

**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;"> <b>T</b> <b>K</b> <b>7</b> <b>2</b>   <b>x</b> <b>x</b> <b>C</b> <b>S</b>   <b>L</b> </div> <div style="margin-right: 10px;">                     Number 1, 2                 </div> <div style="margin-right: 10px;">                     Voltage code Ex. -10.3V: 03, -5.0V: 50, adjustable: 00                 </div> <div style="margin-right: 10px;">                     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: <math>T_A = 25^\circ\text{C}</math>, 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**

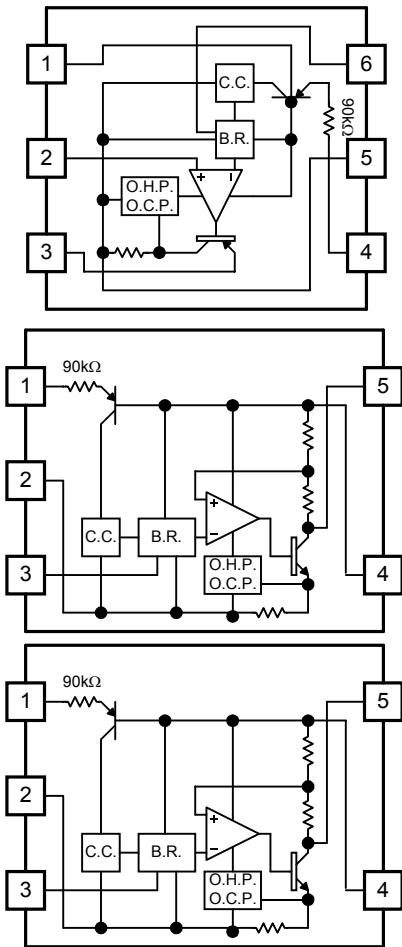
Parameter	項目	Symbol	記号	Rating	定格	Unit	単位	Remarks	備考
Operating Voltage Range	動作電圧範囲	$V_{OP}$		-19		V			
Operating Temperature Range	動作温度範囲	$T_{OP}$		-40 to +85		$^\circ\text{C}$			
Power Dissipation	許容消費電力	$P_D$		500		mW			

**ELECTRICAL CHARACTERISTICS**

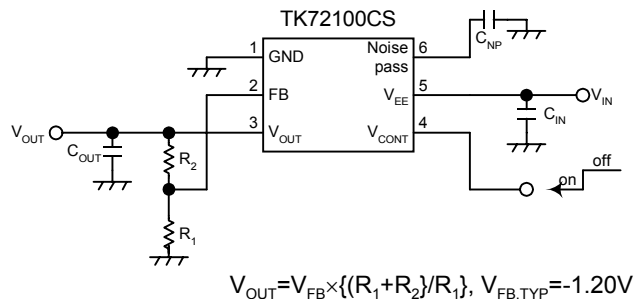
TK72100CS:  $V_{IN} = -9.5V$ ,  $T_A = 25^\circ C$ , TK721xxCs/TK722xxCS:  $V_{IN} = V_{OUT.TYP} - 1.5V$ ,  $T_A = 25^\circ C$

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	$\mu A$	TK72100CS TK721xxCs/TK722xxCS	$I_{OUT} = 0mA$
Standby Current スタンバイ電流	$I_{STB}$		30 20	60	$\mu A$	TK72100CS TK721xxCs/TK722xxCS	$V_{OUT}$ off state
Control Current コントロール電流	$I_{CONT}$		12	30	$\mu A$	$V_{CONT} = +1.8V$	
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	

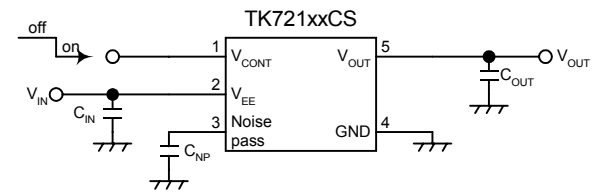
**BLOCK DIAGRAM**



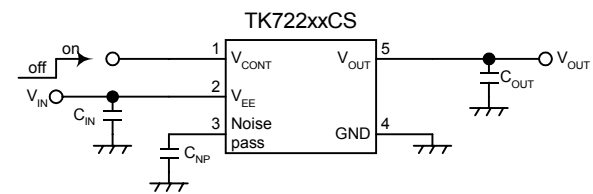
■ TK72100CS



■ TK721xxCS



■ TK722xxCS



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