{BAT} = -V _{FLOAT} , V _{IN} =0)		2		mA
Trickle Charge Threshold	V _{TRIKL}	V _{BAT} from Low to High	2.4	2.6	2.8	V
Trickle Charge Hysteresis	V _{TRIKL}		150	200	250	mV
Trickle Charge Current	I _{TRIKL}		8	10	25	%I _{BAT}
Termination Current Threshold	I _{EOC}		8	10	25	%I _{BAT}
CHRG/FULL Pin Pull-Down Current	I _{CHRG}	V _{CHRG} =5V			5	A
CHRG/FULL Pin Output Low Voltage	V _{CHRG}	I _{CHRG} =5mA			0.1	V
ISSET Pin Voltage	V _{ISSET}	R _{ISSET} =10k, Constant Current Mode	0.9	1	1.1	V
TS Pin Voltage Threshold	V _{TS_L}		40	45		%V _{IN}
	V _{TS_H}			80	85	%V _{IN}
Junction Temperature in Limited Temperature Mode	T _{LIM}			125		

/ Function description



/ Function description

CHRG FULL

CHRG

FULL

	LED/CHRG	LED/FULL

BRCL4056CSE

TS

NTC PTC

BRCL4056CSE

VTS-L VTS-H

VTS-L VTS-H

VIN

VIN

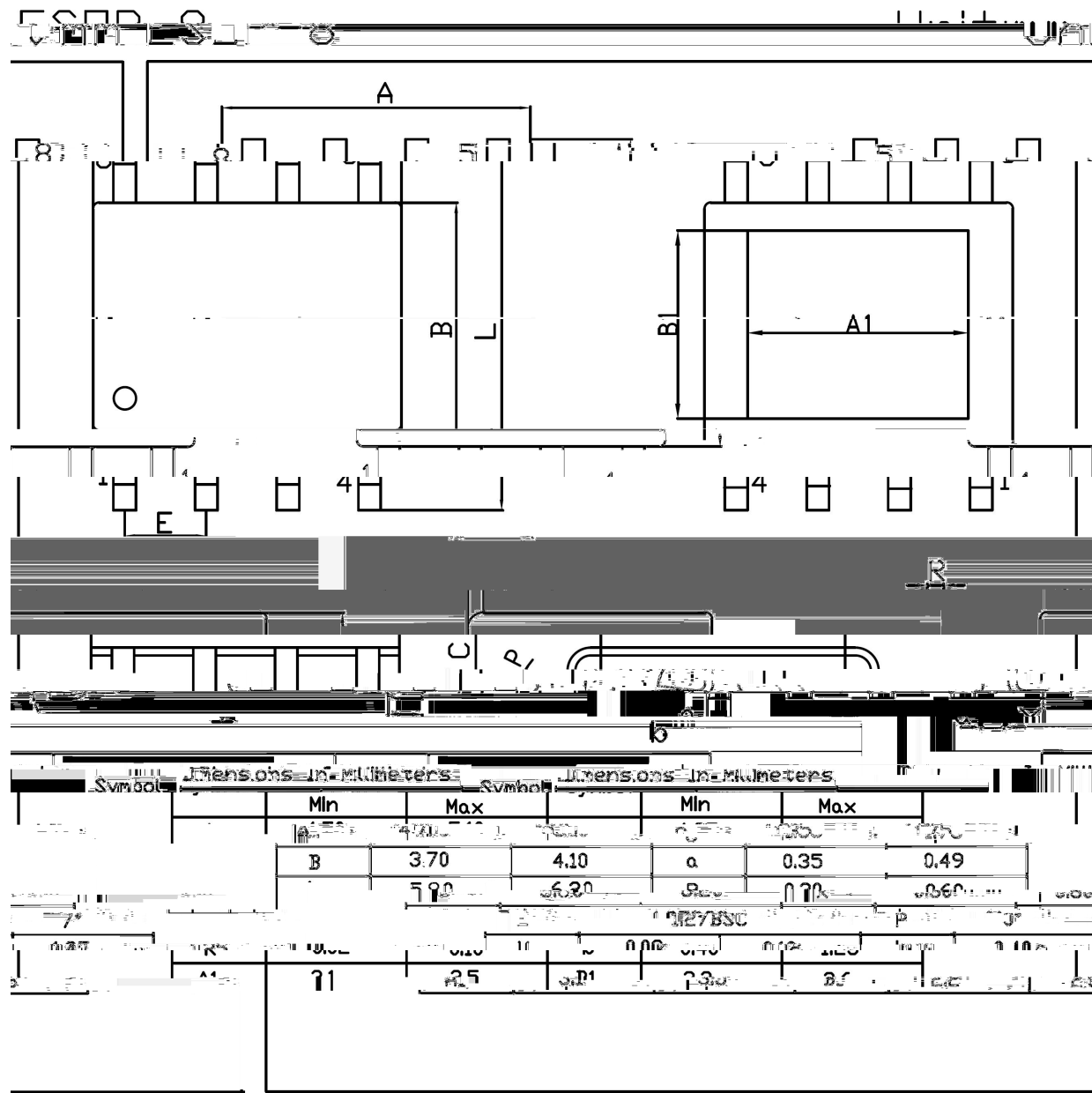
TS

BRCL4056CSE

125

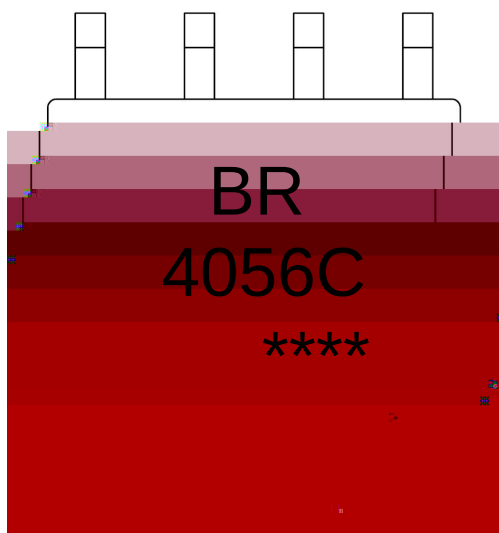
BRCL4056CSE

/ Package Dimensions





/ Marking Instructions



BR

4056C

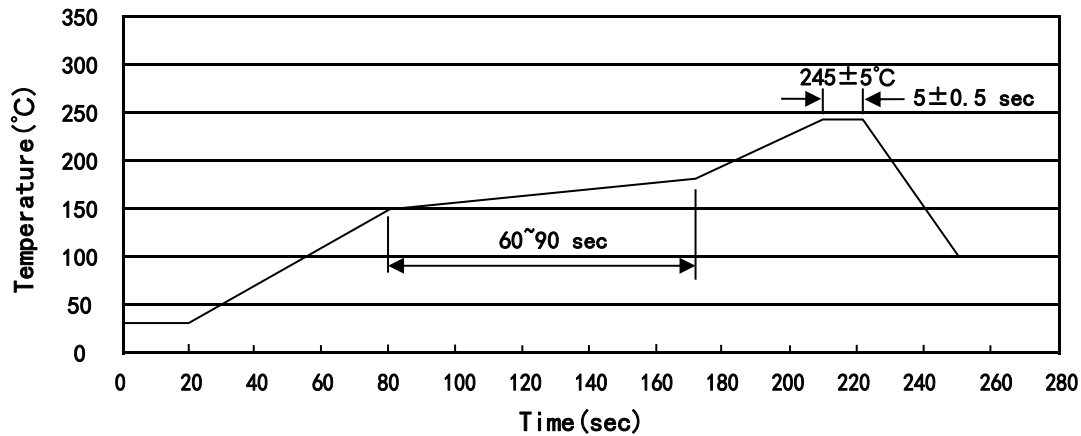
Note:

BR: Company Code

4056C: Product Type Code

**** : Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



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. |

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices