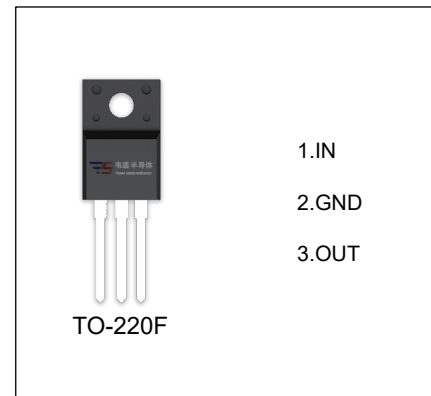


VS7815F Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 $I_{OM}: 1.5\text{ A}$
- Output voltage
 $V_O: 15\text{ V}$
- Continuous total dissipation
 $P_D: 1.5\text{ W}$ ($T_a = 25^\circ\text{C}$)



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

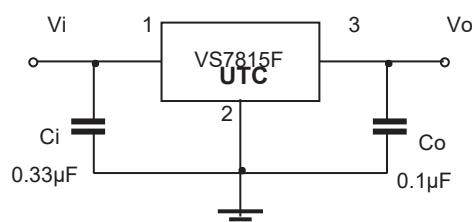
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	66.7	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=23\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	$T_J=25^\circ\text{C}$	14.55	15	15.45	V
		$17.5\text{V} \leq V_i \leq 30\text{V}$, $I_o=5\text{mA}-1\text{A}$	14.25	15	15.75	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$, $T_J=25^\circ\text{C}$		12	300	mV
		$I_o=250\text{mA}-750\text{mA}$, $T_J=25^\circ\text{C}$		4	150	mV
Line regulation	ΔV_o	$17.5\text{V} \leq V_i \leq 30\text{V}$, $T_J=25^\circ\text{C}$		12	300	mV
		$20\text{V} \leq V_i \leq 26\text{V}$, $T_J=25^\circ\text{C}$		3	150	mV
Quiescent Current	I_q	$T_J=25^\circ\text{C}$		4.3	8	mA
Quiescent Current Change	ΔI_q	$17.5\text{V} \leq V_i \leq 30\text{V}$			1	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$			0.5	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	$10\text{Hz} \leq f \leq 100\text{KHz}$, $T_J=25^\circ\text{C}$		90		$\mu\text{V}/V_o$
Ripple Rejection	RR	$18.5\text{V} \leq V_i \leq 28.5\text{V}$, $f=120\text{Hz}$	54	70		dB
Dropout Voltage	V_d	$I_o=1\text{A}$, $T_J=25^\circ\text{C}$		2		V
Output resistance	R_o	$f=1\text{KHz}$, $T_J=25^\circ\text{C}$		19		$\text{m}\Omega$
Short Circuit Current	I_{sc}	$T_J=25^\circ\text{C}$		230		mA
Peak Current	I_{pk}	$T_J=25^\circ\text{C}$		2.1		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.

