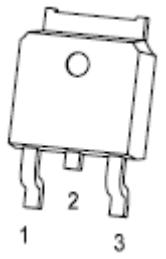
TO-252 Plastic-Encapsulate Regulators

CJ78D05 Three-terminal positive voltage regulator

TO-252



1.IN
2.GND
3.OUT

DESCRIIPTION

The three-terminal positive regulator employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible. The device can be used with external components to obtain adjustable voltage and currents.

FEATURES

- Thermal overload protection
- Short circuit protection
- Output transistor SOA protection

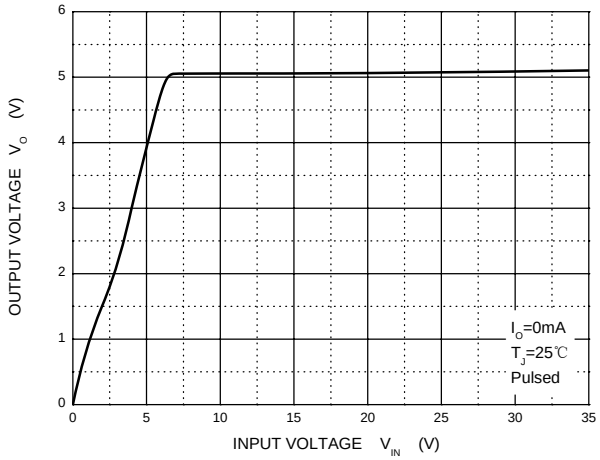
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Output Current	I_O	1	A
Power Dissipation	P_D	1.25	W
Operating Junction Temperature	T_{OPR}	0-+125	℃
Storage Temperature	T_{STG}	-55-+150	℃

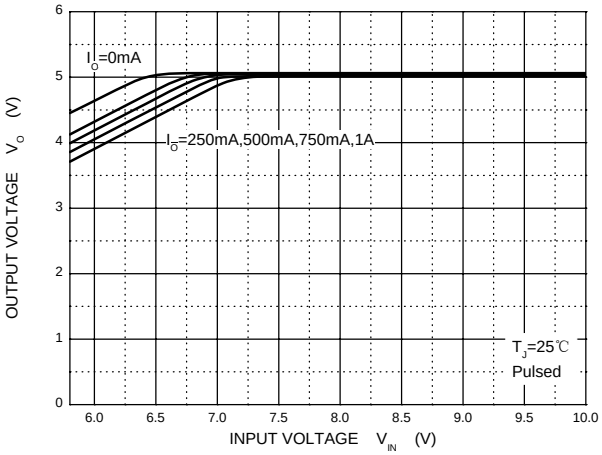
ELECTRICAL CHARACTERISTICS(V_i=10V,Io=500mA,0℃<T_j<125℃,C_i=0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	Vo	T_j=25℃,I_O=500mA,V_i=10V	4.8	5	5.2	V
		8V≤V_i≤20V, Io=5mA~1A Po<15W	4.75	5	5.25	V
Line regulation	ΔVo	T_j=25℃, Io=500mA,V_i=7.5V~20V			100	mV
		T_j=25℃, Io=500mA, V_i=8V~12V			50	mV
Load regulation	ΔVo	V_i=10V, Io=5mA ~1A			100	mV
		V_i=10V, Io=250mA ~750mA			50	mV
Quiescent current	I_q	T_j=25℃,V_i=10V,I_O=500mA			8	mA
Quiescent current change	ΔIq	8V≤V_i≤25V,Io=500mA, T_j=0~125℃			0.8	mA
	ΔIq	5mA ≤I_O≤1A ,V_i=10V, T_j=0~125℃			0.5	mA
Output noise voltage	V_N	10Hz≤ f ≤100KHz		42		μV
Ripple rejection	RR	8V≤V_i≤18V,f=120Hz	62			dB
Dropout voltage	Vd	V_i=7V, Io=1A	4.8		5.2	V
Short circuit current	Isc	V_i=35V, T_a=25℃		220		mA

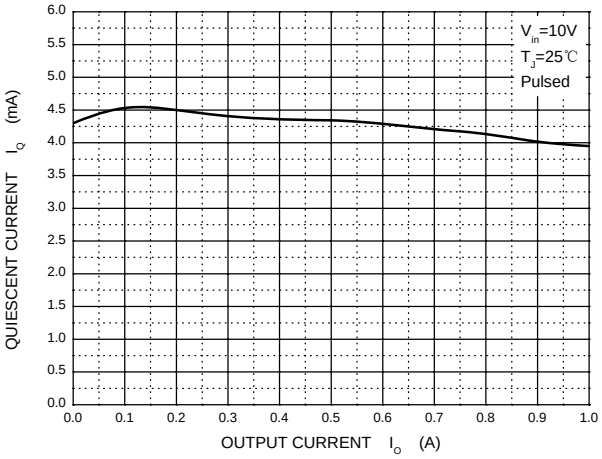
Output Characteristics



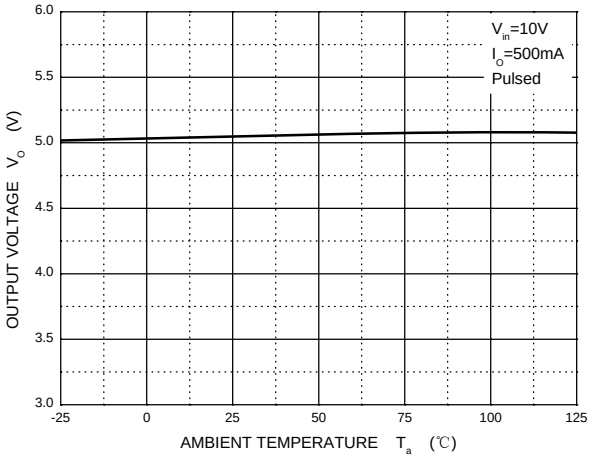
Dropout Characteristics



Quiescent Current vs Output Current



Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage