

Economy type positive CMOS LDO regulator IC
 エコノミータイプ正出力CMOS低飽和レギュレータIC

TK637xxB/H/S

DESCRIPTION

The TK637xxB, the TK637xxH and the TK637xxS are low quiescent current CMOS LDO regulator ICs with on/off control. These ICs has very low noise characteristics. Therefore, the noise bypass capacitor is not required. The TK637xxB is packaged in a miniature 4-bump flip chip. The TK637xxH is packaged in a small SON2017-6. The TK637xxS is packaged in SOT23-5. They are suitable for small portable equipment with high-density mounting. These ICs has very low quiescent current, very good transient and extra Low dropout characteristics. The output voltage is available from 1.5 to 4.2V in 0.1V steps.

TK637xxB/H/Sは低消費電流型のCMOS低飽和レギュレータICです。TK637xxBは超小型4バンプフリップチップFC-4、TK637xxHは超小型パッケージSON2017-6、TK637xxSは小型パッケージSOT23-5です。高密度実装を必要とする携帯機器に最適です。低電源電流、良好な過渡特性、低入出力間電圧降下を特徴とします。また低ノイズである為、ノイズパスキャパシタ不要です。出力電圧は内部固定で、1.5~4.2Vを0.1Vステップで設定できます。

FEATURES




- Low Quiescent Current
- Good Transient Performance
- Very Low Dropout Voltage
- Noise Bypass Capacitor Not Required
- Over Current Protection, Over Heat Protection
- Active High On/off Control
- High Precision Output Voltage of $\pm 2.0\%$ or $\pm 60\text{mV}$
- 低電源電流
- 良好な過渡特性
- 非常に少ない入出力間電圧降下
- 低ノイズによりノイズパスキャパシタ不要
- 垂下型過電流保護、過熱保護
- アクティブハイon/offコントロール
- 高精度出力電圧: $\pm 2.0\%$ or $\pm 60\text{mV}$

APPLICATIONS

- Portable Equipment
- 携帯機器

PACKAGE OUTLINE

ORDERING INFORMATION

Part name	Package	Marking	Pin configuration	Ordering information										
TK637xxB	 FC-4	Dxx	See next page	<table border="1"> <tr> <td>T</td><td>K</td><td>6</td><td>3</td><td>7</td><td>x</td><td>x</td><td>B</td><td>C</td><td>B</td> </tr> </table> <p>Voltage code ———— Ex. 2.5V: 25, 3.3V: 33</p> <p>Package code ———— B: Flip chip</p> <p>Storage direction B: Back type Temperature range C: $T_A=25^\circ\text{C}$</p>	T	K	6	3	7	x	x	B	C	B
T	K	6		3	7	x	x	B	C	B				
TK637xxH	 SON2017-6	Dxx		<table border="1"> <tr> <td>T</td><td>K</td><td>6</td><td>3</td><td>7</td><td>x</td><td>x</td><td></td><td>C</td><td>L</td> </tr> </table> <p>Voltage code ———— Ex. 2.5V: 25, 5.0V: 50</p> <p>Package code ———— H: SON2017-6, S: SOT23-5</p> <p>Tape/Reel Code L: Left type Temperature range C: $T_A=25^\circ\text{C}$</p>	T	K	6	3	7	x	x		C	L
T	K	6	3	7	x	x		C	L					
TK637xxS	 SOT23-5	Dxx												

* "xx" means voltage code. "xx"は電圧コードを示しています。

ABSOLUTE MAXIMUM RATINGS

Parameter	項目	Symbol	記号	Rating	定格	Unit	単位	Remarks	備考
Operating Voltage Range	動作電圧範囲	V_{OP}		2.0 to 6.0		V			
Operating Temperature Range	動作温度範囲	T_{OP}		-40 to +85		$^\circ\text{C}$			
Power Dissipation	許容消費電力	P_D		360		mW		Board mount	基板実装時

ELECTRICAL CHARACTERISTICS

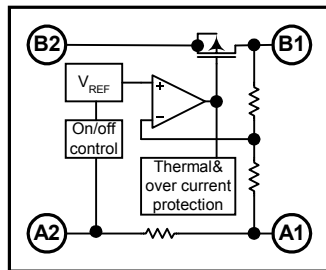
$V_{IN}=V_{OUT.TYP}+1V, V_{CONT}=1.3V, T_A=T_J=25^{\circ}C$

Parameter 項目	Symbol 記号	Value			Units 単位	Conditions 条件
		MIN	TYP	MAX		
Line Regulation 入力安定度	LinReg		0	4	mV	$\Delta V_{IN}=1V$
Load Regulation 負荷安定度	LoaReg		6	24	mV	TK637xxB, $I_{OUT}=5$ to $50mA, V_{OUT}=2.85V$
			-	-		TK637xxH/S, $I_{OUT}=5$ to $100mA$
Dropout Voltage *1 入出力間電圧降下	V_{DROP}		85	125	mV	TK637xxB, $V_{OUT}=2.85V$ to, $I_{OUT}=50mA$
			-	-		TK637xxH/S, $V_{OUT}=2.85V$ to, $I_{OUT}=100mA$
Maximum Load Current *2 最大出力電流	$I_{OUT.MAX}$	200	300		mA	$V_{OUT}=V_{OUT.TYP}\times 0.9$
Quiescent Current 電源電流	I_Q		10	20	μA	$I_{OUT}=0mA, V_{CONT}=V_{IN}$
Standby Current スタンバイ電流	I_{STB}		0.01	0.1	μA	$V_{CONT}=0V$
GND Pin Current 無効電流	I_{GND}		25	50	μA	$I_{OUT}=50mA, V_{CONT}=V_{IN}$
Control Voltage コントロール電圧	V_{CONT}	1.2			V	V_{OUT} on state
				0.2		V_{OUT} off state
Output Voltage / Temp.	$\Delta V_{OUT}/\Delta T_a$		100		ppm/ $^{\circ}C$	$I_{OUT}=5mA$
Output Noise Voltage(TK63128)	V_{NOISE}		45		μV_{rms}	$C_{OUT}=1.0\mu F, I_{OUT}=30mA,$ $BPF=400Hz$ to $80kHz$
Ripple Rejection(TK63128)	RR		65		dB	$C_{OUT}=1.0\mu F, I_{OUT}=10mA, f=1kHz$

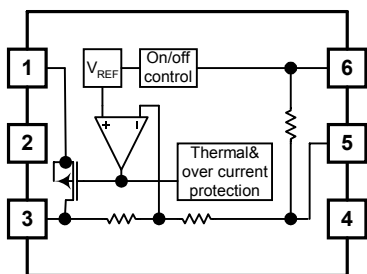
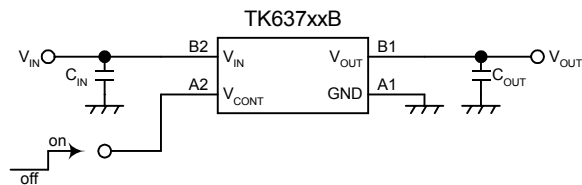
*1: For $V_{OUT}\leq 2.0V$, no regulations.

*2: The maximum output current is limited by power dissipation.

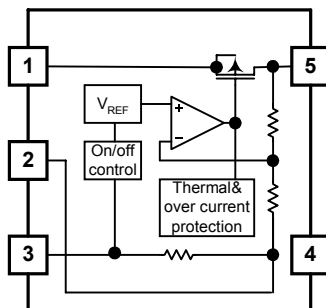
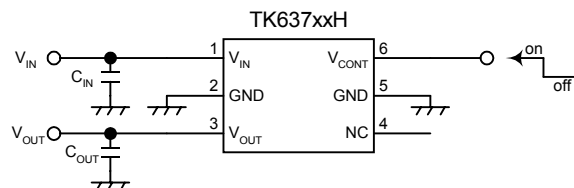
BLOCK DIAGRAM



■ TK637xxB



■ TK637xxH



■ TK637xxS

