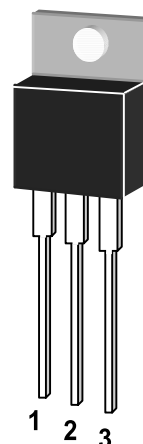


SD7812

3-terminal 1A positive voltage regulator

DESCRIPTION

The SD7812 series of three terminal positive regulators are available in the TO-220/D-PAK package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut-down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

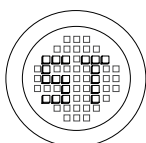


1. Output 2. Common 3. Input

TO-220 Plastic Package

Features

- Output Current up to 1A.
- Thermal Overload Protection.
- Short Circuit Protection.
- Output Transistor Safe Operating Area Protection.



®

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SD7812

Absolute Maximum Ratings (Ta=25°C)

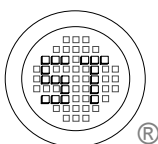
Parameter	Symbol	Value	Units
Input Voltage (for V _O =5V to 18V)	V _I	35	V
(for V _O =24V)	V _I	40	V
Thermal Resistance Junction-Cases(TO-220)	R _{θJC}	5	°C /W
Thermal Resistance Junction-Air(TO-220)	R _{θJA}	65	°C /W
Operating Temperature Range	T _{OPR}	0 to +125	°C
Storage Temperature Range	T _S	-65 to +150	°C

Electrical Characteristics (SD7812)

(Refer to test circuit, 0°C<T_J<125°C, I_O=500mA, V_I=19V, C_I=0.33μF, C_O=0.1μF, unless otherwise specified)

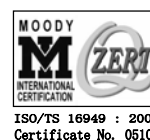
Parameter	Symbol	Conditions	SD7812			Unit	
			Min.	Typ.	Max.		
Output Voltage	V _O	T _J =+25°C	11.5	12	12.5	V	
		5.0mA≤I _O ≤1.0A, P _O ≤15W V _I =14.5V to 27V	11.4	12	12.6		
Line Regulation	ΔV _O	T _J =+25°C	V _I =14.5V to 30V	-	10	240	mV
			V _I =16V to 22V	-	3.0	120	
Load Regulation	ΔV _O	T _J =+25°C	I _O =5.0mA to 1.5A	-	11	240	mV
			I _O =250mA to 750mA	-	5.0	120	
Quiescent Current	I _Q	T _J =+25°C	-	5.1	8	mA	
Quiescent Current Change	ΔI _Q	I _O =5.0mA to 1.0A	-	0.1	0.5	mA	
		V _I =14.5V to 30V	-	0.5	1.0		
Output Voltage Drift	ΔV _O /ΔT	I _O =5.0mA	-	-1	-	MV/°C	
Output Noise Voltage	V _N	f=10Hz to 100KHz, T _A =+25°C	-	76	-	μV/V _O	
Ripple Rejection	RR	f=120Hz, V _I =15V to 25V	55	71	-	DB	
Dropout Voltage	V _{Drop}	I _O =1A, T _J =+25°C	-	2	-	V	
Output Resistance	R _O	f=1KHz	-	18	-	mΩ	
Short Circuit Current	I _{SC}	V _I =35V, T _A =+25°C	-	230	-	mA	
Peak Current	I _{PK}	T _J =+25°C	-	2.2	-	A	

Note: (1) Load and line regulation are specified at constant junction temperature, Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001
Certificate No. 7116



ISO 9001 : 2000
Certificate No. 550-100-02-004

Dated : 07/12/2002