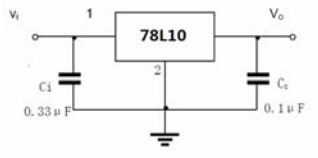
Three-terminal positive voltage regulator 78L10

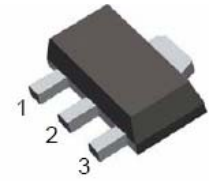
FEATURES

- No extemal components.
- Output voltage: 10V
- Built-in overcurrent limit circuit
- Built-in thermal overload protection circuit

APPLICATIONS

- Three-terminal positive voltage regulator.





SOT-89

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_I	Input voltage	35	V
P_D	Power Dissipation	0.65 NOTE1	mW
T_{OPR}	Operating junction temperature	-30 to +80	℃
T_{stg}	Storage temperature range	-55 to +150	℃

NOTE1: Follow the derating curve. When Tj exceeds 150° C, the internal circuit cuts off the output.

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ELECTRICAL CHARACTERISTICS

(V_{IN}=16V,I_O=40350mA,C_{IN}=0.33μF,C_O=0.1μf, $T_j = 0$ to 125℃ ,unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage tolerance	V_O	V_I = 12.5 to 25V, I_O = 1 to 70mA	9.5	-	10.5	V
Output voltage	V_O	T_J=25℃	9.6	10	10.4	V
Load regulation(Note1)	$\triangle Reg_{load}$	I_O = 1 to 100mA, T_j = 25℃	-	17	90	mV
		I_O = 1 to 40mA, T_j = 25℃	-	9	45	mV
Line regulation(Note1)	$\triangle Reg_{line}$	V_I = 12.5 to 25V, T_j = 25℃	-	100	210	mV
		V_I = 13 to 25V, T_j = 25℃	-	90	160	mV
Bias current	I_{Bias}	T_j = 25℃	-	2.0	3.0	mA
Bias current fluctuation to input	$\Delta I_{Bias(IN)}$	V_I = 13 to 25V, T_j = 25℃	-	-	1.0	mA
Bias current fluctuation to load	$\Delta I_{Bias(L)}$	I_O = 1 to 40mA, T_j = 25℃	-	-	0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	-	70	-	μV
Ripple Rejection	RR	V_I= 13to23V, I_O= 40mA, f = 120Hz	42	52	-	dB
Dropout Voltage	V_D	T_J=25℃	-	1.7	-	V
Short Circuit Current	I_{SC}	V_I=35V,T_J=25℃		140		mA
OutputVoltage temperature coefficient	$\Delta V_O/T_a$	I_O = 5mA, T_j = 0 to 125℃	-	0.9	-	mV/℃

Note:1. The specified condition Tj = 25° C means that the test should be carried out within so short a test time (within 10ms) that the characteristic value drift due to the chip junction temperature rise can be ignored.

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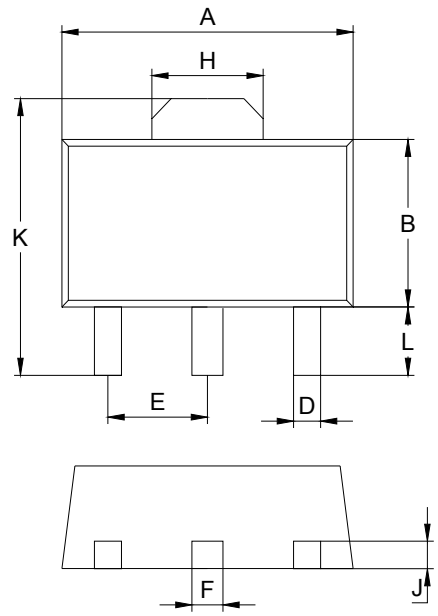
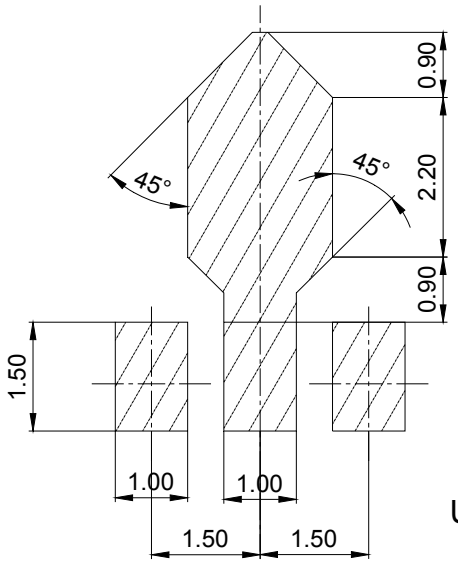
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
78L10	SOT-89	1000/Tape&Reel