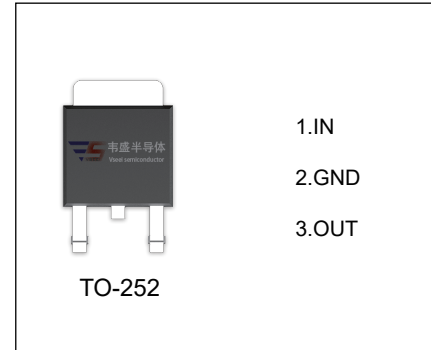


## VS7808 Three-terminal positive voltage regulator

### FEATURES

- Maximum output current  
 $I_{OM}$ : 1.5 A
- Output voltage  
 $V_O$ : 8V
- Continuous total dissipation  
 $P_D$ : 1.25 W ( $T_a = 25^\circ\text{C}$ )



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

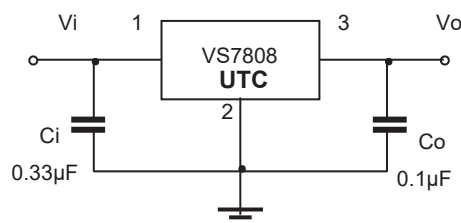
Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_{OPR}$	-40~+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65~+150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE** ( $V_i=14\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	$V_o$	$25^\circ\text{C}$	7.76	8	8.24	V	
		$10.5\text{V} \leq V_i \leq 23\text{V}, I_o=5\text{mA}-1\text{A}$	-25-125 $^\circ\text{C}$	7.6	8	8.4	V
Load Regulation	$\Delta V_o$	$I_o=5\text{mA}-1.5\text{A}$	$25^\circ\text{C}$		12	160	mV
		$I_o=250\text{mA}-750\text{mA}$	$25^\circ\text{C}$		4	80	mV
Line Regulation	$\Delta V_o$	$10.5\text{V} \leq V_i \leq 25\text{V}$	$25^\circ\text{C}$		6	160	mV
		$11\text{V} \leq V_i \leq 17\text{V}$	$25^\circ\text{C}$		2	80	mV
Quiescent Current	$I_q$	$25^\circ\text{C}$		4.3	8	mA	
Quiescent Current Change	$\Delta I_q$	$10.5\text{V} \leq V_i \leq 25\text{V}$	-25-125 $^\circ\text{C}$			1	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$	-25-125 $^\circ\text{C}$			0.5	mA
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$	-25-125 $^\circ\text{C}$		-0.8	mV/ $^\circ\text{C}$	
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	$25^\circ\text{C}$		52	$\mu\text{V}/V_o$	
Ripple Rejection	RR	$11.5\text{V} \leq V_i \leq 21.5\text{V}, f=120\text{Hz}$	-25-125 $^\circ\text{C}$	55	72	dB	
Dropout Voltage	$V_d$	$I_o=1\text{A}$	$25^\circ\text{C}$		2	V	
Output resistance	$R_o$	$f=1\text{KHz}$	$25^\circ\text{C}$		10	m $\Omega$	
Short Circuit Current	$I_{sc}$		$25^\circ\text{C}$		450	mA	
Peak Current	$I_{pk}$		$25^\circ\text{C}$		2.2	A	

Pulse test.

### TYPICAL APPLICATION



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

