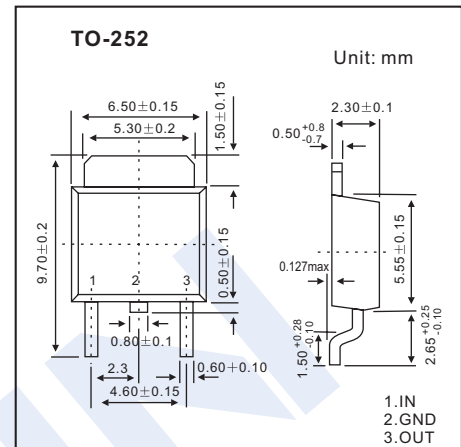


Three-Terminal Positive Voltage Regulator

LM78M08

■ Features

- Maximum Output current I_{OM} : 0.5A
- Output Voltage V_O : 8V
- Continuous Total Dissipation P_D : 1.25W ($T_A = 25^\circ\text{C}$)



■ Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

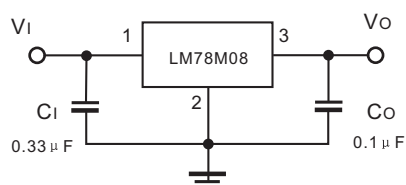
Parameter	Symbol	Rating	Unit
Input Voltage	V_I	35	V
Operating Junction Temperature Range	T_{OPR}	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-65 \sim +150$	$^\circ\text{C}$

■ Electrical Characteristics ($V_I=14\text{V}$, $I_O=350\text{mA}$, $C_I=0.33\mu\text{F}$, $C_O=0.1\mu\text{F}$, unless otherwise specified)

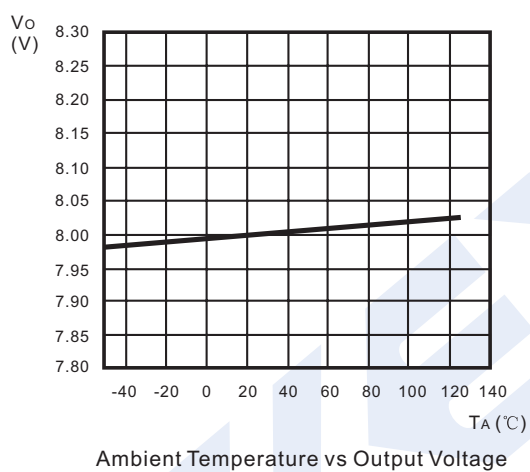
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	7.7	8	8.3	V
		$T_J = 0 \sim 125^\circ\text{C}$, $10.5\text{V} \leq V_I \leq 23\text{V}$, $I_O = 5\text{mA} \sim 350\text{mA}$, $P_O \leq 15\text{W}$	7.6	8	8.4	V
Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$, $I_O = 5\text{mA} \sim 0.5\text{A}$		20	160	mV
		$T_J = 25^\circ\text{C}$, $I_O = 5\text{mA} \sim 200\text{mA}$		10	80	mV
Line Regulation	ΔV_O	$T_J = 25^\circ\text{C}$, $10.5\text{V} \leq V_I \leq 25\text{V}$, $I_O = 200\text{mA}$		6	100	mV
		$T_J = 25^\circ\text{C}$, $11\text{V} \leq V_I \leq 25\text{V}$, $I_O = 200\text{mA}$		2	50	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$		4.6	6	mA
Quiescent current Change	ΔI_Q	$T_J = 0 \sim 125^\circ\text{C}$, $10.5\text{V} \leq V_I \leq 25\text{V}$, $I_O = 200\text{mA}$			0.8	mA
		$T_J = 0 \sim 125^\circ\text{C}$, $5\text{mA} \leq I_O \leq 350\text{mA}$			0.5	mA
Output Noise Voltage	V_N	$T_J = 25^\circ\text{C}$, $10\text{Hz} \leq f \leq 100\text{kHz}$		52		μV
Ripple Rejection	RR	$T_J = 0 \sim 125^\circ\text{C}$, $11.5\text{V} \leq V_I \leq 21.5\text{V}$, $f = 120\text{Hz}$, $I_O = 300\text{mA}$	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}	$T_J = 25^\circ\text{C}$, $V_I = 14\text{V}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		0.7		A

LM78M08

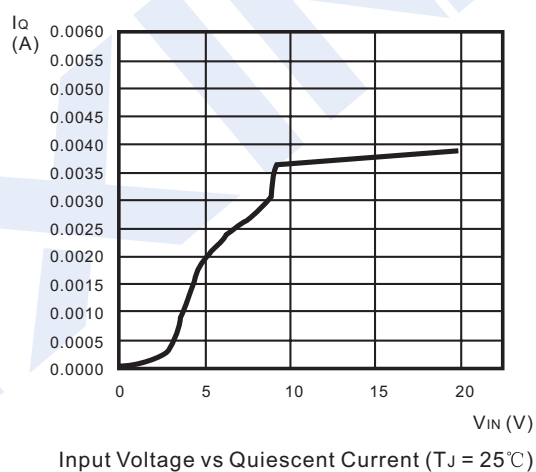
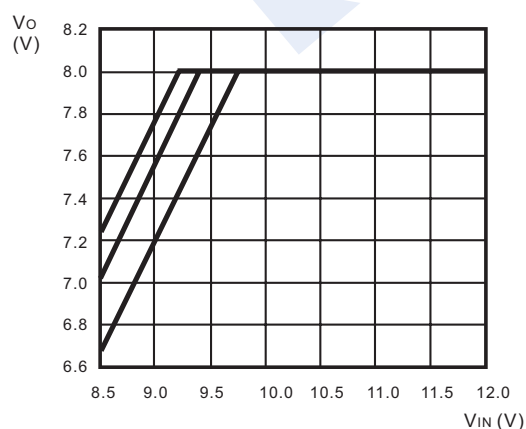
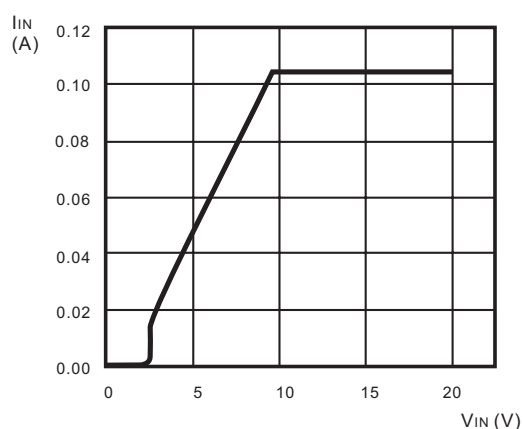
■ Typical Application



■ Typical Characteristics



Ambient Temperature vs Output Voltage

Input Voltage vs Quiescent Current ($T_J = 25^\circ\text{C}$)Input Voltage vs Output Voltage ($T_J = 25^\circ\text{C}$)Input Voltage vs Input Current ($T_J = 25^\circ\text{C}$)