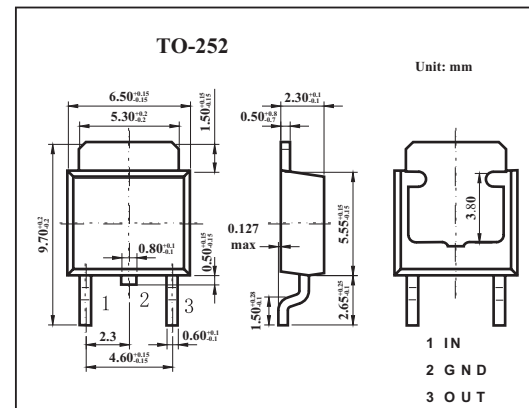


Three-terminal Positive Voltage Regulator 78M15

■ Features

- Maximum Output current I_{oM} : 0.5 A
- Output voltage V_o : 15V
- Continuous total dissipation P_D : 1.25W



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

Parameter	Symbol	Rating	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{OPR}	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

■ Electrical Characteristics ($V_{IN}=23\text{V}, I_o=350\text{mA}, 0^\circ\text{C} < T_j < 125^\circ\text{C}, C_i=0.33\ \mu\text{F}, C_o=0.1\ \mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	$T_j=25^\circ\text{C}$	14.4	15	15.6	V
		$17.5 \leq V_{IN} \leq 30\text{V}, I_o=5\text{mA}-350\text{mA}, P_D \leq 15\text{W}$	14.25	15	15.75	V
Load regulation	ΔV_o	$T_j=25^\circ\text{C}, I_o=5\text{mA}-500\text{mA}$			300	mV
		$T_j=25^\circ\text{C}, I_o=5\text{mA}-200\text{mA}$			150	mV
Line regulation	ΔV_o	$17.5 \leq V_{IN} \leq 30\text{V}, I_o=200\text{mA}$			100	mV
		$20 \leq V_{IN} \leq 30\text{V}, I_o=200\text{mA}$			50	mV
Quiescent current	I_q	$T_j=25^\circ\text{C}$			6.0	mA
Quiescent current change	ΔI_q	$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$			0.8	mA
		$5\text{mA} \leq I_o \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$		90		μV
Ripple rejection	RR	$15\text{V} \leq V_i \leq 25\text{V}, f=120\text{Hz}, I_{OUT}=300\text{mA}$	54			dB
Dropout Voltage	V_D	$T_j=25^\circ\text{C}, I_o=350\text{mA}$		2.0		V
Short Circuit Current	I_{sc}	$V_i=35\text{V}, T_j=25^\circ\text{C}$		240		mA
Peak Output Current	I_{pk}	$T_j=25^\circ\text{C}$		2.1		A

■ Typical Application

