

## 7805

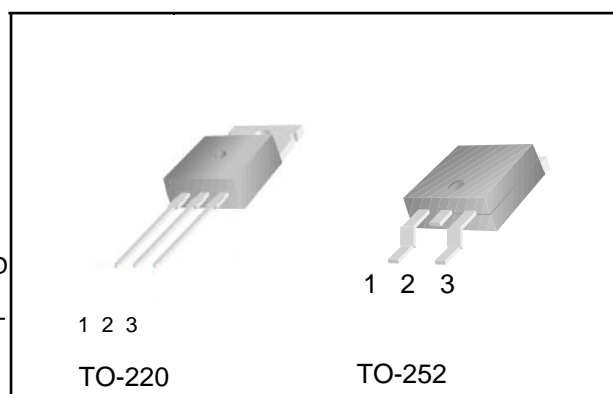
### 3 TERMINAL 1.0A POSITIVE VOLTAGE REGULATORS

7805 Three-terminal positive voltage regulator

#### FEATURES

- Maximum output current  
 $I_{OM}$ : 1.0 A
- Output voltage  
 $V_O$ : 5V

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	$^{\circ}C$

#### 7805 ELECTRICAL CHARACTERISTICS

(Refer to test circuits,  $0 < T_j < 125^{\circ}C$ ,  $I_o = 500mA$ ,  $V_i = 10V$ ,  $C_i = 0.33\mu F$ ,  $C_o = 0.1\mu F$ , unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^{\circ}C$	4.8	5.0	5.2	V
		$5.0mA < I_o < 1.0A$ , $P_o < 15W$ $V_i = 8V$ to 20V	4.75	5.00	5.25	V
Line regulation	$\Delta V_o$	$T_j = 25^{\circ}C$ , $V_i = 7.5V$ to 20V		4	100	mV
		$T_j = 25^{\circ}C$ , $V_i = 8V$ to 12V		2	50	mV
Load regulation	$\Delta V_o$	$T_j = 25^{\circ}C$ , $I_o = 5.0mA$ to 1.0A		9	100	mV
		$T_j = 25^{\circ}C$ , $I_o = 250mA$ to 750mA		4	50	mV
Quiescent current	$I_q$	$T_j = 25^{\circ}C$		4.2	8	mA
Quiescent current change	$\Delta I_q$	$I_o = 5mA$ to 1.0A		0.03	0.5	mA
		$V_i = 8V$ to 25V, $I_o = 500mA$		0.3	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5mA$		0.8		mV/ $^{\circ}C$
Output noise voltage	$V_N$	$f = 10Hz$ to 100kHz, $T_a = 25^{\circ}C$		42		$\mu V / V_o$
Ripple rejection	RR	$f = 120Hz$ , $V_i = 8V$ to 18V	62	73		dB
Dropout voltage	$V_o$	$I_o = 1.0A$ , $T_j = 25^{\circ}C$		2		V
Output resistance	$R_o$	$f = 1kHz$		15		m $\Omega$
Short circuit current	$I_{sc}$	$V_i = 35V$ , $T_a = 25^{\circ}C$		200		mA

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TEST CIRCUITS

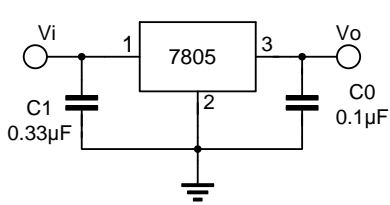


FIG.1 DC PARAMETERS

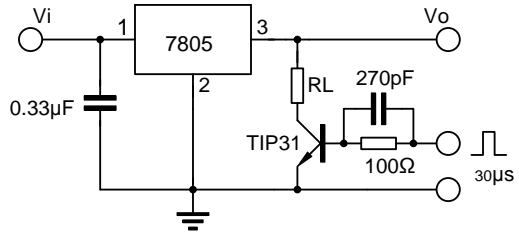


FIG.2 LOAD REGULATION

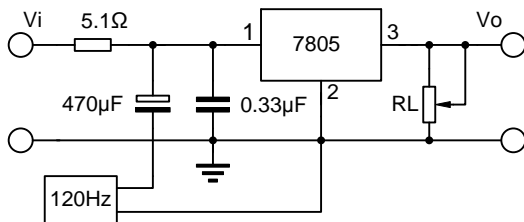


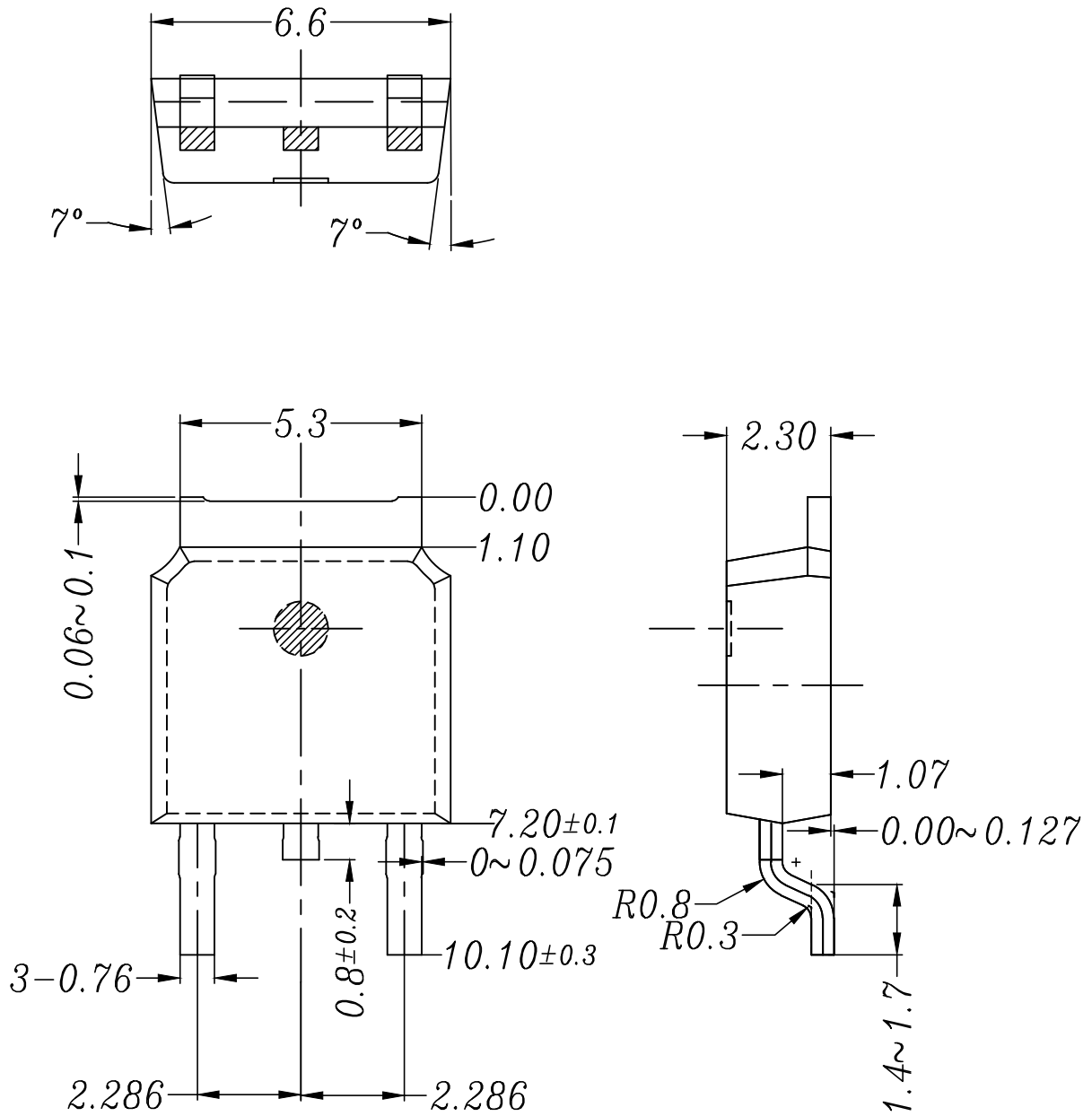
FIG.3 RIPPLE REJECTION

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### TO-252 Package Outline Dimensions

Package Outline Dimensions (Units: mm)

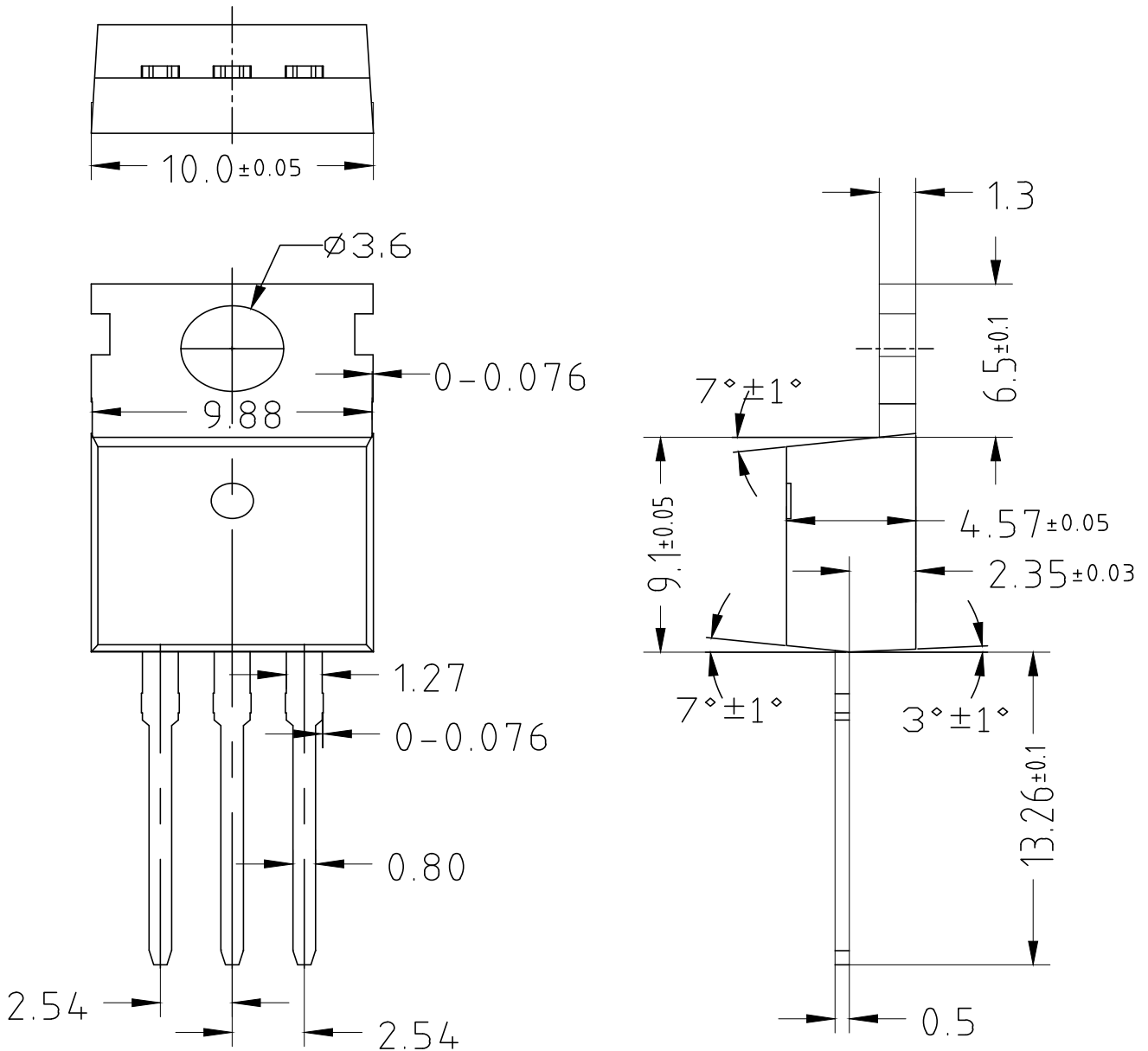


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### TO-220 Package Outline Dimensions

Package Outline Dimensions (Units: mm)



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