



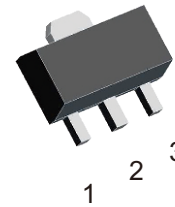
## WG78L05

Three-terminal positive voltage regulator

## Features:

- Maximum output current  $I_{om}=0.1A$
- Output voltage  $V_o=5V$
- Continuous total dissipation  $P_D=0.5W$

SOT-89



1.Output (O)  
2.GND (G)  
3.Input (I)

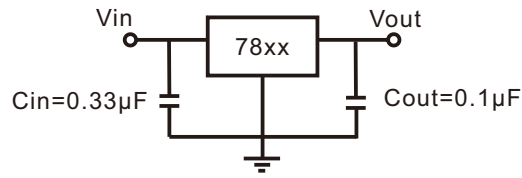
**ABSOLUTE MAXIMUM RATINGS(Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit	
Input Voltage	$V_i$	$V_{OUT}=5-10V$	30	V
		$V_{OUT}=12-15V$	35	V
Output Current	$I_{OUT}$	100	mA	
Junction Temperature	$T_J$	125	$^{\circ}C$	
Operating Junction Temperature Range	$T_{OPR}$	-40-+125	$^{\circ}C$	
Storage Temperature Range	$T_{STG}$	-40-+150	$^{\circ}C$	

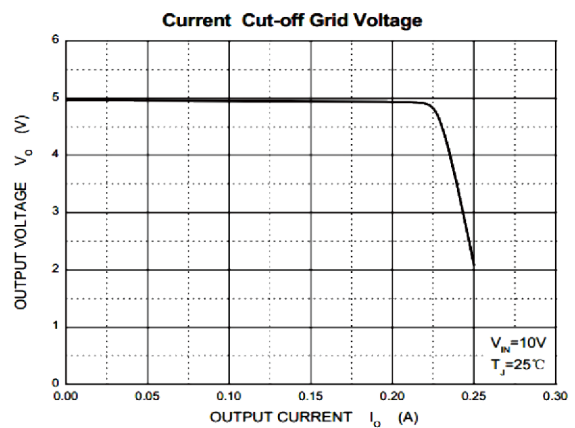
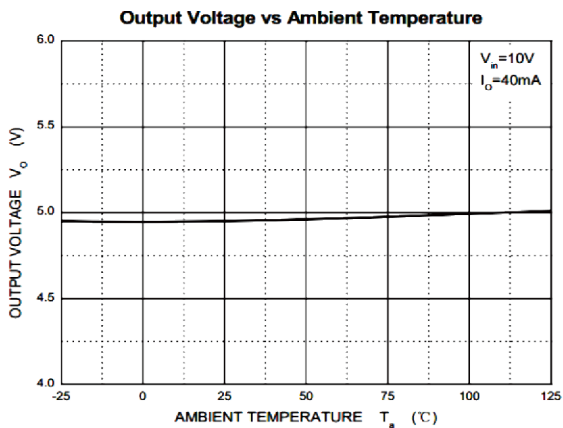
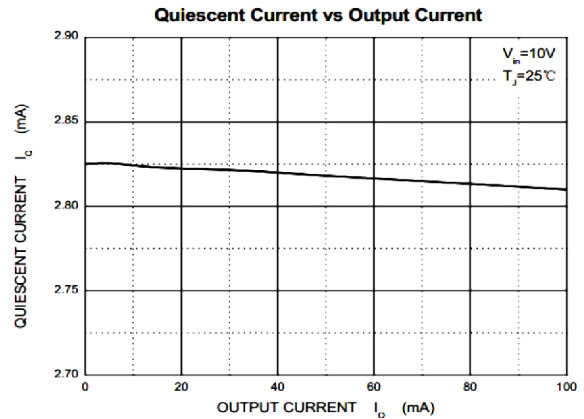
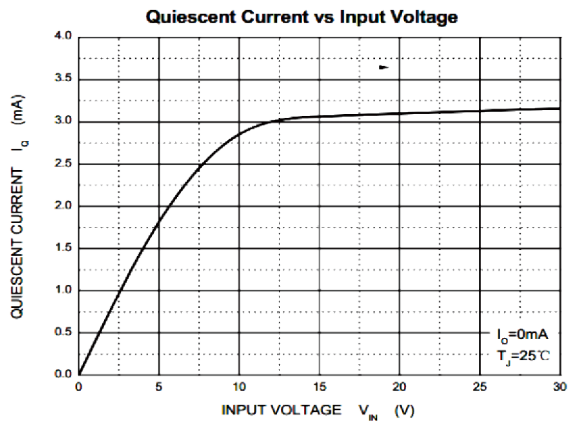
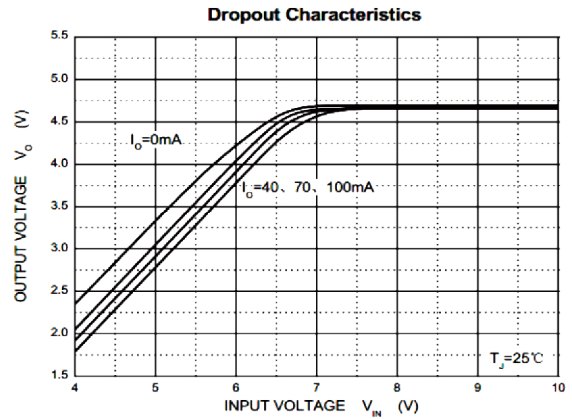
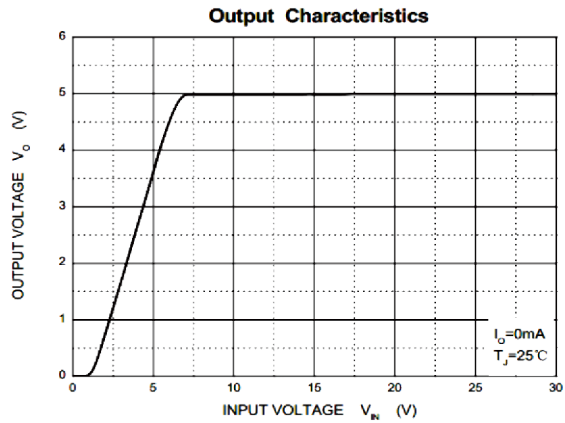
**ELECTRICAL CHARACTERISTICS( $V_i=10V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified)**

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit	
$V_o$	Output Voltage	$25^{\circ}C$	4.8	5.0	5.2	V	
		0-125 $^{\circ}C$	$7V \leq V_i \leq 20V, I_o=1mA - 40mA$	4.75		5.25	V
			$I_o=1mA - 70mA$	4.75		5.25	V
$\Delta V_o$	Load Regulation	$I_o=1mA - 100mA$	$25^{\circ}C$	15	60	mV	
		$I_o=1mA - 40mA$	$25^{\circ}C$	10	30	mV	
$\Delta V_o$	Line Regulation	$7V \leq V_i \leq 20V$	$25^{\circ}C$	10	150	mV	
		$8V \leq V_i \leq 20V$	$25^{\circ}C$	5	100	mV	
$I_q$	Quiescent Current	$25^{\circ}C$		2.0	5.5	mA	
$\Delta I_q$	Quiescent Current Change	$8V \leq V_i \leq 20V$	0-125 $^{\circ}C$		1.5	mA	
		$1mA \leq I_o \leq 40mA$	0-125 $^{\circ}C$		0.1	mA	
$V_N$	Output Noise Voltage	$f=10Hz$ to 100KHz	$25^{\circ}C$	40		$\mu V$	
$\Delta V_o / \Delta T$	Temperature coefficient of $V_o$	$I_o=5mA$	$25^{\circ}C$	0.65		mA/ $^{\circ}C$	
RR	Ripple Rejection	$f=120Hz, 8V \leq V_i \leq 20V$	0-125 $^{\circ}C$	40	49	dB	
Vd	Dropout Voltage	$25^{\circ}C$		1.7		V	

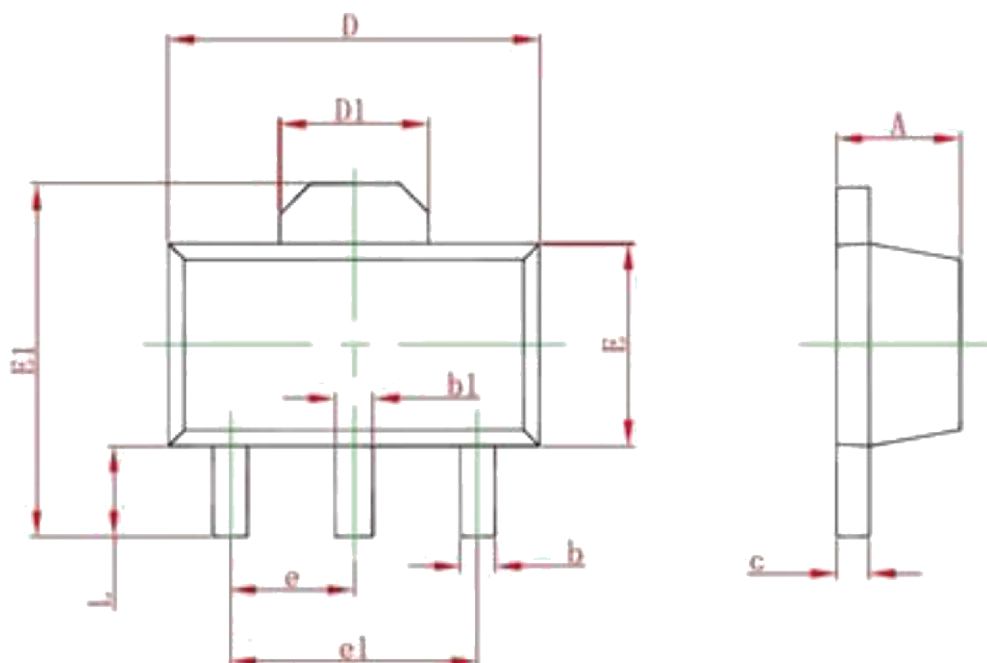
Application Circuit



Electrical Characteristic Curve



## Package Dimension



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