

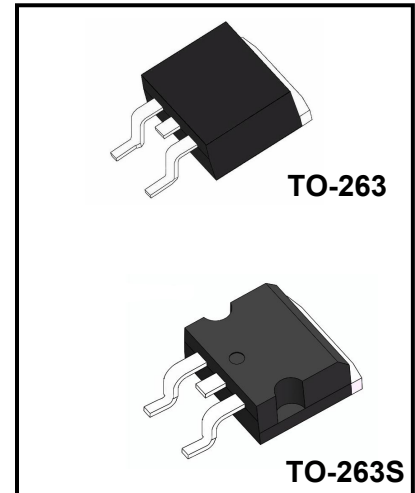
**3-Terminal 1.5A Positive Voltage Regulator**

**Features**

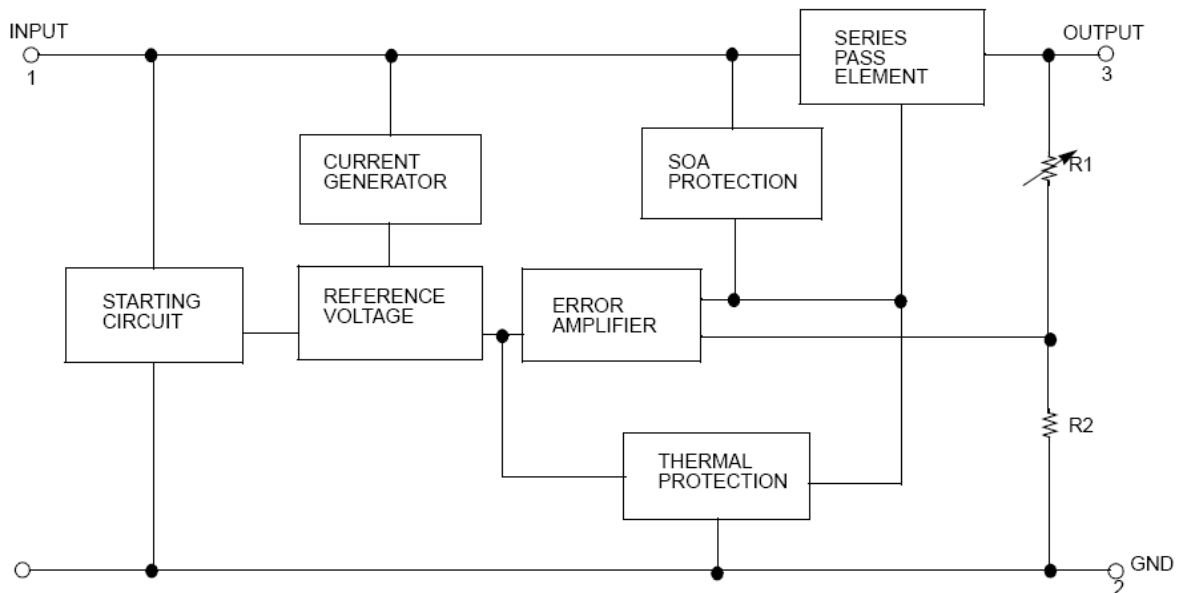
- ◆ Output Current up to 1.5A
- ◆ Output Voltages of 12V
- ◆ Thermal Overload Protection Short Circuit Protection
- ◆ Output Transistor Safe Operating area (SOA)Protection

**Description**

The 7812AS three-terminal positive regulators are available in the TO-263 package with several fixed output voltages making it useful in a wide range of applications.



**Internal Block Diagram**



**Absolute Maximum Ratings**

Parameter	Symbol	Value	Unit
Input Voltage	$V_{IN}$	35	V
Thermal Resistance Junction-Case	$R_{\theta JC}$	2.5	°C/W
Thermal Resistance Junction-Air ( $T_a = +25^{\circ}C$ )	$R_{\theta JA}$	92	°C/W
Operating Junction Temperature Range	$T_{OPR}$	0 ~ 150	°C
Storage Temperature Range	$T_{STG}$	-55 ~ + 150	°C

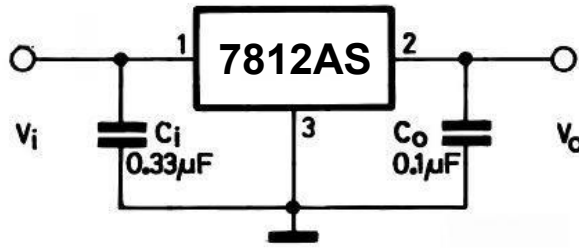
**Electrical Characteristics**

 (Refer to the test circuits ,  $I_o=500mA$ ,  $V_I=19V$ ,  $C_I = 0.33\mu F$ ,  $C_O=0.1\mu F$  unless otherwise specified)

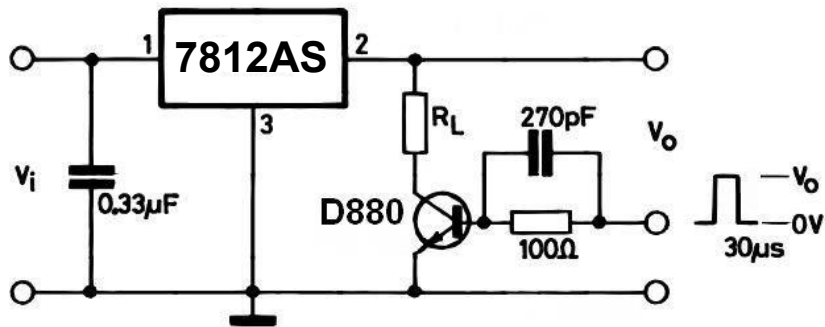
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	$V_o$	$T_j = 25^\circ C$	11.5	12	12.5	V
		$I_o = 5mA \sim 750mA$ $V_I = 14.5 \sim 27V$	11.4	12	12.6	
Line Regulation(Note)	$\Delta V_o$	$T_j = 25^\circ C$	$V_I = 14.5V \sim 30V$		100	mV
			$V_I = 16V \sim 30V$		50	
Load Regulation(Note)	$\Delta V_o$	$T_j = 25^\circ C$	$I_o = 5mA \sim 1.5A$		240	mV
			$I_o = 0.25A \sim 1.0A$		120	
Quiescent Current	$I_q$	$T_j = 25^\circ C$			8.0	mA
Quiescent Current Change	$\Delta I_q$	$I_o = 5mA \sim 1.5A$			0.5	mA
		$I_o = 14.5V \sim 30V$			0.8	
Output Voltage Drift	$\Delta V / \Delta T$	$I_o = 5mA$		-0.8		mV/ $^\circ C$
Output Noise Voltage	$V_N$	$f = 10Hz \sim 100KHz$ , $T_A = 25^\circ C$		75		$\mu V$
Ripple Rejection	RR	$f = 120Hz$ , $V_I = 15 \sim 25V$		80		dB
Dropout Voltage	$V_D$	$I_o = 1.0A$ , $T_j = 25^\circ C$		2		V
Short Circuit Current	$I_{SC}$	$V_I = 35V$ , $T_A = 25^\circ C$		200		mA
Peak Current	$I_{PK}$	$T_j = 25^\circ C$		2.2		A

**Notes:**

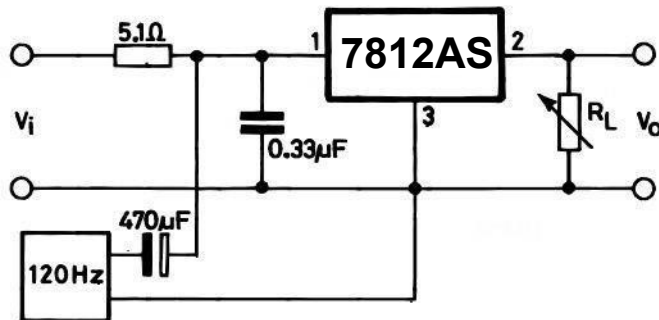
Load and line regulation are specified at constant junction temperature. Change in  $V_o$  due to heating effects must be taken into account separately. Pulse testing with low duty is used.



DC Parameter



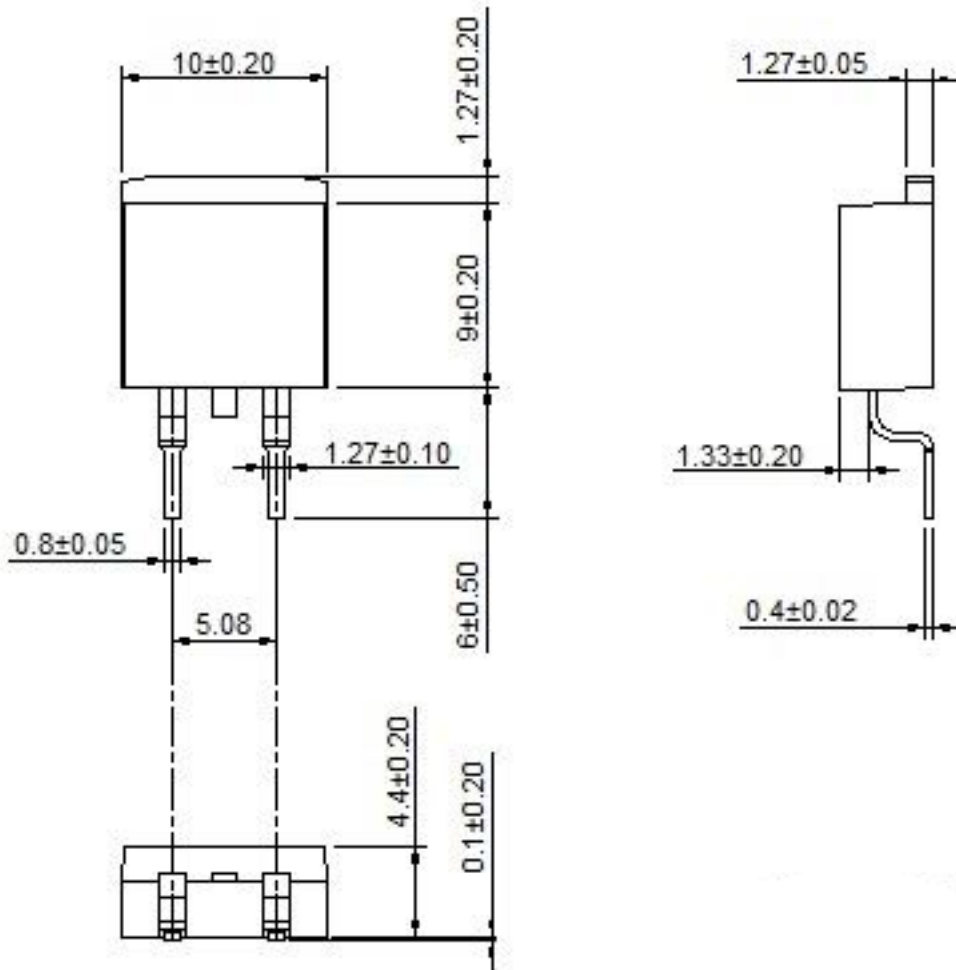
Load Regulation



Ripple Rejection

Package Dimensions (unit:mm)

TO-263

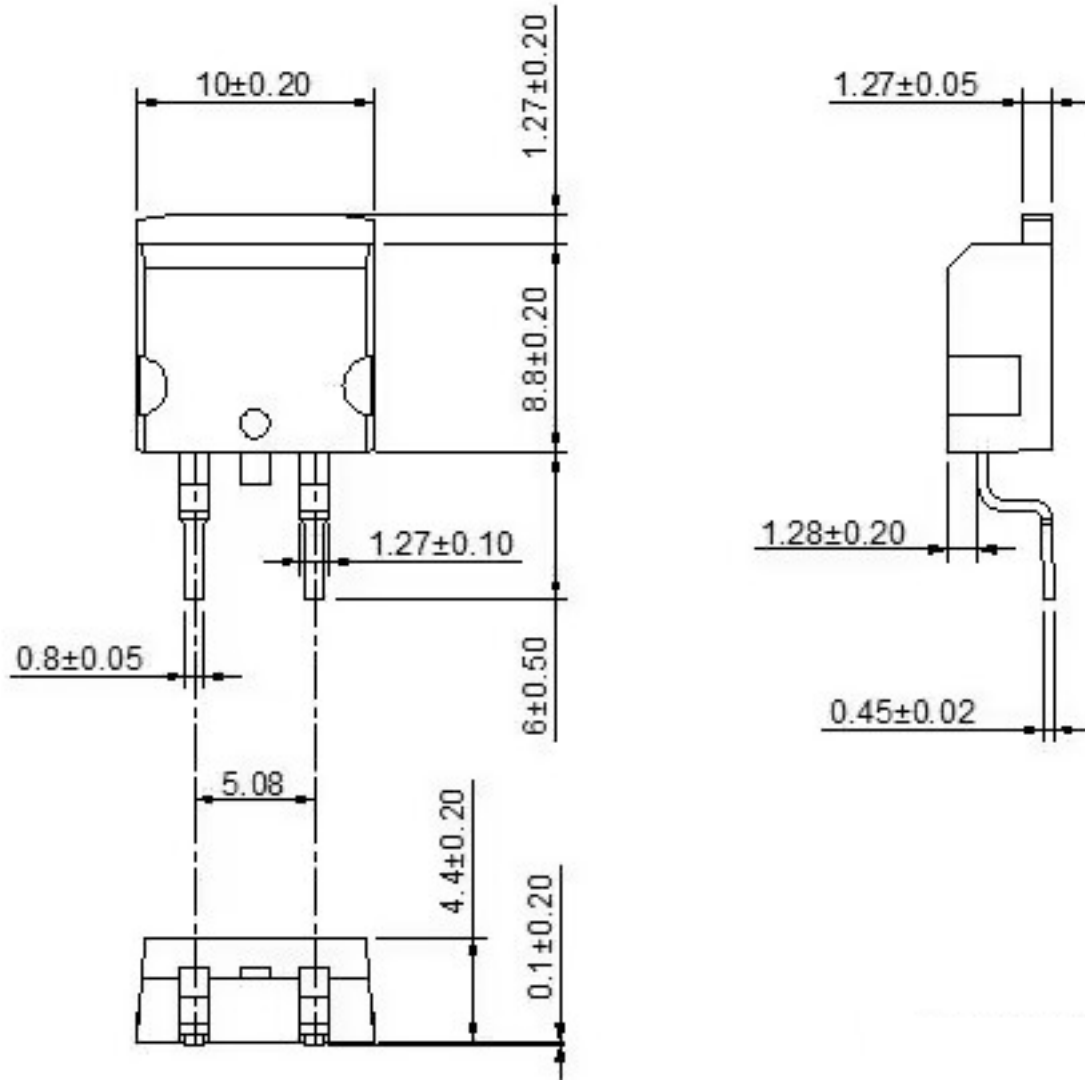


Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
TO-263	reel	800	EIA-481-1

Package Dimensions (unit:mm)

TO-263S



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
TO-263S	reel	800	EIA-481-1