



WS7805

POSITIVE-VOLTAGE REGULATORS

- 3-Terminal Regulators
- Output Current Up to 1.5 A
- No External Components
- Internal Thermal Overload Protection
- High Power Dissipation Capability
- Internal Shot-Circuit Current Limiting
- Output Transistor Safe-Area

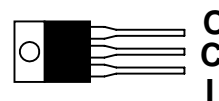
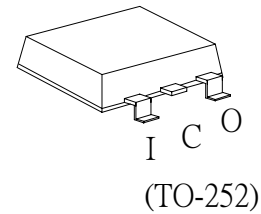
Compensation

DESCRIPTION

This series of fixed-voltage monolithic integrated-circuit voltage regulators designed for a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. Each of these regulators can deliver up to 1.5 amperes of output current. The internal current limiting and thermal shutdown features of these regulators make them essentially immune to overload.

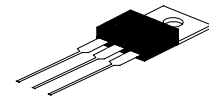
TO-252

WS7805DP



TO-220

WS7805CV



ABSOLUTE MAXIMUM RATINGS OVER OPERATING TEMPERATURE RANGE (UNLESS OTHERWISE NOTE)

WS7805	PARAMETER	UNIT
Input voltage, V_i	35	V
Continuous total dissipation at 25°C free-air temperature	2	W
Lead temperature 1.6mm (1/16 inch) from case 10 seconds	260	°C
Storage temperature range, T_{stg}	-65 to 150	°C

RECOMMENDED OPERATING CONDITIONS

	MIN	MAX	UNIT
Input voltage, V_i	7	25	V
Output current, I_o		1.5	A
Operating virtual junction temperature, T_j	0	70	°C

WS7805 Electrical characteristics at specified virtual junction temperature, $V_I=10V$, $I_O=500mA$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS	WS7805			UNIT	
		MIN	TYP	MAX		
Output voltage		25°C	4.8	5	5.2	V
	$I_O=5mA$ to 1A, $V_I=7V$ to 20V, $P \leq 15W$	0°C to 70°C	4.75	5	5.25	
Input regulation	$V_I=7V$ to 25V	25°C		3	100	mA
	$V_I=8V$ to 12V			1	50	
Ripple rejection	$V_I=8V$ to 18V $F=120Hz$	0°C to 70°C	62	78		dB
Output regulation	$I_O=5mA$ to 1.5A	25°C		15	100	mV
	$I_O=250mA$ to 750mA			5	50	
Output resistance	$F=1KHz$	0°C to 70°C		0.017		Ω
Temperature coefficient of output voltage	$I_O=5mA$	0°C to 70°C		-1.1		mV/°C
Output noise voltage	$F=10Hz$ to 100 kHz	25°C		40		μV
Dropout voltage	$I_O=1A$	25°C		2.0		V
Bias current		25°C		4.2	8	mA
Bias current change	$V_I=7V$ to 25V	0°C to 70°C			1.3	mA
	$I_O=5mA$ to 1A				0.5	
Short-circuit output current		25°C		750		
Peak output current		25°C		2.2		A

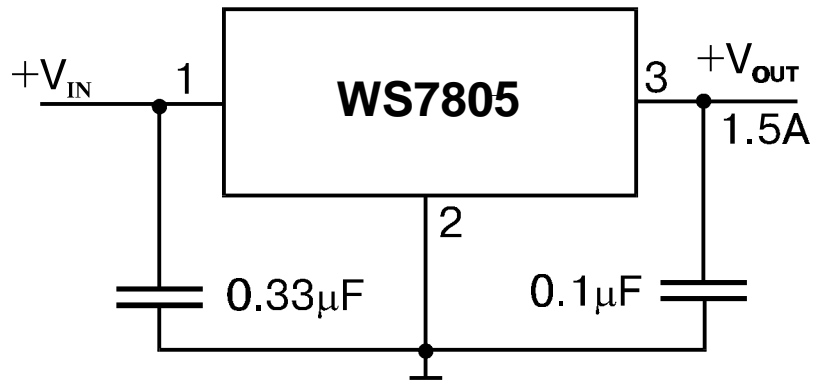
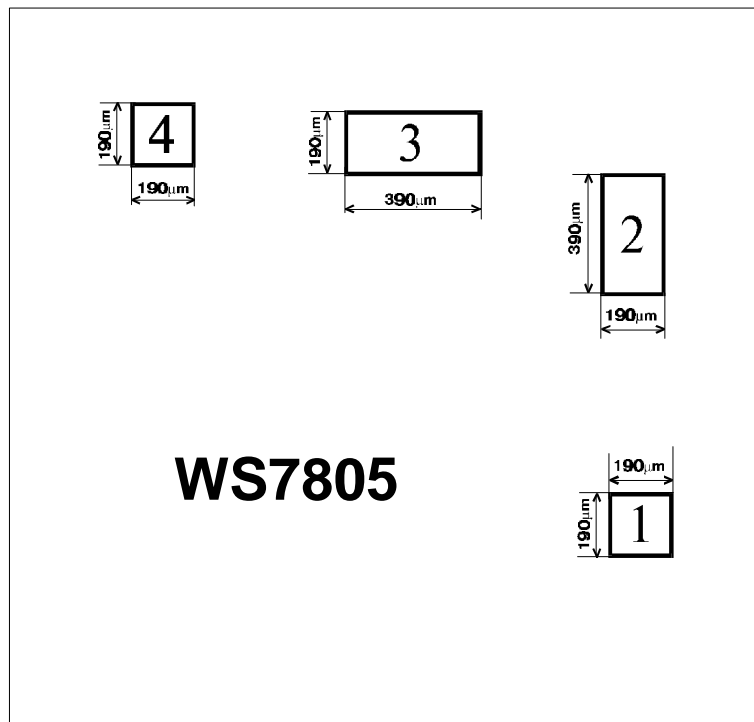


Fig. 1. Positive Regulator

Pad Location



Chip size 2.0 x 2.0 mm

- Metallization
 - Top Al
 - Back no
- Die Thickness 460±20µm

Pad Location Coordinates

Pad N	Pad Name	X (µm)	Y (µm)
1	Ground	1710	130
2	Input	1590	815
3	Output	690	1685
4	Output	190	1710