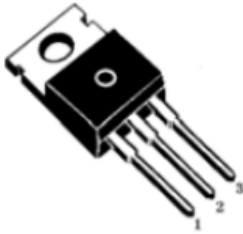


Model : 7812 Shape: T0-220

Product name: Three terminal positive power supply voltage regulator

ity: three pins from left to right 1: IN 2: GND 3: OUT



Purpose: Used as Zener diode/resistor combination replacement. It provides two orders of magnitude effective product impedance improvement and low quiescent current. Mainly used in network products, DVD-ROM, CD-ROM, sound cards and computer motherboards, linear voltage regulators, and controllers.

Limit value range (TA=25 unless otherwise specified)

Project	Symbol	Rated value	Unit
Input voltage	VIN	35	V
Max power consumption	PD	1.25	W
Output current	IO	1.5	A
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55~150	°C

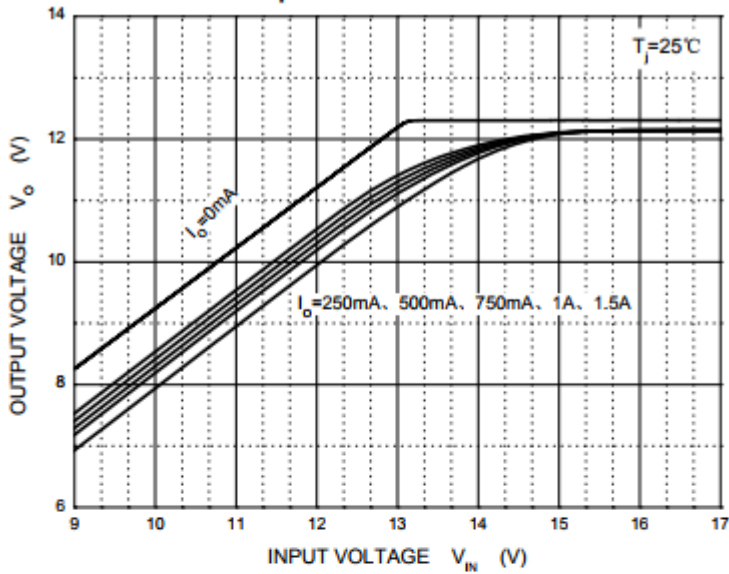
Electrical parameters (Io=500mA, Vi=19V, Ci=0.33F, Co=0.1F, Tj=25°C) unless otherwise specified

Parameter name	Symbol	Test condition	Canonical value			Unit	
			Min	Typical	Max		
Output voltage	Vo	Tj=25°C	11.5	12	12.5	V	
		5.0mA ≤ Io ≤ 1.0A, Vi=14.5V to 27V	11.4	12	12.6	V	
Voltage regulation	Regline	Tj=25°C	Vo=14.5V to 30V	-	12	240	mV
			Vi=16V to 22V	-	4	120	mV
Load adjustment rate	Regload	Tj=25°C	Io=5.0mA to 1.5A	-	10	240	mV
			Io=250mA to 750mA	-	3	120	mV
Static current	IQ	Tj=25°C	-	4.3	8.0	mA	
Quiescent current change rate	ΔIQ	Tj=25°C	Io=5.0mA to 1.0A	-		0.5	mA
			Vi=14.5V to 30V	-		1.0	mA

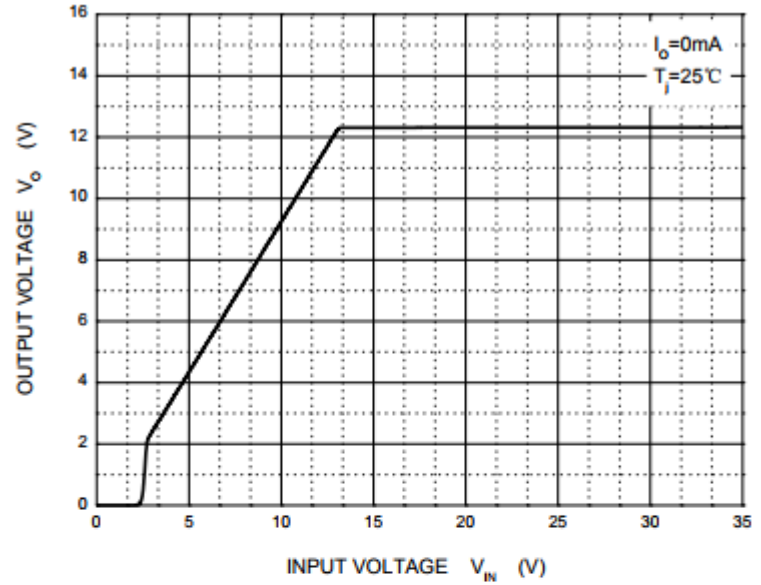
Output voltage temperature coefficient ratio	$\Delta V/\Delta T$	$I_o=5\text{mA}$	-	-1	-	mV/°C
Output noise voltage	VNO	f=10Hz~100kHz, Tj=25°C		75		μV
Ripple rejection ratio	RR	Vi=15~25V, f=120Hz	55	71		dB
Line voltage difference	Vdrop	$I_o=1\text{A}$, Tj=25°C	-	2	-	V
Output resistance	Ro	f=1KHz	-	18	-	mΩ
Short-circuit current	Isc	Vi=35V, Tj=25°C	-	350	-	mA
Peak current	Ipk	Tj=25°C	-	2.2	-	A

Typical characteristic curve

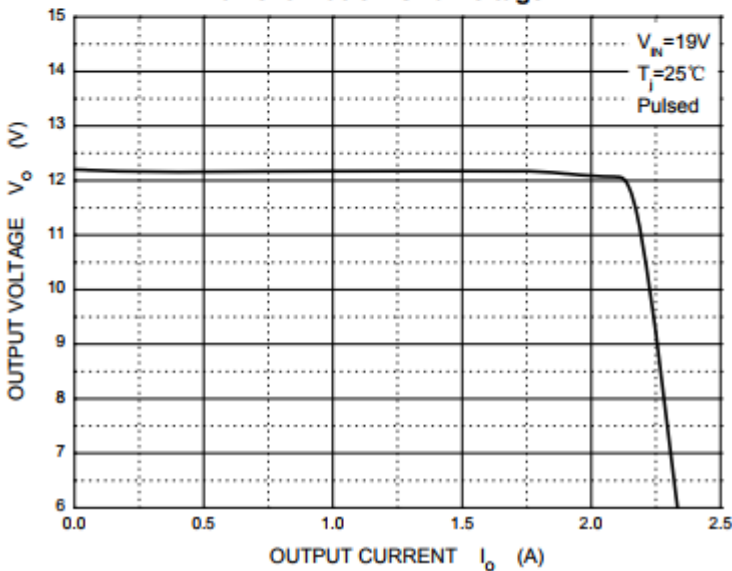
Dropout Characteristics



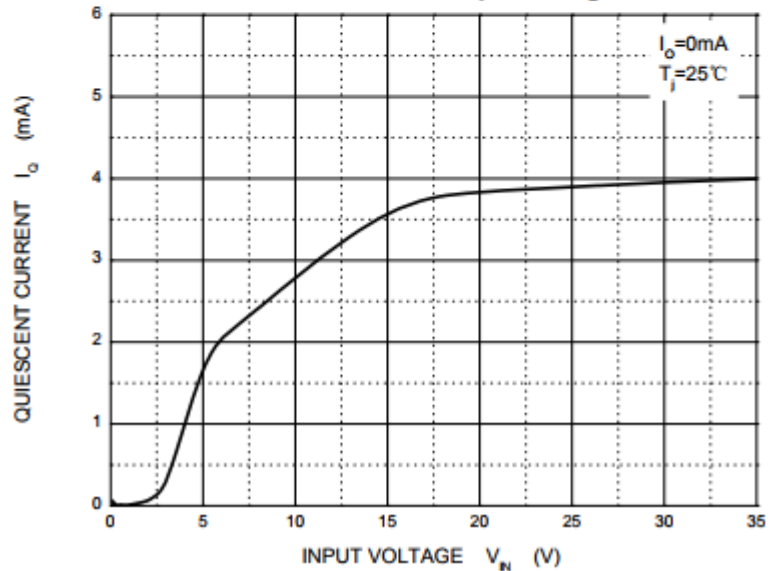
Output Characteristics



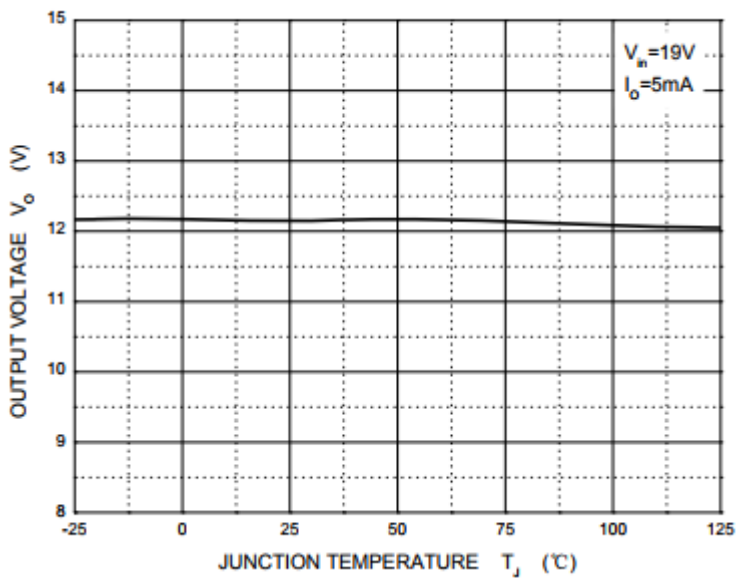
Current Cut-off Grid Voltage



Quiescent Current vs Input Voltage



Output Voltage vs Junction Temperature



Power Derating Curve

