

L7812

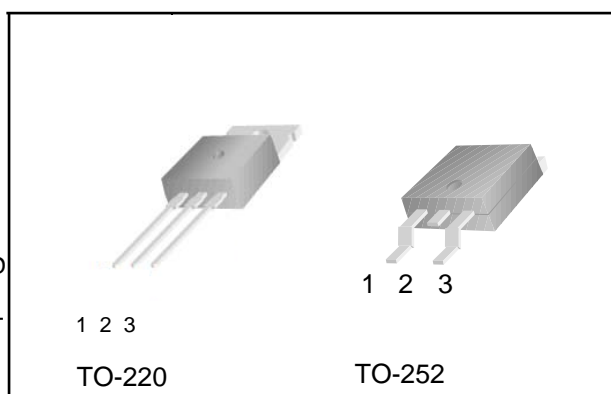
3 TERMINAL 1.5A POSITIVE VOLTAGE REGULATORS

L7812 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 I_{OM} : 1.5 A
- Output voltage
 V_O : 12 V

1.IN
2.GND
3.OUT



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

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	65	$^{\circ}C/W$
Operating Junction Temperature Range	T_{OPR}	-20~+125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-65~+150	$^{\circ}C$

L7812 ELECTRICAL CHARACTERISTICS

(Refer to test circuits, $0 < T_j < 125^{\circ}C$, $I_o = 500mA$, $V_i = 19V$, $C_i = 0.33\mu F$, $C_o = 0.1\mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	V_o	$T_j = 25^{\circ}C$	11.5	12.0	12.5	V
		$5.0mA < I_o < 1.0A$, $P_D < 15W$ $V_i = 14.5V$ to $27V$	11.4	12	12.6	V
Line regulation	ΔV_o	$T_j = 25^{\circ}C$, $V_i = 14.5V$ to $30V$	-	10	240	mV
		$T_j = 25^{\circ}C$, $V_i = 16V$ to $22V$	-	3	120	mV
Load regulation	ΔV_o	$T_j = 25^{\circ}C$, $I_o = 5.0mA$ to $1.5A$	-	12	240	mV
		$T_j = 25^{\circ}C$, $I_o = 250mA$ to $750mA$	-	5.0	120	mV
Quiescent current	I_Q	$T_j = 25^{\circ}C$	-	5.1	8	mA
Quiescent current change	ΔI_Q	$I_o = 5mA$ to $1.0A$	-	-	0.5	mA
		$V_i = 15V$ to $30V$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5mA$	-	1.7	-	mV/ $^{\circ}C$
Output noise voltage	V_N	$f = 10Hz$ to $100kHz$, $T_a = 25^{\circ}C$	-	76	-	μV
Ripple rejection	RR	$f = 120Hz$, $V_i = 15V$ to $25V$	53	64	-	dB
Dropout voltage	V_o	$I_o = 1.0A$, $T_j = 25^{\circ}C$	-	2	-	V
Output resistance	R_o	$f = 1kHz$	-	18	-	m Ω
Short circuit current	I_{sc}	$V_i = 35V$, $T_a = 25^{\circ}C$	-	230	-	mA
peak current	I_{pk}	$T_j = 25^{\circ}C$	-	2.2	-	A

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TEST CIRCUITS

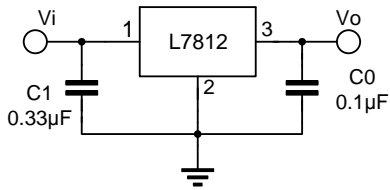


FIG.1 DC PARAMETERS

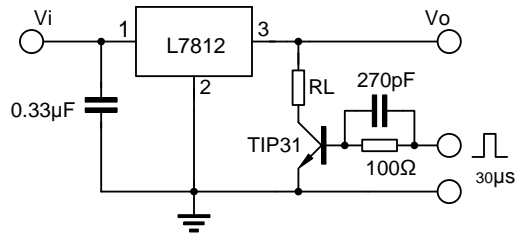


FIG.2 LOAD REGULATION

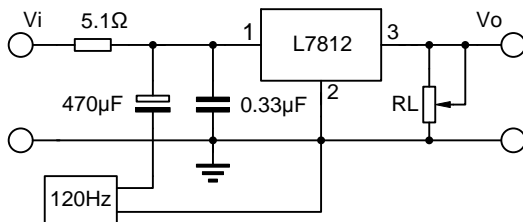
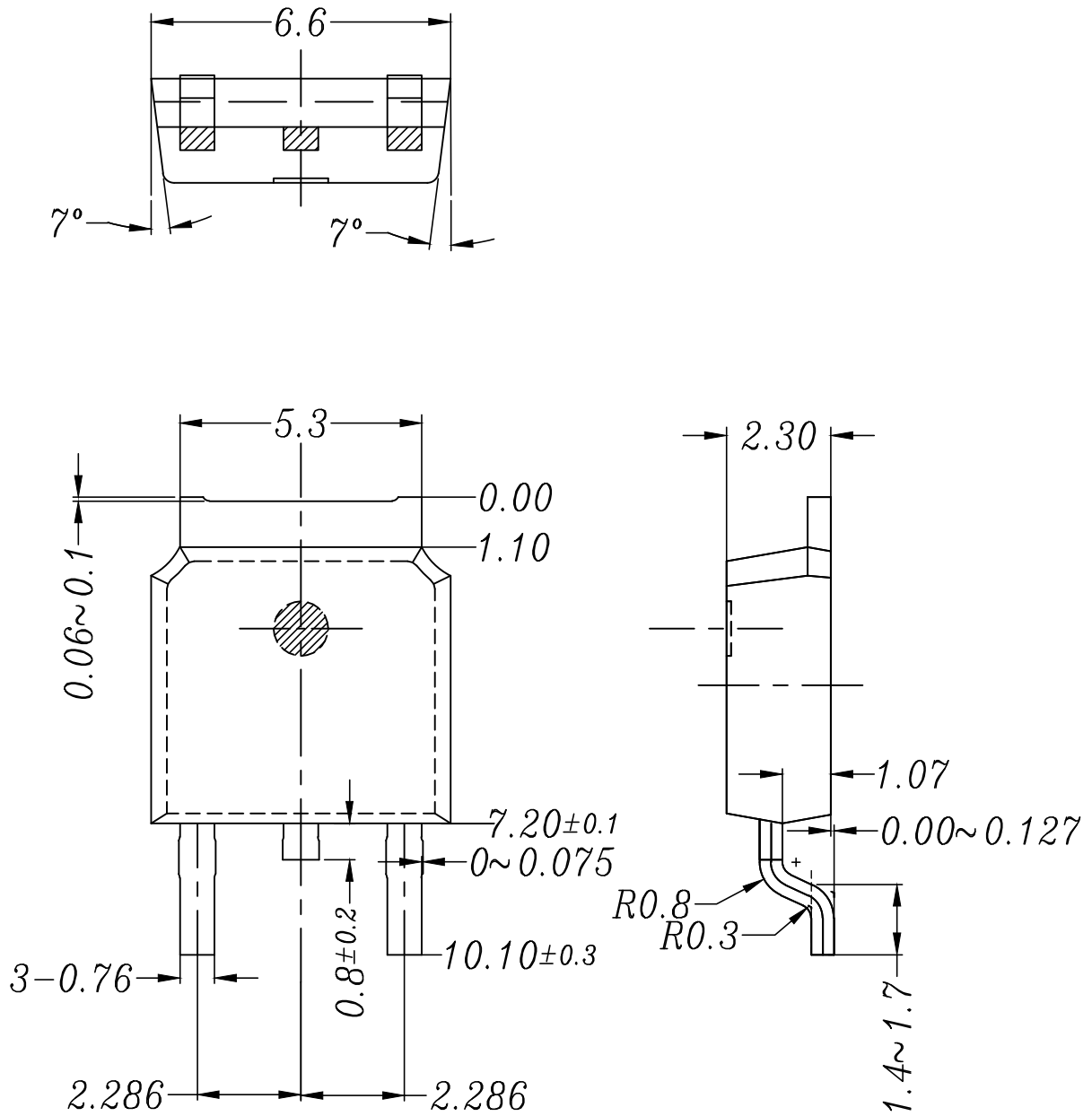


FIG.3 RIPPLE REJECTION

TO-252 Package Outline Dimensions

Package Outline Dimensions (Units: mm)



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TO-220 Package Outline Dimensions

Package Outline Dimensions (Units: mm)

