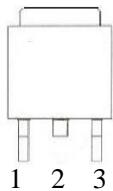


Model : 78M15-0.5A

Shape: TO-252

Product name: three-end power supply voltage regulator



Polarity: Three pins from left to right 1: IN 2: GND 3: OUT

Purpose: Zener diode/resistor combination replacement. It offers two orders of magnitude of effective product improvements in

impedance, low static current. Mainly used in network products, DVD-ROM, CD-ROM, sound card and computer motherboard, linear voltage regulator source, controller.

Limit range (TA=25 unless otherwise specified)

Project	Symbol	Rated value	Unit
Input voltage	V <sub>IN</sub>	35	V
Encapsulated electrical impedance	R <sub>JA</sub>	65	°C/W
Operating temperature	T <sub>c</sub>	0~125	°C
Storage temperature	T <sub>stg</sub>	-65~150	°C

Electrical parameter characteristics (I<sub>o</sub> = 350 mA, V<sub>o</sub> = 23 V, V<sub>i</sub>, C<sub>i</sub> = 0.33 F, C<sub>o</sub> = 0.1 F, T<sub>j</sub> = 25 °C) unless otherwise specified)

Parameter name	Symbol	Test condition	Canonical value			Unit
			Min	Typical	Max	
Output voltage	V <sub>o</sub>	T <sub>j</sub> =25°C	14.4	15	15.6	V
		5.0mA ≤ I <sub>o</sub> ≤ 350mA V <sub>i</sub> =17.5V to 30V	14.25	15	15.75	V
Voltage adjustment rate	Regline	T <sub>j</sub> =25°C	V <sub>o</sub> =17.5V to 30V	-	-	mV
			V <sub>i</sub> =20V to 30V	-	-	mV
Load adjustment rate	Regload	T <sub>j</sub> =25°C	I <sub>o</sub> =5.0mA to 500mA	-	-	mV
			I <sub>o</sub> =5.0mA to 200mA	-	-	mV
Static current	I <sub>Q</sub>	T <sub>j</sub> =25°C	-	-	6.0	mA
Static current change rate	ΔI <sub>Q</sub>	T <sub>j</sub> =25°C	I <sub>o</sub> =5.0mA to 350mA	-	-	mA
			V <sub>i</sub> =17.5V to 30V	-	-	mA

Output voltage temperature coefficient	$\Delta V/\Delta T$	$I_o=5\text{mA}$	-	0.8	-	$\text{mV}/^\circ\text{C}$
Output noise voltage	VNO	$f=10\text{Hz}\sim100\text{kHz}, T_j=25^\circ\text{C}$		90		$\mu\text{V}$
Ripple suppression ratio	RR	$V_i=18.5\sim28.5\text{V}, f=120\text{Hz}$	54			$\text{dB}$
Line pressure difference	Vdrop	$T_j=25^\circ\text{C}$	-	2	-	$\text{V}$
Output resistance	$R_o$	$f=1\text{KHz}$	-	15	-	$\text{m}\Omega$
Short-circuit current	$I_{sc}$	$V_i=35\text{V}, T_j=25^\circ\text{C}$	-	50	-	$\text{mA}$

## Typical characteristic curve

