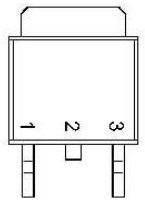
7809R

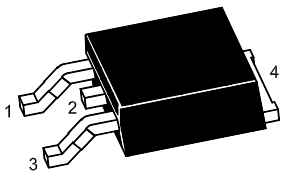
3-terminal 1 A positive voltage regulator

Features

- Output current up to 1 A
- Internal thermal overload protection
- Output transistor safe operating area protection



1. INPUT 2.GND 3.OUTPUT



1. Base 2. Collector 3. Emitter 4. Collector
TO-252 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

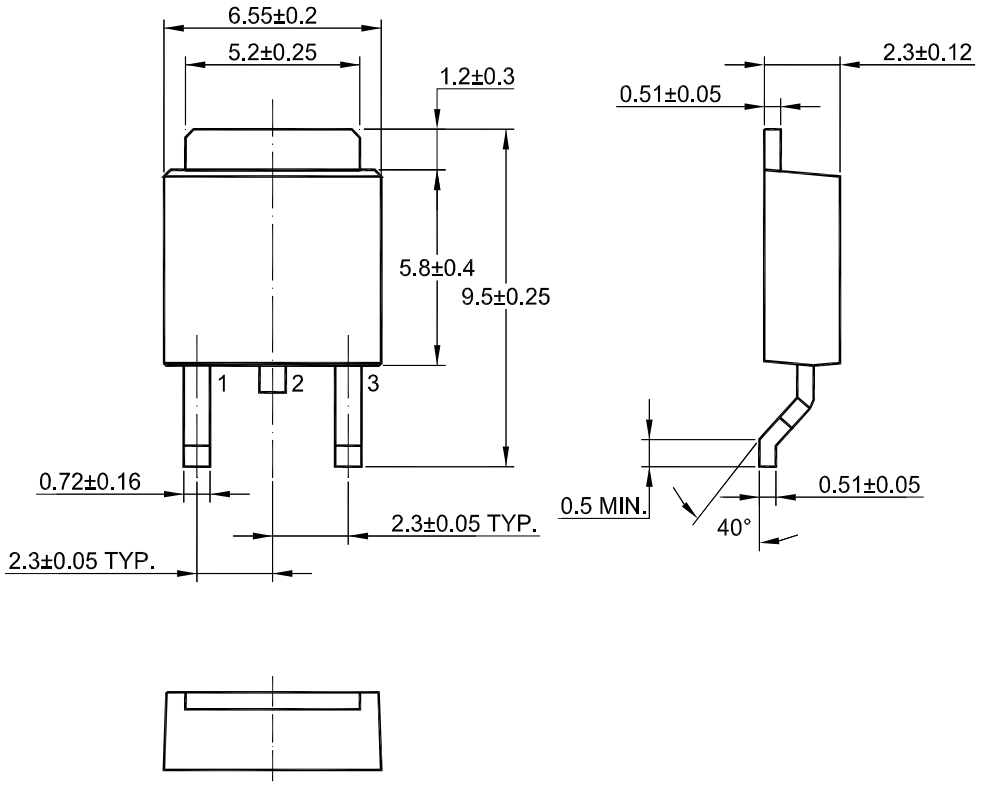
Parameter	Symbol	Value	Units
Input Voltage	V_I	36	V
Thermal Resistance Junction-Air	$R_{\theta JA}$	100	°C/W
Operating Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Electrical Characteristics

(- 40 °C < T_J < 125 °C, I_O = 1 A, V_I = 15 V, unless otherwise specified)

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J = 25 °C		8.82	-	9.18	V
		I_O = 5 mA to 1 A, $P_O \leqslant$ 15 W V_I = 11.5 V to 23 V		8.65	-	9.35	
Line Regulation	Regline	T_J = 25 °C	V_I = 11.5 V to 23 V I_O = 500 mA	-	-	90	mV
Load Regulation	Regload	T_J = 25 °C	V_I = 14 V I_O = 5 mA to 1 A	-	-	100	mV
Quiescent Current	I_Q	V_I = 15 V, I_O = 0 A		-	-	6	mA
Quiescent Current Change	ΔI_Q	I_O = 500 mA, V_I = 11.5 V to 23 V T_J = 25 °C		-	-	0.8	mA
		I_O = 5 mA to 1 A, T_J = 25 °C		-	-	0.5	
Output Voltage	$\Delta V_O/\Delta T$			-	0.72	-	mV/°C
Temperature Cofficient	$(\Delta V_O/V_O)/\Delta T$			-	80	-	ppm/°C
Output Noise Voltage	V_N	f = 10 Hz to 100 KHz, T_A = 25 °C		-	10	-	μV
Ripple Rejection	RR	f = 120 Hz, V_I = 11.5 V to 21.5 V I_O = 500 mA		-	61	-	dB
Dropout Voltage	V_{Drop}	I_O = 1 A, ΔV_O = 1 %, T_J = 25 °C		-	2	-	V
Output Resistance	R_O	f = 1 KHz		-	10	-	mΩ
Short Circuit Current	I_{SC}	V_I = 35 V, T_A = 25 °C		-	0.2	-	A
Peak Current	I_{PK}	V_I = 15 V, T_J = 25 °C		-	2.2	-	A

TO-252 PACKAGE OUTLINE



Dimensions in mm