

Adjustable / fixed negative LDO regulator IC
可変/固定負出力低飽和レギュレータIC

TK72100CS, TK721xxCS, TK722xxCS

DESCRIPTION

The TK72100CS, TK721xxCS and TK722xxCS are low dropout linear regulator ICs with on/off control, which can supply 150mA load current.

The output voltage of the TK72100CS, adjustable by external resistors, is available from -3.0 to -17.5V. Trimmed with high accuracy, The output voltage of the TK721xxCS is available from -2.0 to -9.5V and that of the TK722xxCS is available from -3.0 to -9.5V.

TK72100CS, TK721xxCS, TK722xxCSは、出力電流150mAを安定に供給できるon/offコントロール付低飽和レギュレータICです。TK721xxCSとTK722xxCSの出力電圧は内部固定で高精度にトリミングされ、TK721xxCSは-2.0Vより-9.5V、TK722xxCSは-3.0Vより-9.5Vの間で設定できます。またTK72100CSの出力電圧は外部抵抗により-3.0Vより-17.0Vの間で自由に設定できます。

FEATURES




- Adjustable Negative Output Voltage(TK72100CS)
- High Precision Output Voltage of $\pm 2.0\%$ or $\pm 60\text{mV}$ (TK721xxCS/TK722xxCS)
- Active Low On/off Control
- Active High On/off Control
- Short Circuit Protection (Over Current Protection)
- Thermal Shutdown (Over Heat Protection)
- 可変負出力電圧(TK72100CS)
- 高精度出力電圧: $\pm 2.0\%$ or $\pm 60\text{mV}$ (TK721xxCS/TK722xxCS)
- 出力on/offコントロール: High-Off(TK72100CS/TK721xxCS)
- 出力on/offコントロール: High-On(TK722xxCS)
- 短絡保護機能(過電流保護)
- サーマルシャットダウン機能(過熱保護)

APPLICATIONS

- Battery Powered Systems
- DSC(Digital Still Camera)
- CCD(Coupled Charge Device) Bias
- GaAs Bias
- バッテリー駆動機器
- デジタルスチルカメラ
- CCDバイアス
- GaAsバイアス

PACKAGE OUTLINE

ORDERING INFORMATION

Part name	Package	Marking	Pin configuration	Ordering information
TK72100CS	 SOT23-6	K00	See next page	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 10px;"> T K 7 2 x x C S L </div> <div style="margin-right: 10px;"> Number 1, 2 Voltage code Ex. -10.3V: 03, -5.0V: 50, adjustable: 00 Package code S: SOT23-5, SOT23-6 </div> <div style="margin-right: 10px;"> Storage direction L: Left type(SOT23-5) B: Back type(SOT23-6) </div> <div> Temperature range C: $T_A = 25^\circ\text{C}$, I: Full </div> </div>
TK721xxCS	 SOT23-5	Kxx		
TK722xxCS	 SOT23-5	Txx		

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

ABSOLUTE MAXIMUM RATINGS

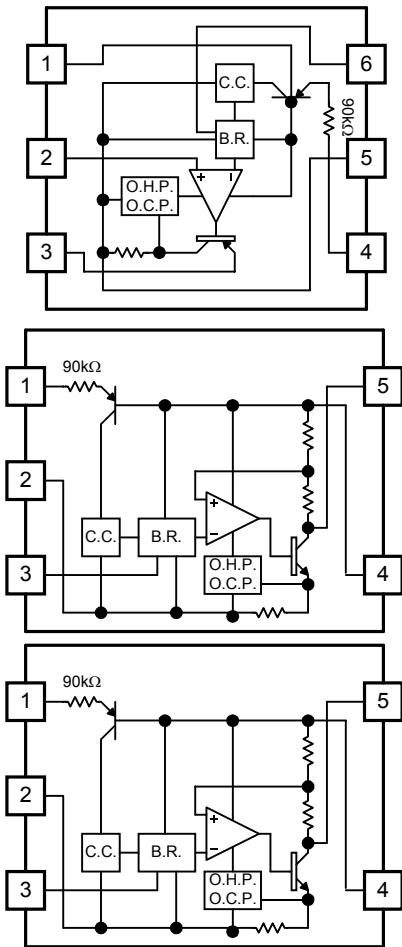
Parameter	項目	Symbol	記号	Rating	定格	Unit	単位	Remarks	備考
Operating Voltage Range	動作電圧範囲	V_{OP}		-19		V			
Operating Temperature Range	動作温度範囲	T_{OP}		-40 to +85		$^\circ\text{C}$			
Power Dissipation	許容消費電力	P_D		500		mW			

ELECTRICAL CHARACTERISTICS

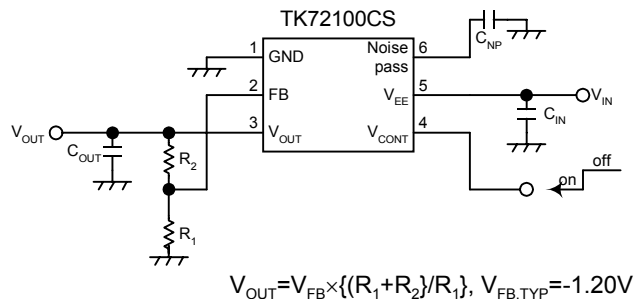
TK72100CS: $V_{IN} = -9.5V$, $T_A = 25^\circ C$, TK721xxCs/TK722xxCS: $V_{IN} = V_{OUT.TYP} - 1.5V$, $T_A = 25^\circ C$

Parameter 項目	Symbol 記号	Value			Units 単位	Conditions 条件	
		MIN	TYP	MAX			
Dropout Voltage 入出力間電圧降下	V_{DROP}		290 100	500	mV	TK72100CS TK721xxCs/TK722xxCS	$I_{OUT} = 50mA$
Maximum Output Current 最大出力電流	$I_{OUT.MAX}$	200	300		mA	When V_{OUT} down 10%	
Quiescent Current 電源電流	I_Q		170 155	250	μA	TK72100CS TK721xxCs/TK722xxCS	$I_{OUT} = 0mA$
Standby Current スタンバイ電流	I_{STB}		30 20	60	μA	TK72100CS TK721xxCs/TK722xxCS	V_{OUT} off state
Control Current コントロール電流	I_{CONT}		12	30	μA	$V_{CONT} = +1.8V$	
Control Voltage コントロール電圧	V_{CONT}	0.0		0.3	V	V_{OUT} on state: TK72100CS, TK722xxCS	
		1.5				V_{OUT} off state: TK72100CS, TK722xxCS	
		1.2				V_{OUT} on state: TK722xxCS	
				0.6		V_{OUT} off state: TK722xxCS	

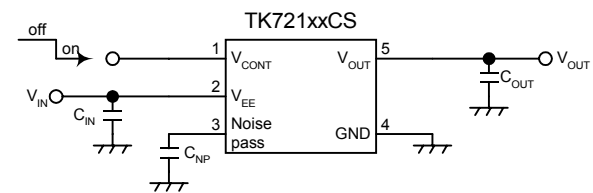
BLOCK DIAGRAM



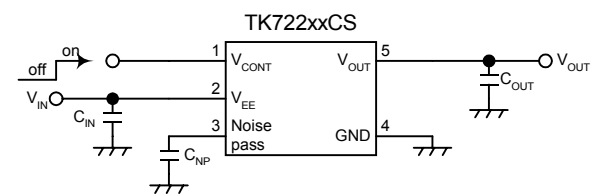
■ TK72100CS



■ TK721xxCS



■ TK722xxCS



* C.C....Control Circuit, O.H.P...Over Heat Protection, O.C.P...Over Current Protection, B.G....Band gap Reference