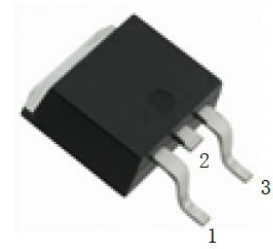


7809R

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
TO-252 Plastic Package

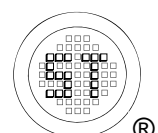
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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

Electrical Characteristics

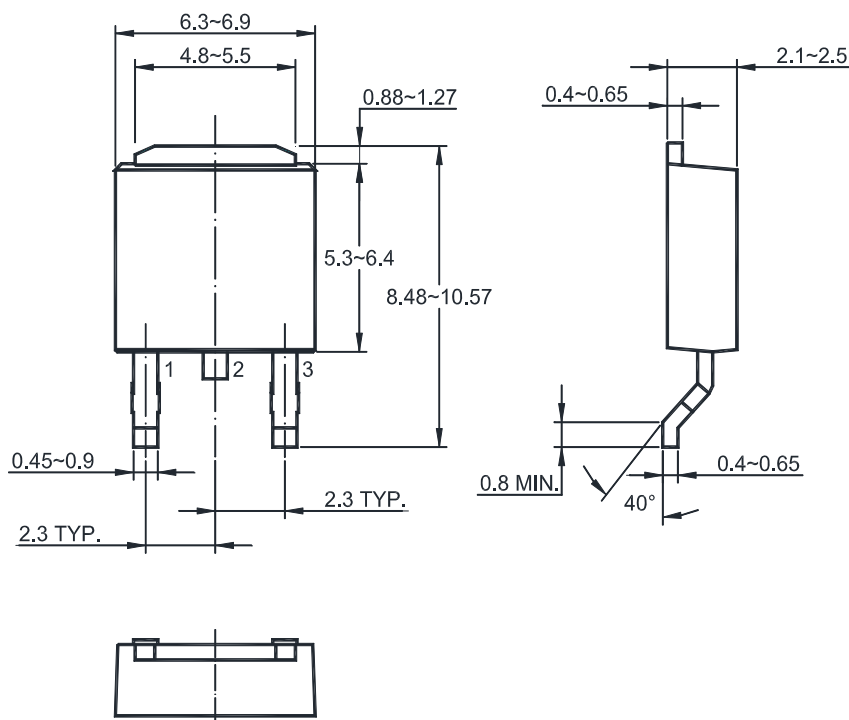
($-40^\circ\text{C} < T_J < 125^\circ\text{C}$, $I_O = 1\text{ A}$, $V_I = 15\text{ V}$, unless otherwise specified)

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

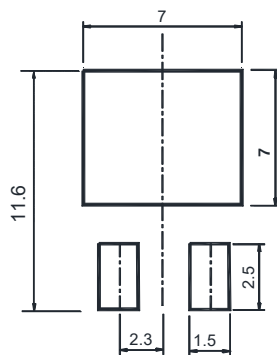


Package Outline (Dimensions in mm)

TO-252



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-252	12	8 ± 0.1	0.315 ± 0.004	330	13	2,500

Marking information

" 7809R " = Part No.

" ***** " = Date Code Marking

Font type: Arial

