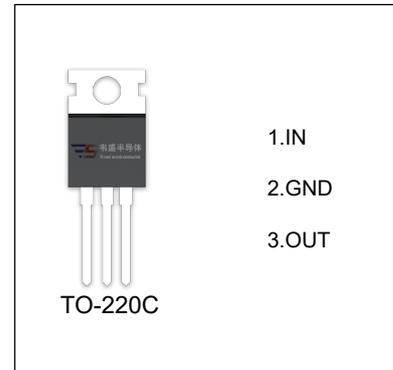


VS7812 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 $I_{OM}: 1.5\text{ A}$
- Output voltage
 $V_O: 12\text{ V}$
- Continuous total dissipation
 $P_D: 1.5\text{ W}$ ($T_a = 25\text{ }^\circ\text{C}$)



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

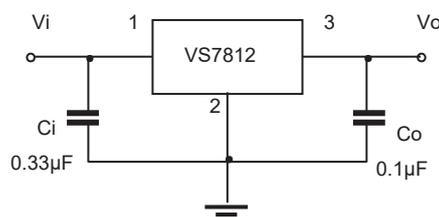
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	66.7	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i = 19\text{ V}$, $I_o = 500\text{ mA}$, $C_i = 0.33\text{ }\mu\text{F}$, $C_o = 0.1\text{ }\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	11.64	12.0	12.36	V
		$I_o = 5\text{ mA} - 1\text{ A}$, $14.5\text{ V} \leq V_i \leq 27\text{ V}$	11.4	12.0	12.6	V
Load Regulation	ΔV_o	$I_o = 5\text{ mA} - 1.5\text{ A}$, $T_J = 25^\circ\text{C}$		10	240	mV
		$I_o = 250\text{ mA} - 750\text{ mA}$, $T_J = 25^\circ\text{C}$		3	120	mV
Line Regulation	ΔV_o	$14.5\text{ V} \leq V_i \leq 30\text{ V}$, $T_J = 25^\circ\text{C}$		12	240	mV
		$16\text{ V} \leq V_i \leq 22\text{ V}$, $T_J = 25^\circ\text{C}$		4	120	mV
Quiescent Current	I_q	$T_J = 25^\circ\text{C}$		4.3	8	mA
Quiescent Current Change	ΔI_q	$5.0\text{ mA} \leq I_o \leq 1.0\text{ A}$			0.5	mA
		$14.5\text{ V} \leq V_i \leq 30\text{ V}$			1.0	mA
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o = 5\text{ mA}$		-1		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$f = 10\text{ Hz to } 100\text{ KHz}$, $T_J = 25^\circ\text{C}$		75		$\mu\text{V}/V_o$
Ripple Rejection	RR	$f = 120\text{ Hz}$, $15\text{ V} \leq V_i \leq 25\text{ V}$	55	71		dB
Dropout Voltage	V_d	$I_o = 1.0\text{ A}$, $T_J = 25^\circ\text{C}$		2		V
Output Resistance	R_o	$f = 1\text{ KHz}$, $T_J = 25^\circ\text{C}$		18		$\text{m}\Omega$
Short Circuit Current	I_{sc}	$T_J = 25^\circ\text{C}$		350		mA
Peak Current	I_{pk}			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.

