



## TO-251/TO-252-2L Plastic-Encapsulate Transistors

### CJ78M08 Three-terminal positive voltage regulator

#### FEATURES

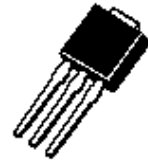
Maximum Output current

$$I_{OM}: 0.5 \text{ A}$$

Output voltage

$$V_o: 8\text{V}$$

TO-251  
TO-252-2L



1.IN

2.GND

3.OUT



**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	°C
Storage Temperature Range	$T_{STG}$	-65-+150	°C

**ELECTRICAL CHARACTERISTICS**( $V_i=14\text{V}, I_o=350\text{mA}, 0^\circ\text{C}<T_j<125^\circ\text{C}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified )

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$T_j=25^\circ\text{C}$	7.7	8	8.3	V
		$10.5\text{V}\leq V_i\leq 23\text{V}, I_o=5\text{mA}-350\text{mA}$ $P_o\leq 15\text{W}$	7.6	8	8.4	V
Load Regulation	$\Delta V_o$	$T_j=25^\circ\text{C}, I_o=5\text{mA}-500\text{mA}$		20	160	mV
		$T_j=25^\circ\text{C}, I_o=5\text{mA}-200\text{mA}$		10	80	mV
Line regulation	$\Delta V_o$	$10.5\text{V}\leq V_i\leq 25\text{V}, I_o=200\text{mA}$		6	100	mV
		$11\text{V}\leq V_i\leq 25\text{V}, I_o=200\text{mA}$		2	50	mV
Quiescent Current	$I_q$	$T_j=25^\circ\text{C}$		4.6	6	mA
Quiescent Current Change	$\Delta I_q$	$10.5\text{V}\leq V_i\leq 25\text{V}, I_o=200\text{mA}$			0.8	mA
	$\Delta I_q$	$5\text{mA}\leq I_o\leq 350\text{mA}$			0.5	mA
Output Noise Voltage	$V_N$	$10\text{Hz}\leq f\leq 100\text{KHz}$		52		$\mu\text{V}$
Ripple Rejection	RR	$11.5\text{V}\leq V_i\leq 21.5\text{V}, f=120\text{Hz}, I_o=300\text{mA}$ $T_j=25^\circ\text{C}$	56	80		dB
Dropout Voltage	$V_d$	$T_j=25^\circ\text{C}, I_o=350\text{mA}$		2		V
Short Circuit Current	$I_{sc}$	$V_i=14\text{V}, T_a=25^\circ\text{C}$		250		mA
Peak Current	$I_{pk}$	$T_j=25^\circ\text{C}$		0.7		A

#### TYPICAL APPLICATION

