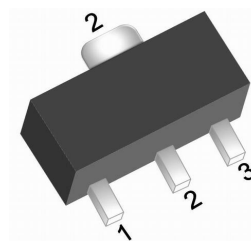


Three-terminal Voltage Regulator

Features

- * Input Voltage: Up to 35V
- * Output Voltage: 5V
- * Output Current Up to 100mA
- * Continuous Total Dissipation
 $P_D : 0.5W$ ($T_a=25^\circ C$)
- * Internal Thermal Overload Protection and Short-circuit Limiting
- * SOT-89-3L Package

SOT-89-3L



Pin Definition

- 1. OUT
- 2. GND
- 3. IN

Package Marking And Ordering Information

Device	Marking	Device Package	Quantity/Reel
SWLD78L05-M2LTR	78L05	SOT-89-3L	1K/Reel

ABSOLUTE MAXIMUM RATINGS

($T_J=25^\circ C$ Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Limit	Unit
Input Voltage	V_i	35	V
Output Current	I_o	100	mA
Power Dissipation	P_D	500	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	155	$^\circ C/W$
Operating Temperature Range	T_{OPR}	-40 ~ +125	$^\circ C$
Junction Temperature Range	T_{OPR}	150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ C$

Typical Application Circuit

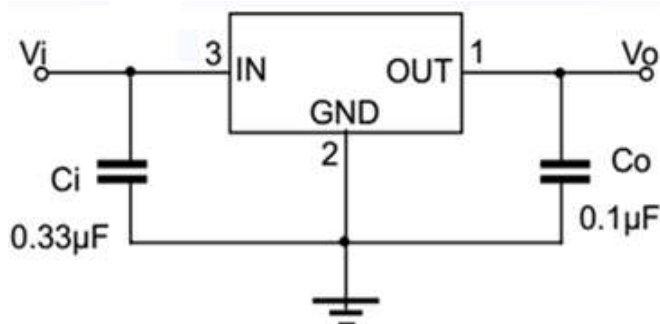


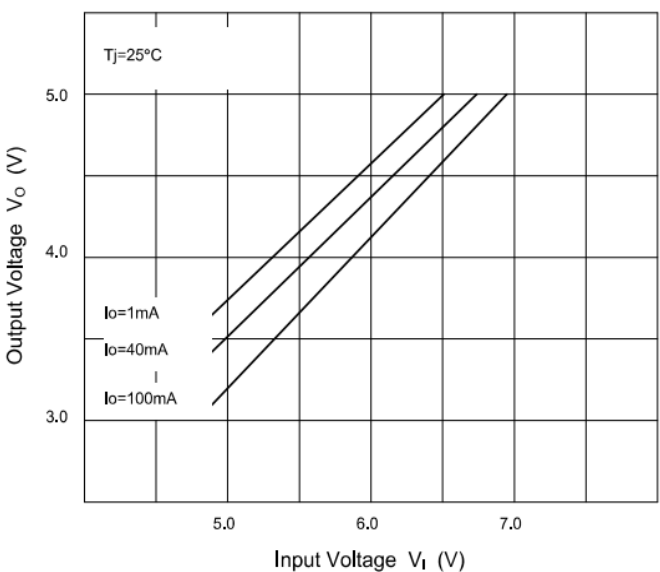
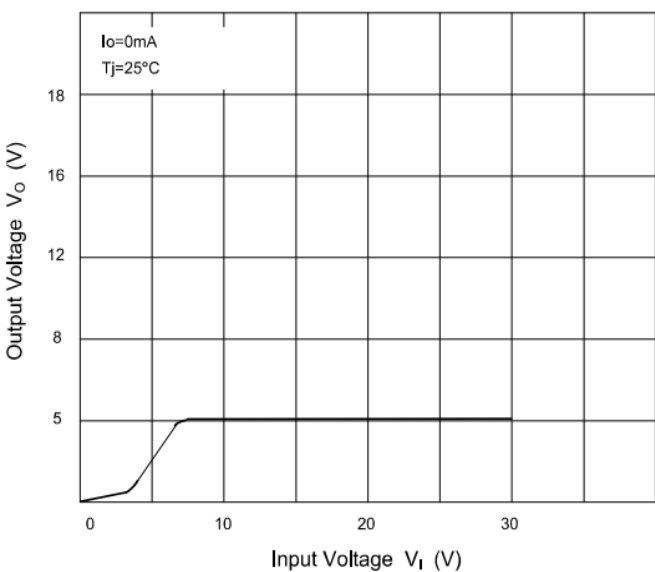
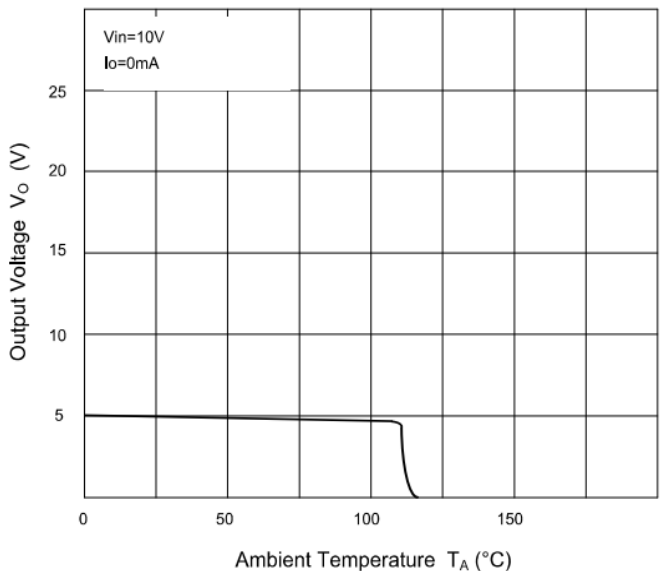
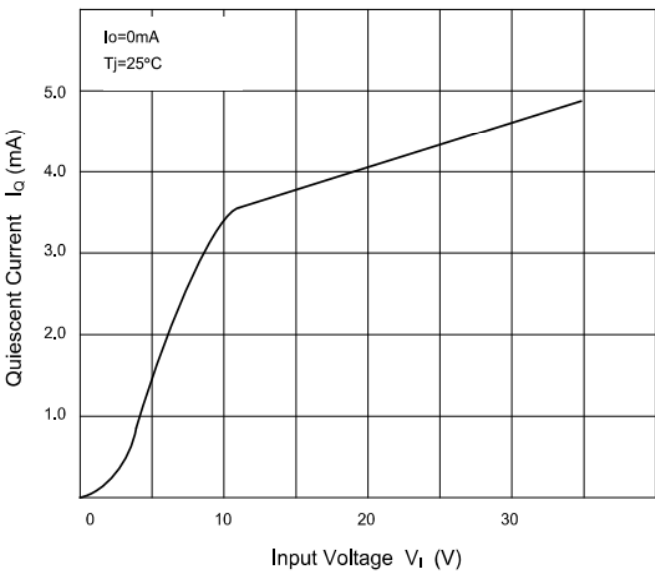
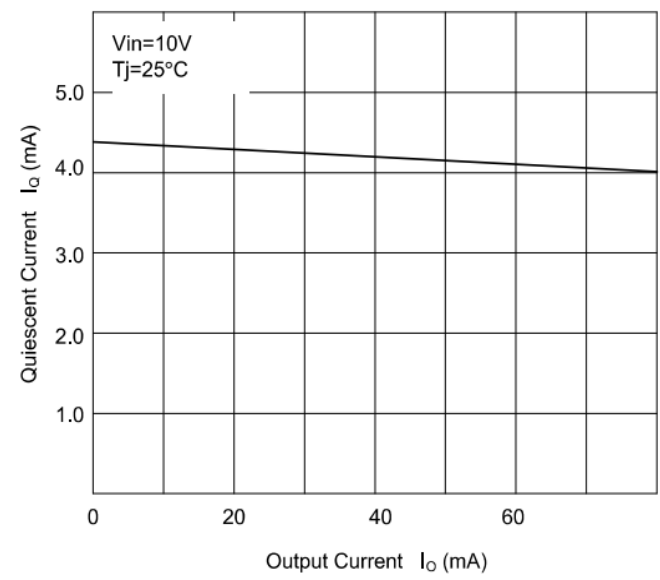
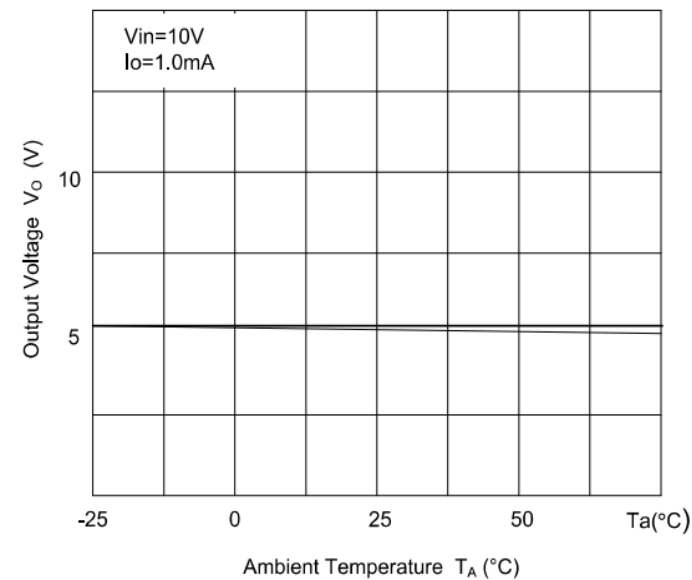
Figure 1. Typical Application Circuit of SWLD78L05

Electrical Characteristics

($V_I=10V$, $I_o=40mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$, Ratings at $T_A=25^\circ C$ ambient temperature, $0^\circ C \leq T_J \leq 125^\circ C$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Unit
Output Voltage	V_o	$V_I=10V$, $I_o=40mA$	4.85	5.0	5.15	V
		$7V \leq V_I \leq 25V$, $I_o=1mA \sim 40mA$,	4.80	5.0	5.20	
		$I_o=1mA \sim 100mA$,	4.75	5.0	5.25	
Load Regulation	ΔV_o	$I_o=1mA \sim 100mA$,	-	20	60	mV
		$I_o=1mA \sim 40mA$,	-	5	30	mV
Line Regulation	ΔV_o	$V_I=7V$ to $25V$, $T_J=25^\circ C$	-	18	75	mV
		$V_I=8V$ to $25V$, $T_J=25^\circ C$	-	10	54	mV
Quiescent Current	I_q	$T_J=25^\circ C$	-	3.75	6	mA
Quiescent Current Change	ΔI_q	$8V$ to $25V$, $T_J=25^\circ C$	-	-	1.0	mA
		$I_o=1mA$ to $40mA$, $T_J=25^\circ C$	-	-	0.3	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	-	40	-	μV
Ripple Rejection	RR	$8V$ to $16V$, $f=100Hz$, $T_J=25^\circ C$	47	62	-	dB
Dropout Voltage	V_d	$T_J=25^\circ C$	-	1.7	-	V

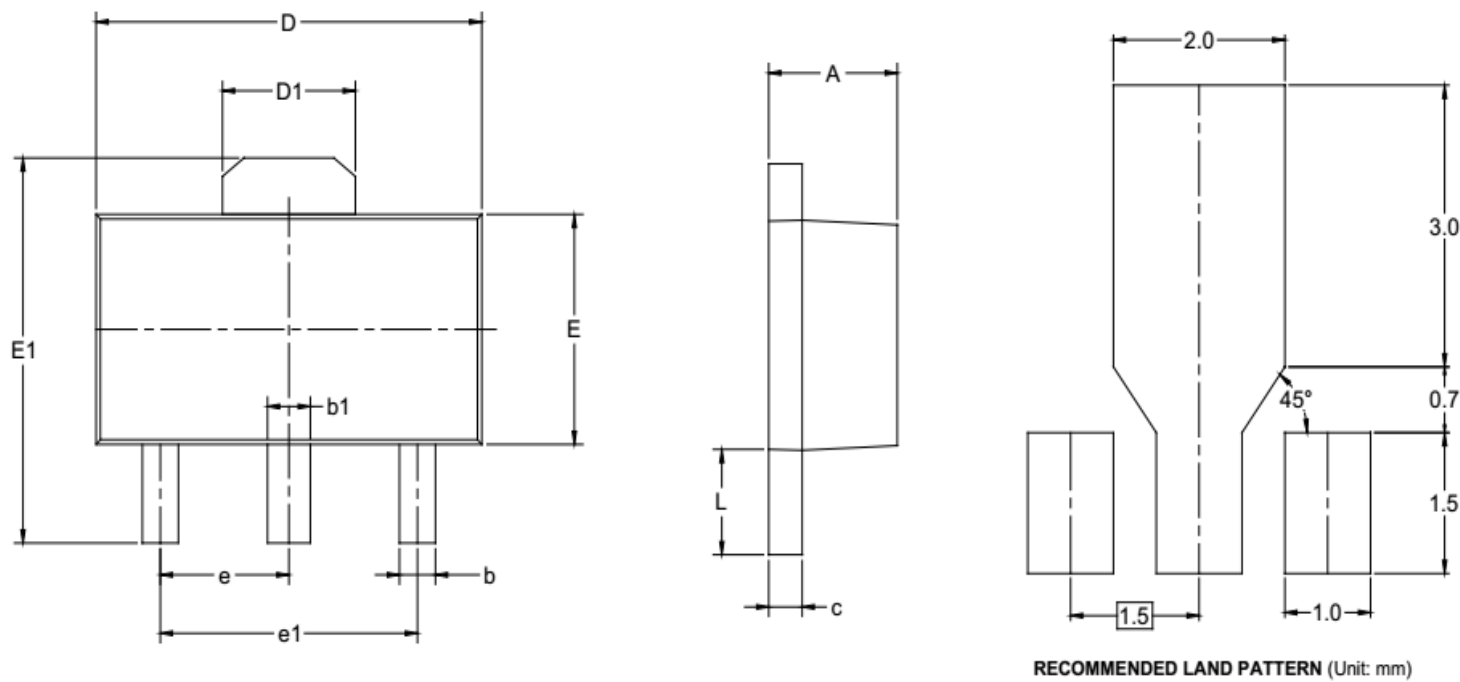
Typical Characteristics (T_J = 25°C unless otherwise noted)



Outline Dimensions

SOT-89-3L(M2L) Package

Unit:mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047