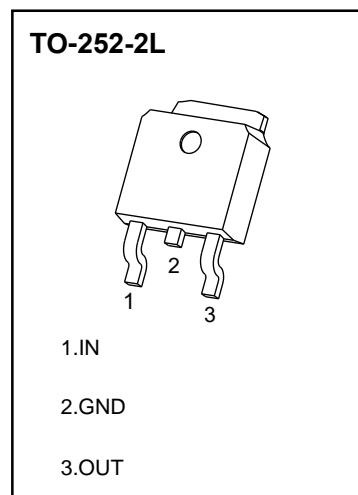


TO-252-2L Plastic-Encapsulate Voltage Regulators

FEATURES

- Maximum output current
 I_{OM} : 1.5 A
- Output voltage
 V_O : 5V
- Continuous total dissipation
 P_D : 1.25 W ($T_a = 25^\circ\text{C}$)



Maximum Ratings @ $T_a = 25^\circ\text{C}$

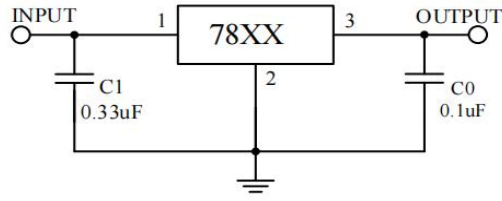
Full operating ambient temperature range applies unless otherwise specified

Symbol	Parameter	Value	Unit
V_I	Input Voltage	35	V
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	100	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance from Junction to Case	8	$^\circ\text{C}/\text{W}$
P_D	Power Dissipation	1.25	W
T_{OPR}	Operating Junction Temperature	-40~125	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65~150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$, $V_{CC} = 10\text{V}$, $I_o = 0.5\text{A}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_A = 25^\circ\text{C}$	4.8	5	5.2	V
		$5.0\text{mA} \leq I_o \leq 1.0\text{A}$, $P_o \leq 15\text{W}$ $V_i = 7.5\text{V} \sim 20\text{V}$	4.75	5	5.25	V
Line Regulation	ΔV_o	$V_i = 7.5\text{V} \sim 25\text{V}$	-	5	50	mV
		$V_i = 8\text{V} \sim 12\text{V}$	-	3	50	
		$T_A = 25^\circ\text{C}$, $V_i = 7.2\text{V} \sim 20\text{V}$	-	5	50	
		$T_A = 25^\circ\text{C}$, $V_i = 8\text{V} \sim 12\text{V}$	-	1.5	25	
Load Regulation	ΔV_o	$T_A = 25^\circ\text{C}$, $I_o = 5\text{mA} \sim 1.5\text{A}$	-	9	50	mV
		$T_A = 25^\circ\text{C}$, $I_o = 250 \sim 750\text{mA}$	-	4	25	
Quiescent Current	I_q	$T_A = 25^\circ\text{C}$	-	5	8	mA
Quiescent Current Change	ΔI_q	$I_o = 5\text{mA} \sim 1.0\text{A}$	-	-	0.5	mA
		$V_i = 8\text{V} \sim 25\text{V}$	-	-	0.8	
		$V_i = 7.5\text{V} \sim 20\text{V}$, $T_A = 25^\circ\text{C}$	-	-	0.8	
Voltage Temperature Coefficient of Output	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	-	-0.8	-	$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$f = 10\text{Hz} \sim 100\text{kHz}$, $T_A = 25^\circ\text{C}$	-	42	-	μV
Ripple Rejection	R_R	$f = 120\text{Hz}$, $V_i = 8\text{V} \sim 18\text{V}$	-	73	-	dB
Drop Voltage	V_{DROPP}	$I_o = 1\text{A}$, $T_A = 25^\circ\text{C}$	-	2	-	V
Output Resistance	R_o	$f = 1\text{kHz}$	-	17	-	$\text{m}\Omega$
Short Circuit Current	I_{SC}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$	-	10	-	mA
Peak Current	I_{PK}	$T_A = 25^\circ\text{C}$	-	1.8	-	A

Typical Characteristics



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

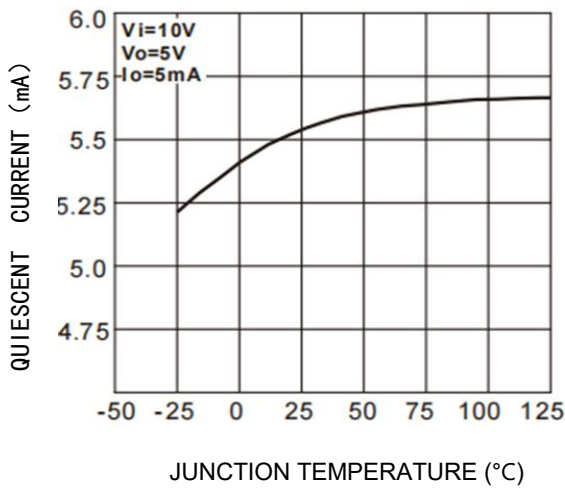


Figure 1 QUIESCENT CURRENT vs JUNCTION TEMPERATURE

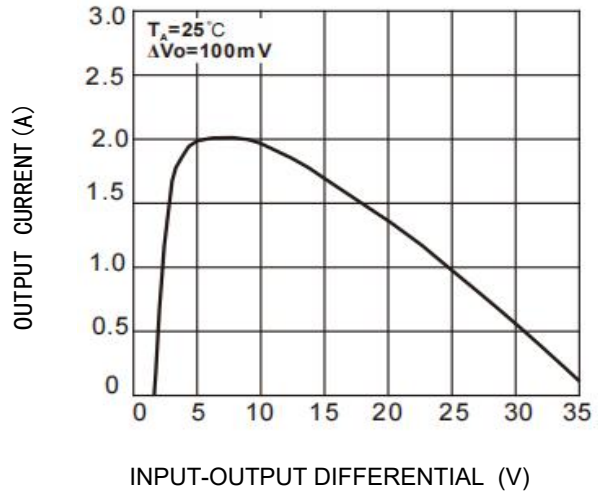


Figure 2 OUTPUT CURRENT vs INPUT-OUTPUT DIFFERENTIAL

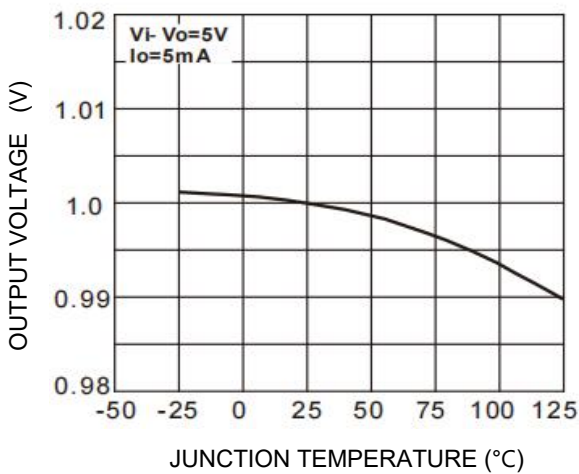


Figure 3 QUIESCENT CURRENT vs JUNCTION TEMPERATURE

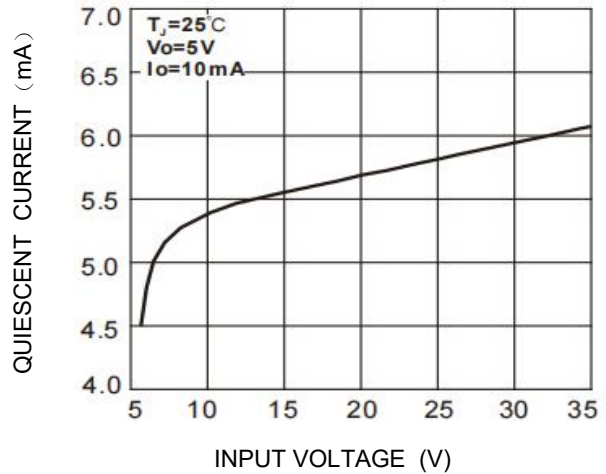
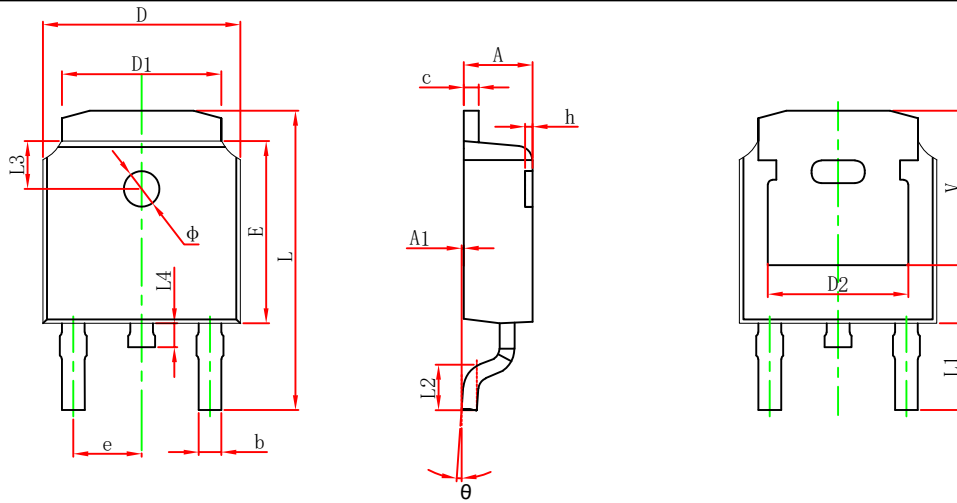


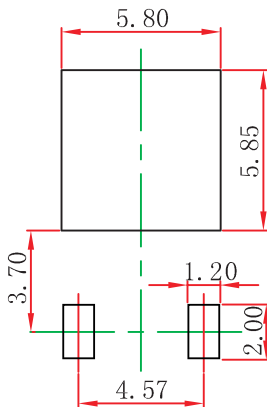
Figure 4 QUIESCENT CURRENT vs INPUT VOLTAGE

TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.