

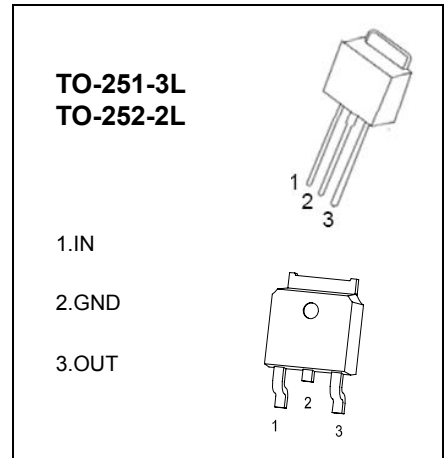


TO-251/TO-252-2L Plastic-Encapsulate Regulators

78M15 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 0.5 A
- Output voltage V_O : 15V
- Continuous total dissipation
 P_D : 1.25 W ($T_a = 25^\circ\text{C}$)



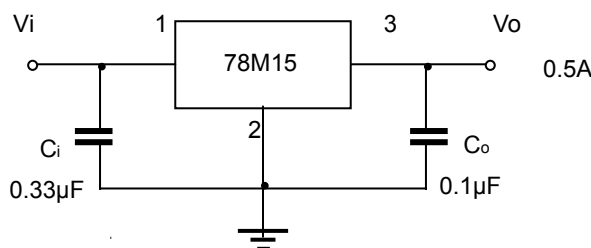
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{OPR}	0-+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($V_i=23\text{V}, I_o=350\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V_o	$V_i=23\text{V}, I_o=350\text{mA}$	25 $^\circ\text{C}$	14.4	15	15.6	V
		$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=5\text{mA} \sim 350\text{mA}$ $P_o \leq 15\text{W}$	0-125 $^\circ\text{C}$	14.25	15	15.75	V
Load Regulation	ΔV_o	$I_o=5\text{mA} \sim 500\text{mA}$	25 $^\circ\text{C}$			300	mV
		$I_o=5\text{mA} \sim 200\text{mA}$	25 $^\circ\text{C}$			150	mV
Line Regulation	ΔV_o	$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$			100	mV
		$20\text{V} \leq V_i \leq 26\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$			50	mV
Quiescent Current	I_q	$V_i=23\text{V}, I_o=350\text{mA}$	25 $^\circ\text{C}$			6	mA
Quiescent Current Change	ΔI_q	$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	0-125 $^\circ\text{C}$			0.8	mA
	ΔI_q	$V_i=23\text{V}, I_o=5\text{mA} \sim 350\text{mA}$	0-125 $^\circ\text{C}$			0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		90		μV
Ripple Rejection	RR	$18.5\text{V} \leq V_i \leq 28.5\text{V}, f=120\text{Hz}, I_o=300\text{mA}$	0-125 $^\circ\text{C}$	54			dB
Dropout Voltage	V_d		25 $^\circ\text{C}$		2		V

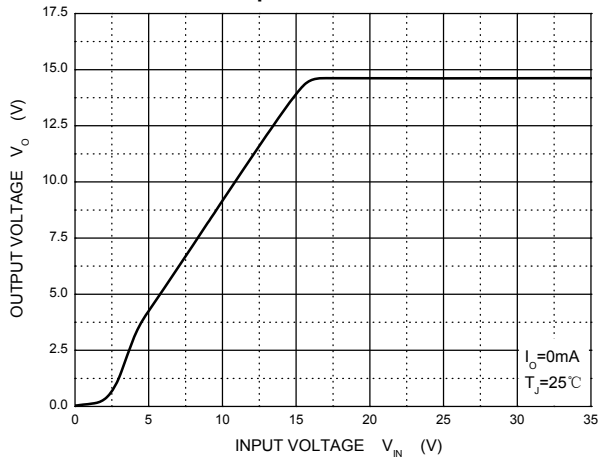
TYPICAL APPLICATION



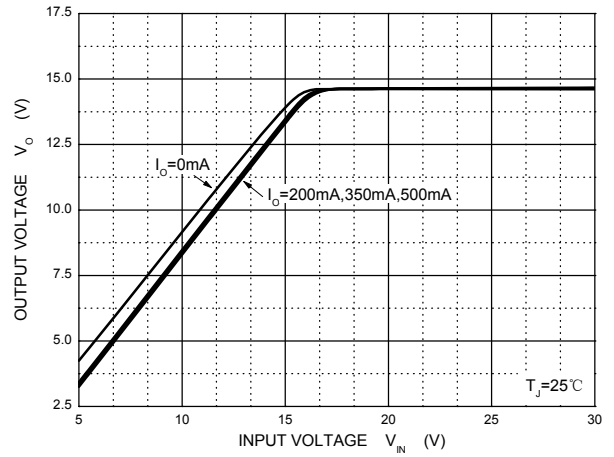
Typical Characteristics

78M15

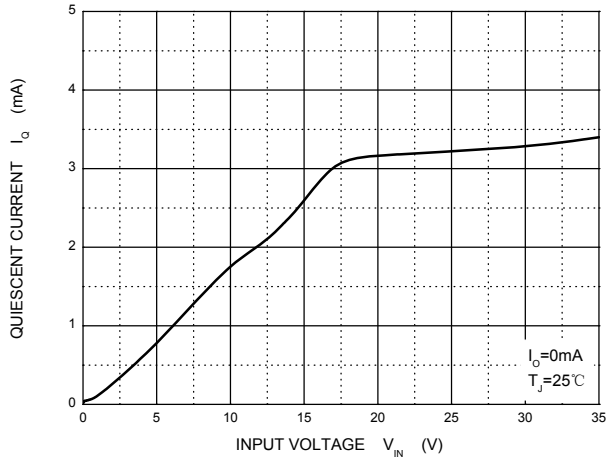
Output Characteristics



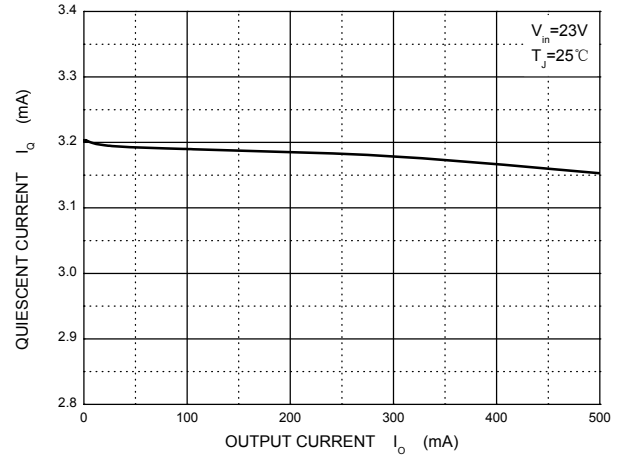
Dropout Characteristics



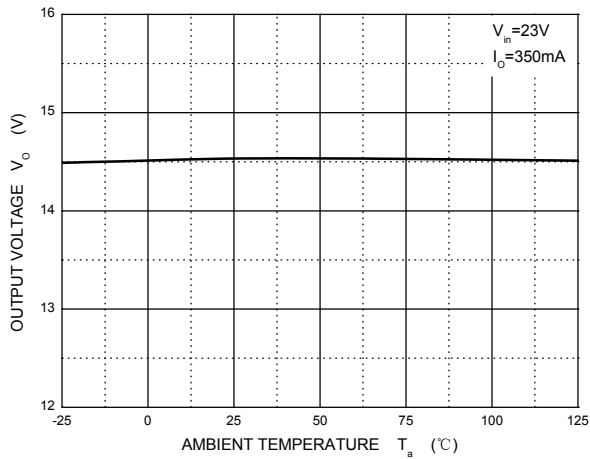
Quiescent Current vs Input Voltage



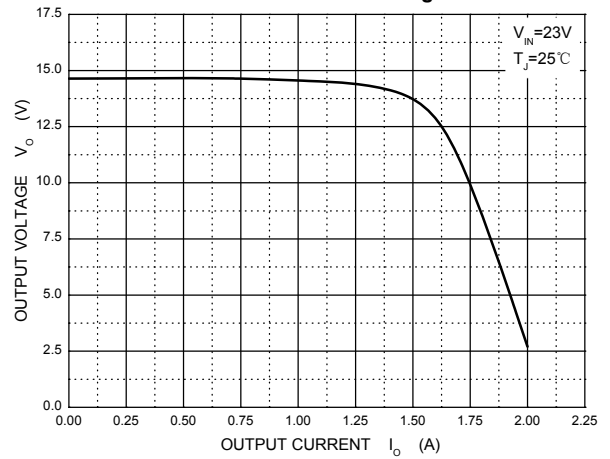
Quiescent Current vs Output Current



Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage



Power Derating Curve

