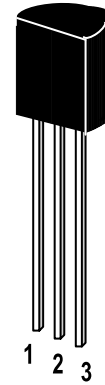


ST 78L05

3-Terminal positive voltage regulator

5V

- Suitable for TTL, DTL, HTL, C-MOS, Power Supply
- Internal Short-Circuit Current Limiting
- Internal Thermal Overload Protection
- Maximum Output Current of 150 mA ($T_j = 25\text{ }^\circ\text{C}$)
- Available in the Plastic TO-92 Package



1. Output 2. Common 3. Input

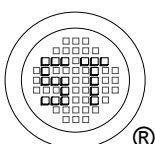
TO-92 Plastic Package

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

Parameter	Symbol	Rating	Unit
Input Voltage	V_{IN}	35	V
Power Dissipation	P_{tot}	800	mW
Operating Temperature	T_{opr}	-30 to +75	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$

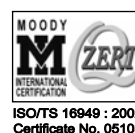
Electrical Characteristics (Unless otherwise specified, $V_{IN} = 10\text{ V}$, $I_{OUT} = 40\text{ mA}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$, $T_j = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Output Voltage	V_{OUT}		4.8	5.0	5.2	V	
Input Regulation	Reg. line	$7\text{ V} \leq V_{IN} \leq 20\text{ V}$	-	55	150	mV	
		$8\text{ V} \leq V_{IN} \leq 20\text{ V}$	-	45	100		
Load Regulation	Reg. load	$1\text{ mA} \leq I_{OUT} \leq 100\text{ mA}$	-	11	60	mV	
		$1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$	-	5.0	30		
Output Voltage	V_{OUT}	$7\text{ V} \leq V_{IN} \leq 20\text{ V}$ $1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$	4.75	-	5.25	V	
	V_{OUT}	$V_{IN} = 10\text{ V}$ $1\text{ mA} \leq I_{OUT} \leq 70\text{ mA}$	4.75	-	5.25	V	
Quiescent Current	I_B		-	3.1	6	mA	
Quiescent Current Change	With line	ΔI_B	8 V \leq $V_{IN} \leq$ 20 V	-	-	1.5	mA
	With load			1 mA \leq $I_{OUT} \leq$ 40 mA	-	-	
Output Noise Voltage	V_{NO}	$T_a = 25\text{ }^\circ\text{C}$, $10\text{ Hz} \leq f \leq 100\text{ KHz}$	-	40	-	μV	
Ripple Rejection	RR	$f = 120\text{ Hz}$, $8\text{ V} \leq V_{IN} \leq 18\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$	41	49	-	dB	
Dropout Voltage	$ V_{IN} - V_{OUT} $	$T_j = 25\text{ }^\circ\text{C}$	-	1.7	-	V	
Average Temperature Coefficient of Output Voltage	TC_{VO}	$I_{OUT} = 5\text{ mA}$	-	-0.6	-	mV/ $^\circ\text{C}$	



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



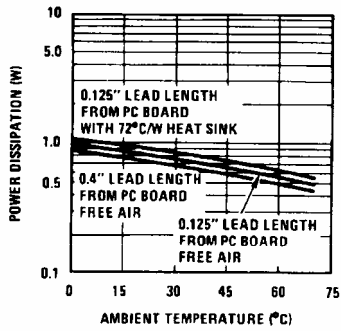
ISO 14001:2004
Certificate No. 7118



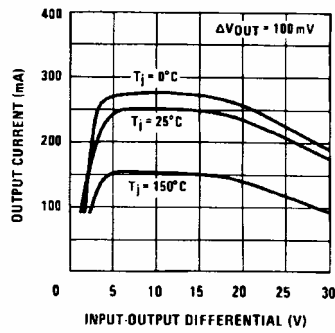
ISO 9001:2000
Certificate No. 0506098

Dated : 23/02/2006

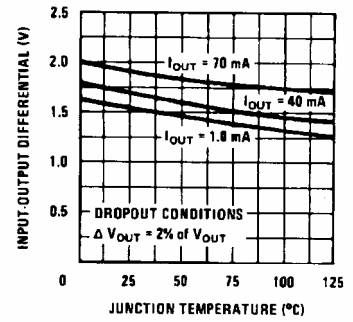
Maximum Average Power Dissipation



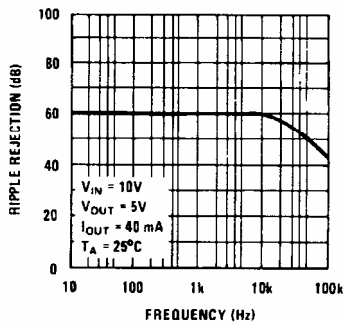
Peak Output Current



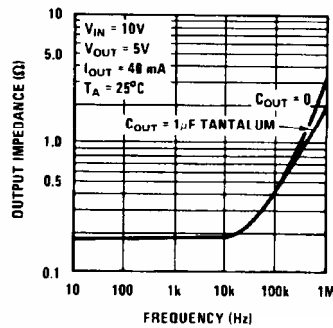
Dropout Voltage



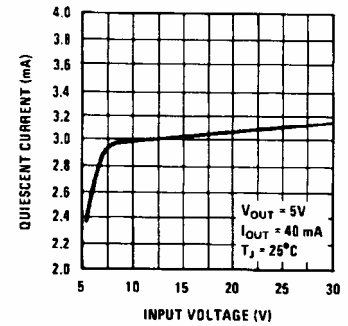
Ripple Rejection



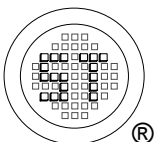
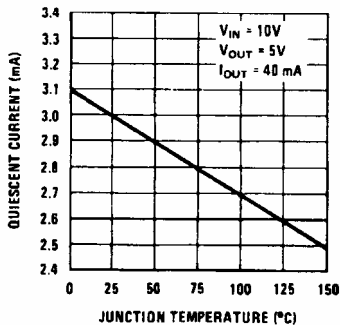
Output Impedance



Quiescent Current



Quiescent Current



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Certificate No. 71116



ISO 9001:2000
Certificate No. 0506098