

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

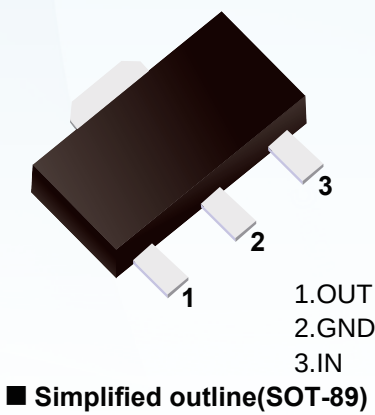
▶ Domestic	Part Number	78L33
▶ Overseas	Part Number	78L33
▶ Equivalent	Part Number	78L33

EV is the abbreviation of name EVVO

■ Three-Terminal Positive Voltage Regulator

FEATURES

- Wide range of available, fixed output voltage.
- Low cost.
- Internal short-circuit current limiting.
- Internal thermal overload protection.
- No external components required.



APPLICATIONS

- Three-terminal positive voltage regulator.

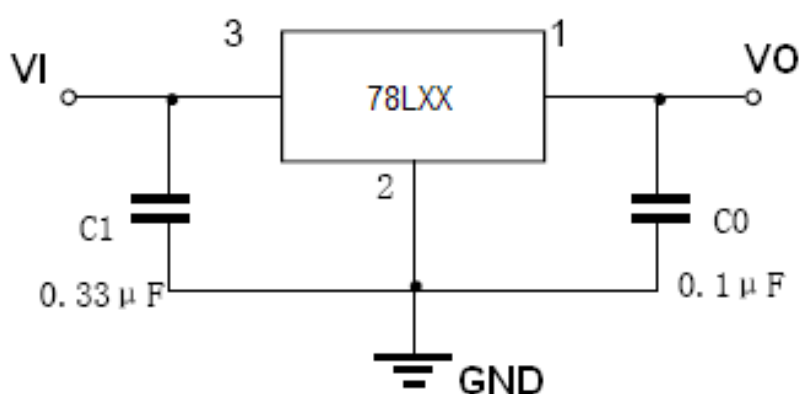
MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_I	Input voltage	30	V
I_{CM}	Maximum output current	100	mA
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	250	°C/W
P_D	Power dissipation	500	mW
T_J	Operating junction temperature	-40 to +125	°C
T_{STG}	Storage temperature range	-65 to +150	°C

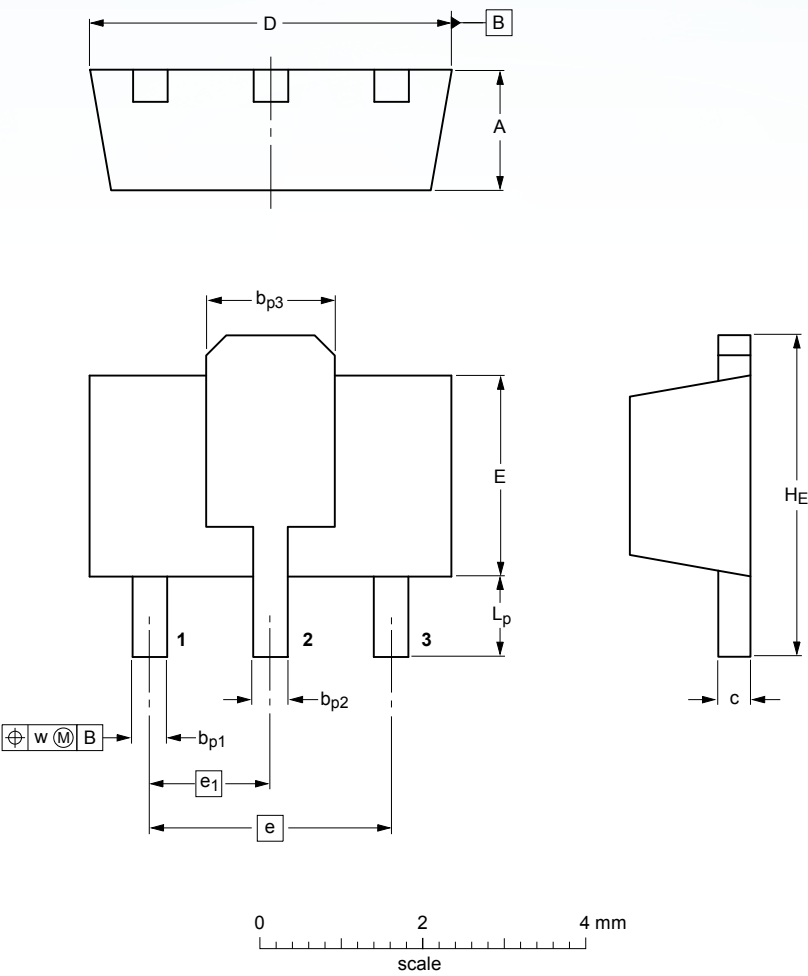
ELECTRICAL CHARACTERISTICS

($V_{IN}=8.3V, I_O=40mA, 0^\circ C < T_J < 125^\circ C, C_1=0.33\mu F, C_O=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	78L33			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	$T_J=25^\circ C$ $5.8V \leq V_i \leq 20V, I_O=1mA-40mA$ $V_i=8.3V, I_O=1mA-70mA$	3.168 3.135 3.135	3.3 - -	3.432 3.465 3.465	V
Load regulation	Reg_{load}	$T_J=25^\circ C, I_O=1mA-100mA$ $T_J=25^\circ C, I_O=1mA-40mA$	-	-	60 30	mV
Line regulation	Reg_{line}	$5.8V \leq V_i \leq 20V, T_J=25^\circ C$ $6.3V \leq V_i \leq 20V, T_J=25^\circ C$	-	-	150 100	mV
Input Bias Current	I_{IB}	$T_J=25^\circ C$ $T_J=125^\circ C$	-	-	6.0 5.5	mA
Input Bias Current Change	ΔI_{IB}	$6.3V \leq V_i \leq 20V$ $1mA \leq I_O \leq 40mA$	-	-	1.5 0.1	mA
Output noise voltage	V_N	$10Hz \leq f \leq 100KHz$	-	40	-	μV
Ripple rejection	RR	$I_O=40mA, 6.3V \leq V_i \leq 16.3V$ $f=120Hz, T_J=25^\circ C$	41	49	-	dB
Dropout voltage	V_i-V_O	$T_J=25^\circ C$	-	2.5	-	V



■ SOT-89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b _{p1}	b _{p2}	b _{p3}	c	D	E	e	e ₁	H _E	L _p	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13

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