

/ Descriptions

BRCL4064ME	BRCL4064ME
/	BRCL4064ME
USB	PMOSFET
600mA	4.2V
3uA	PROG
BRCL4064ME	BRCL4064ME

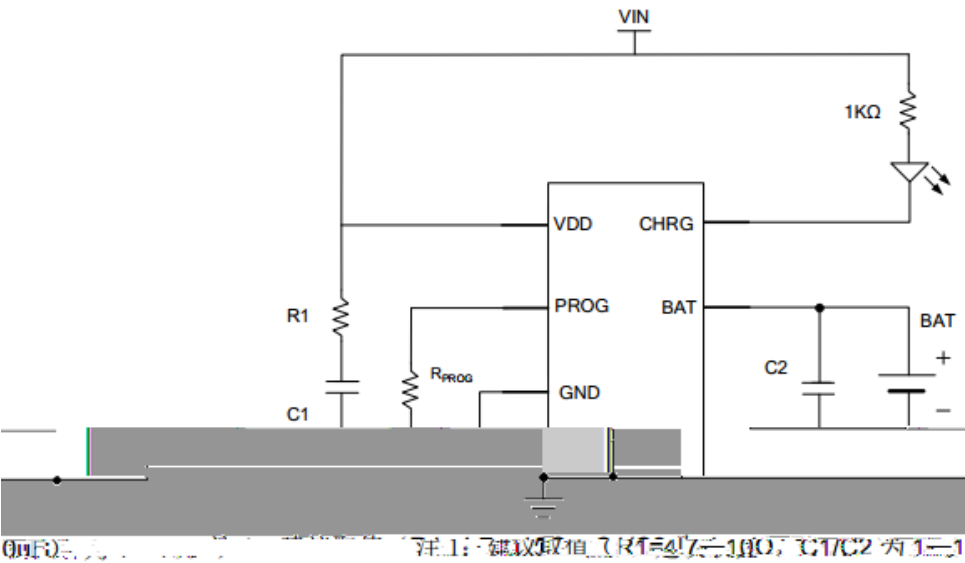
/ Features

4.2V	±42mV
25uA	
BAT-VDD	
0V	
600mA	
/	/

IEC62368
SOT23-5

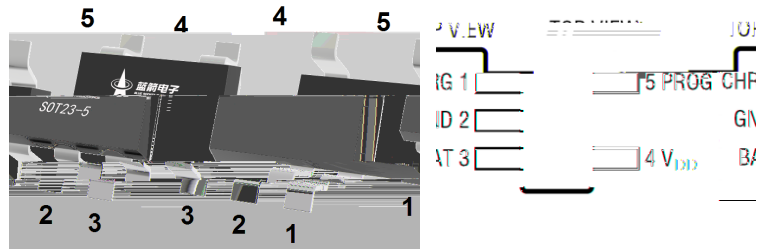
/ Applications

/ Application Circuit



/ Pinning

PIN Num.	Symbol	Function
1	CHRG	
2	GND	
3	BAT	
4	VDD	
5	PROG	



/ Absolute Maximum Ratings(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNITS
VDD input pin voltage	VDD	-0.3~12	V
CHRG input pin voltage	V _{CHRG}	-0.3~6.5	
BAT input pin voltage	V _{BAT}	-0.3~12	
PROG input pin voltage	V _{PROG}	-0.3~9	
Operating Ambient Temperature	T _A	-40~+85	℃
Maximum Junction Temperature	T _J	150	℃
Storage Temperature	T _{stg}	-55~+150	℃
Package Thermal Resistance (Junction to Ambient)	R _{thJA}	190	℃/W
ESD (HBM)	ESD(HBM)	±4000	V

/ Electrical Characteristics(Ta=25℃)

VDD

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
VDD working voltage	V _{DD}			5.0	8.0	V
Input Supply Current	I _{VDD-IBAT}	Charge Mode, R _{PROG} =10K		240	2000	μA
		Standby Mode (Charge Terminated)		50	90	
		Shutdown Mode: R _{PROG} Not Connected, V _{DD} <V _{BAT} , or V _{DD} <V _{UVL} .		25	50	
VDD Under voltage Lockout Threshold	V _{UV}	V _{DD} from Low to High	3.7	3.8		V
VDD Under voltage Lockout Hysteresis	V _{UV-HYS}	V _{DD} from High to Low		200		mV
VDD-VBAT Detection voltage	V _{ASD}	V _{DD} from Low to High	70	100	140	mV
		V _{DD} from High to Low	5	30	50	mV

/ Electrical Characteristics(Ta=25℃)

PROG

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
PROG Pin Voltage	V _{PROG}	VDD=5V, R _{PROG} =4K	0.9	1.0	1.1	V
BAT Pin Current	I _{BAT}	VDD=5V; V _{BAT} =3.9V; R _{PROG} =2K	465	500	535	mA
		VDD=5V; V _{BAT} =3.9V; R _{PROG} =10K	93	100	107	mA
		VDD Not Connected, V _{BAT} =4.0V			2	uA
Trickle Charge Current	I _{TRIKL}	V _{BAT} < V _{TRIKL} , R _{PROG} =2K	40	50	60	mA
C/10 Termination Current Threshold	I _{TERM}	R _{PROG} =10K	5	10	15	mA
		R _{PROG} =2K	35	50	65	mA
Trickle Charge Threshold	V _{TRIKL}	V _{BAT} from Low to High	2.8	2.9	3.0	V
Trickle Charge Hysteresis	ΔV _{TRIKL}	V _{BAT} from High to Low		80		mV
PROG Pin Pull-Up Current	I _{PROG}			1		μA

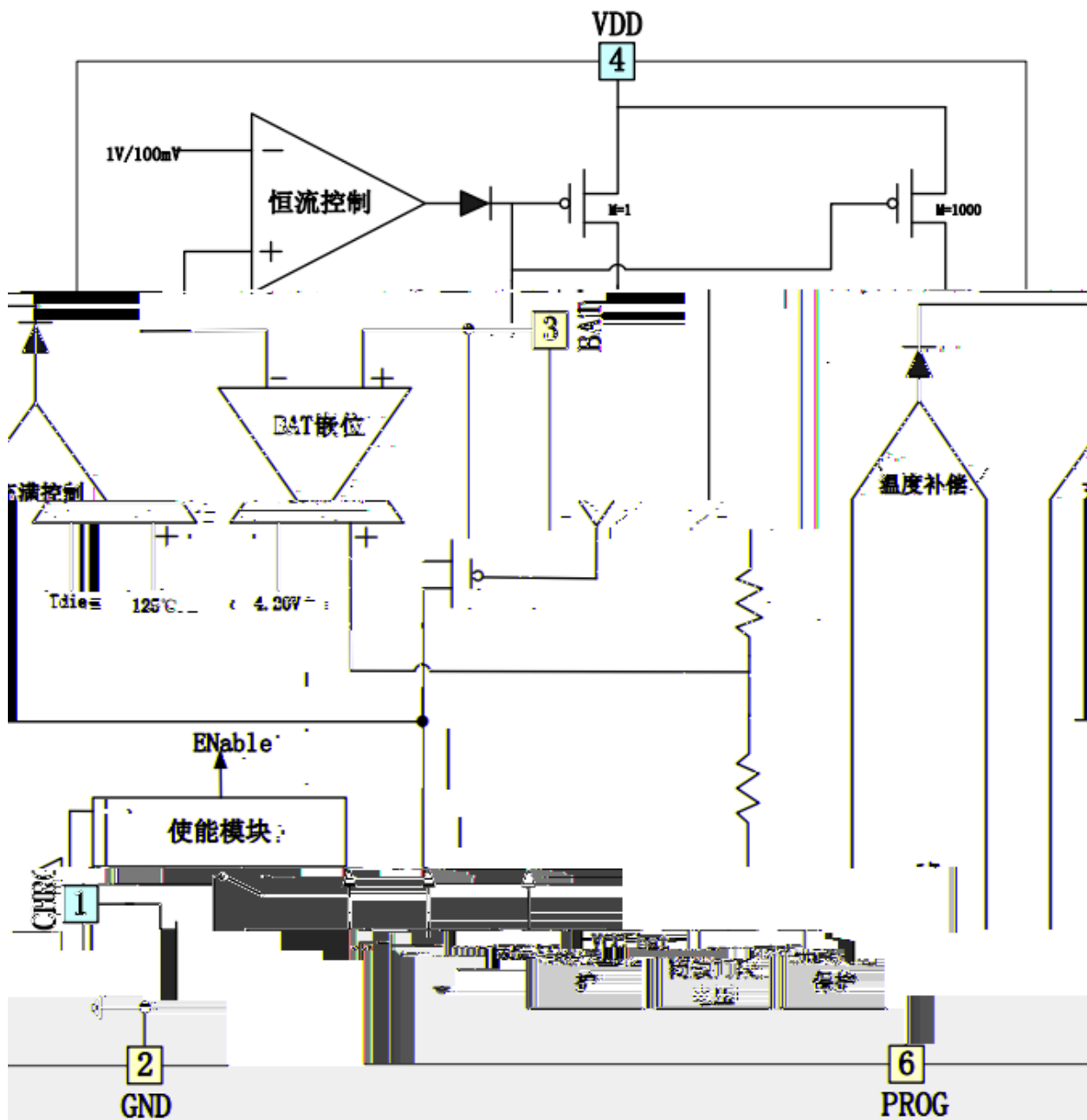
BAT

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Regulated Output (Float) Voltage	V _{FLOAT}	VDD=5V, R _{PROG} =2K	4.158	4.200	4.242	V
Recharge Battery Threshold	V _{RECHG}	V _{FLOAT} - V _{RECHG}		100		mV
Termination Comparator Filter Time	T _{Term}	I _{BAT} Falling Below I _{TERM}	0.63	1.4	3	ms
Recharge Comparator Filter Time	T _{RECHARGE}	V _{BAT} High to Low	0.8	1.8	4	ms

Built-in temperature compensation

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Built-in temperature compensation	OTC			125		℃

/ Principle block diagram



/ Function description

BRCL4064ME / BRCL4064ME
USB AC 600mA

/ Function description

VDD UVLO PROG 1%
BAT VTRKL
BRCL4064ME 1/10
BAT VTRKL
BAT VFLOAT BRCL4064ME
1/10
PROG
 $R_{PROG} = 1000 / I_{BAT} (\Omega)$
0.3A
RPROG RPROG

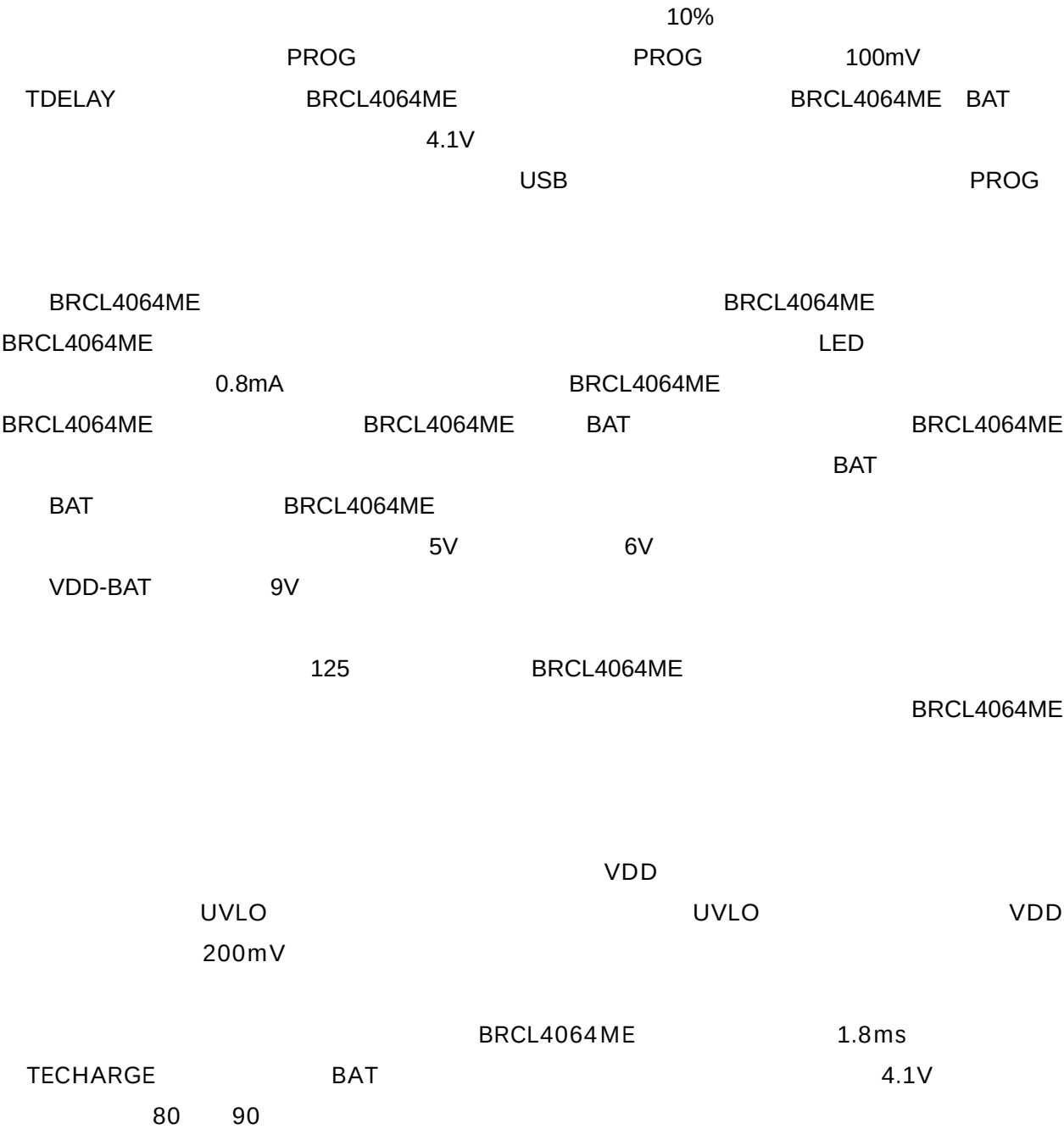
$R_{PROG}(K\Omega)$	I_{BAT} mA
10K	100
5.1K	200
3.3K	300
2.5K	400
2K	500
1.66K	600

(CHRG)

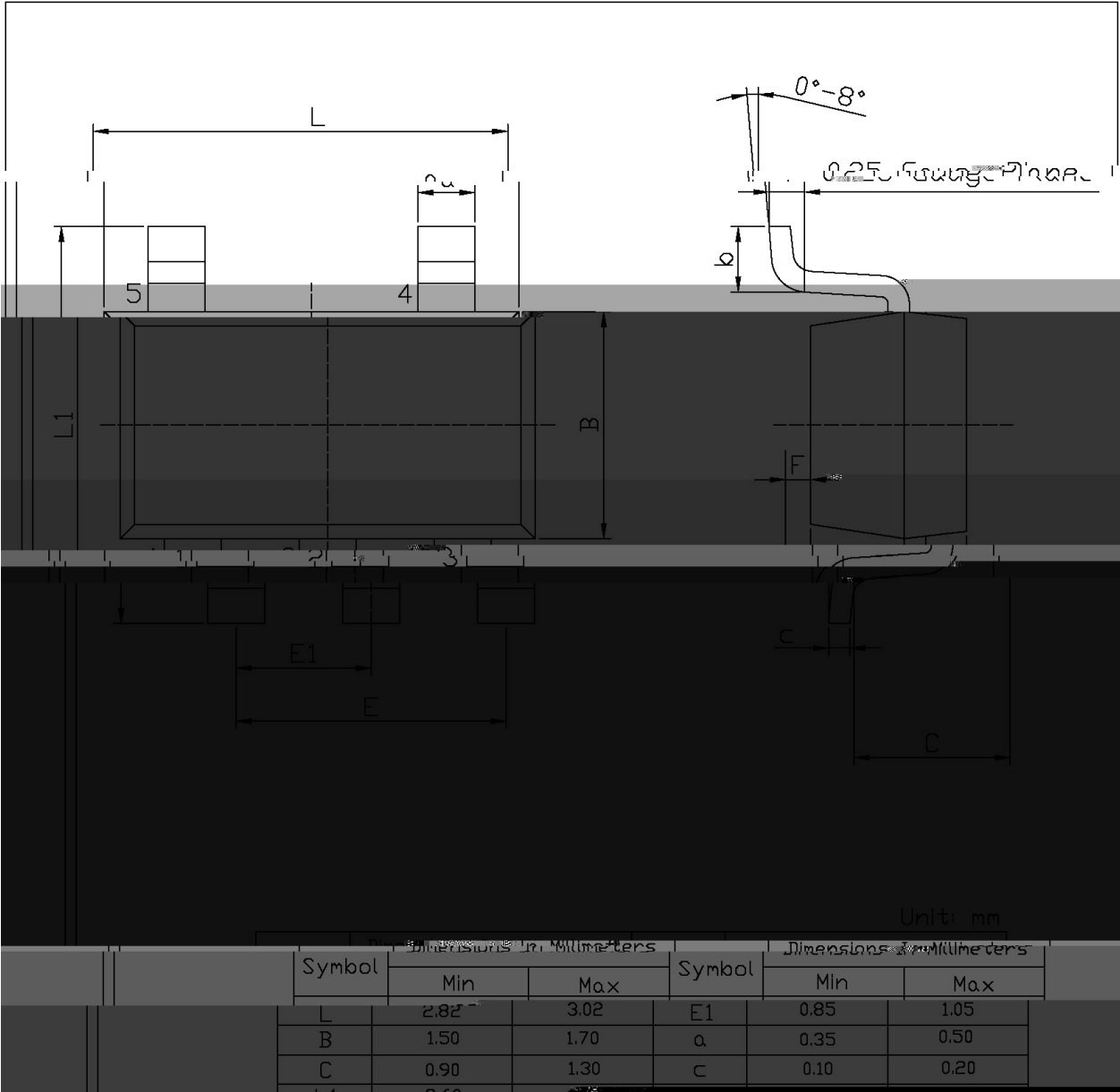
BRCL4064ME CHRG CHRG
VDD CHRG

	CHRG
PROG BAT VDD	
VDD	

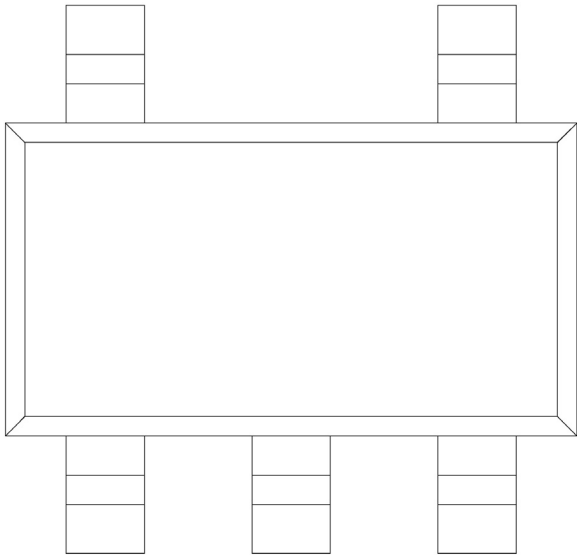
/ Function description



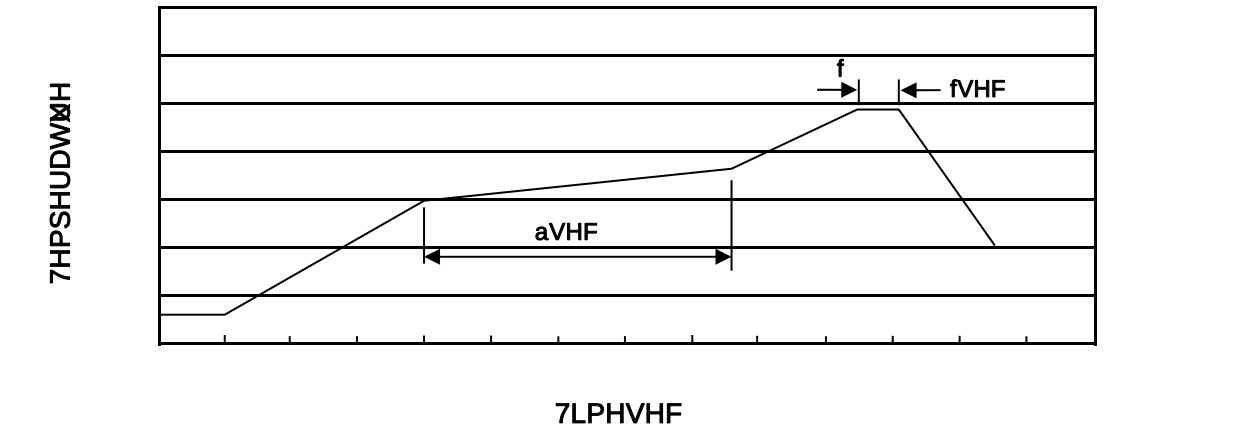
/ Package Dimensions



/ Marking Instructions



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



- Note:
1. Preheating: 150~180 °C, Time: 60~90sec.
 2. Peak Temp.: 245±5 °C, Duration: 5±0.5sec.
 3. Cooling Speed: 2~10 °C/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 : 个					Dimension : 尺寸 (unit:mm³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT23-5/6	3,000	10	30,000	4	120,000	7 × 8	210×205×205	445×230×435

/ Notices