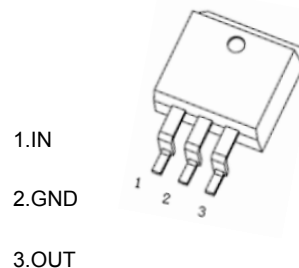


TO-263-3L Plastic-Encapsulate Voltage Regulators

CJ7815 Three-terminal positive voltage regulator

TO-263-3L



FEATURE

- Internal thermal overload protection
- Maximum output current I_O : 1.5 A
- Output voltage V_O : 15 V
- Continuous total dissipation is internally limited

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	$R_{\theta JA}$	83.3	$^{\circ}\text{C}/\text{W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	833	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature Range	T_{OPR}	0~+150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=23\text{V}$, $I_o=500\text{mA}$, $0^{\circ}\text{C}<T_j<125^{\circ}\text{C}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	14.4	15	15.6	V
		$17.5\leq V_i\leq 30, I_o=5\text{mA}\sim 1\text{A}, P\leq 15\text{W}$	0-125 $^{\circ}\text{C}$	14.25	15	15.75
Load regulation	ΔV_o	$I_o=5\text{mA}\sim 1.5\text{A}$	0-125 $^{\circ}\text{C}$	12	300	mV
		$I_o=250\text{mA}\sim 750\text{mA}$	25°C	3	150	mV
Line regulation	ΔV_o	$17.5\leq V_i\leq 30\text{V}$	25°C	12	300	mV
		$20\leq V_i\leq 26\text{V}$	25°C	4	150	mV
Quiescent current	I_q	25°C		4.3	8	mA
Quiescent current change	ΔI_q	$17.5\text{V}\leq V_i\leq 30\text{V}$	0-125 $^{\circ}\text{C}$		1	mA
		$5\text{mA}\leq I_o\leq 1\text{A}$	0-125 $^{\circ}\text{C}$		0.5	mA
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$		-1		mV/ $^{\circ}\text{C}$
Output noise voltage	V_N	$10\text{Hz}\leq f\leq 100\text{kHz}$	25°C	90		μV
Ripple rejection	RR	$18.5\text{V}\leq V_i\leq 28.5\text{V}, f=120\text{Hz}$	0-125 $^{\circ}\text{C}$	54	70	dB
Dropout voltage	V_d	$I_o=1\text{A}$	25°C	2		V
Output resistance	R_o	$f=1\text{kHz}$	25°C	19		m Ω
Short circuit current	I_{sc}		25°C	230		mA
Peak current	I_{pk}		25°C	2.1		A

TYPICAL APPLICATION

