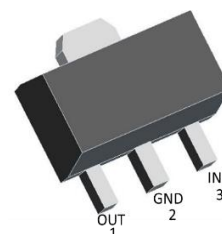


GP78L05KE

Feature

- Thermal Overload Protection
- Short Circuit Protection
- Output Voltage Of 5V
- Output Current Of 0.1A
- Output Transition Safe-Area Compensation

SOT-89-3L


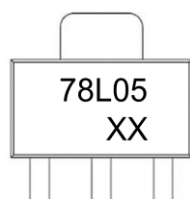
Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Input voltage	V_i	36	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	160	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-25~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-25~+150	$^{\circ}\text{C}$

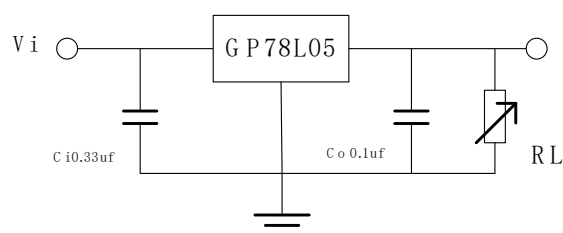
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Output voltage	V_o	$V_{IN}=10\text{V}, I_o=40\text{mA}$	4.85	5.00	5.15	V
		$7\text{V} \leq V_{IN} \leq 20\text{V}, 1\text{mA} \leq I_o \leq 40\text{mA}$	4.80	5.00	5.20	V
		$V_{IN}=10\text{V}, 1\text{mA} \leq I_o \leq 100\text{mA}$	4.80	5.00	5.20	V
Load Regulation	$ \Delta V $	$I_o = 40\text{mA}, 8\text{V} \leq V_{IN} \leq 12\text{V}$			23	mV
		$I_o = 40\text{mA}, 8\text{V} \leq V_{IN} \leq 20\text{V}$			90	mV
Line regulation	$ \Delta V $	$1\text{mA} \leq I_o \leq 40\text{mA}, V_{IN}=10\text{V}$			39	mV
		$1\text{mA} \leq I_o \leq 100\text{mA}, V_{IN}=10\text{V}$			54	mV
Quiescent Current	I_Q	$I_o = 5\text{mA}, V_{IN}=10\text{V}$	1.5	3.9	4.7	mA
Quiescent Current Change	$ \Delta I_Q $	$1\text{mA} \leq I_o \leq 40\text{mA}, V_{IN}=10\text{V}$		0.3	0.4	mA
		$8\text{V} \leq V_{IN} \leq 20\text{V}, I_o = 1\text{mA}$		0.3	0.7	mA
Dropout Voltage	$V_{o2} - V_{o1}$	$V_{o1}@V_{IN}=8\text{V}, I_o=5\text{mA}$ $V_{o2}@V_{IN}=7.4\text{V}, I_o=100\text{mA}$	-50		50	mV
Supply Current	I_{CC}	$V_{IN}=36\text{V}, I_o=0\text{mA}$			9	mA

Marking:

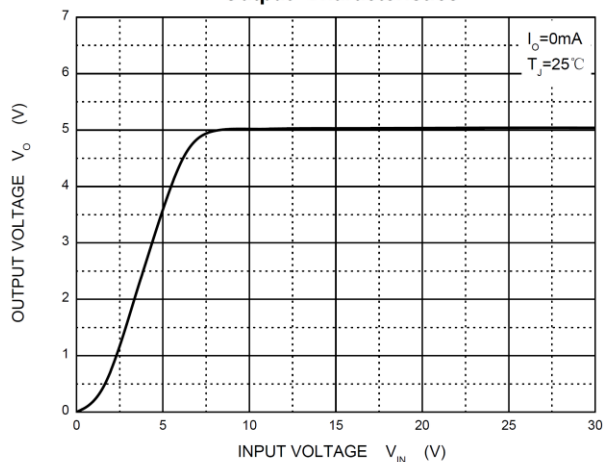


Typical Application:

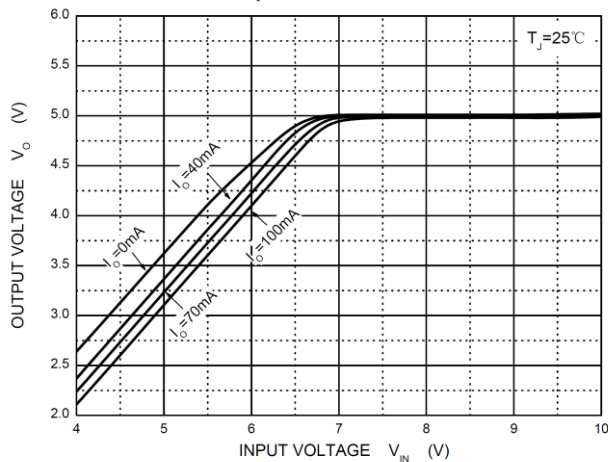


Typical Characteristics

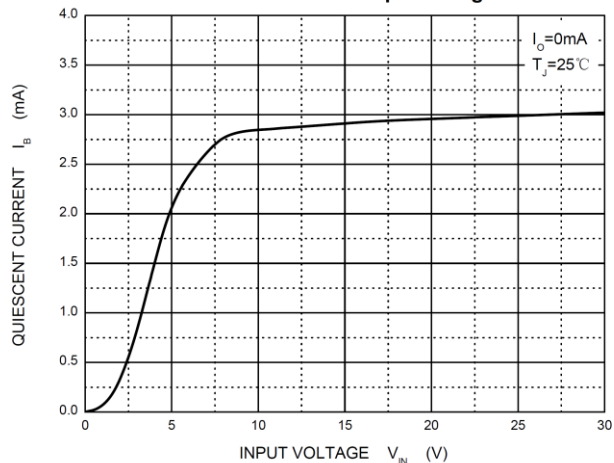
Output Characteristics



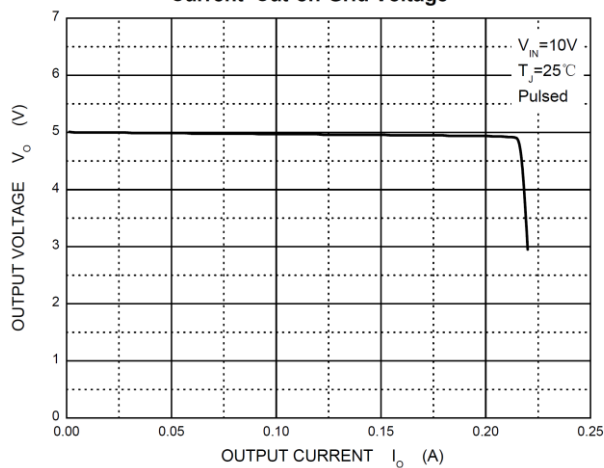
Dropout Characteristics

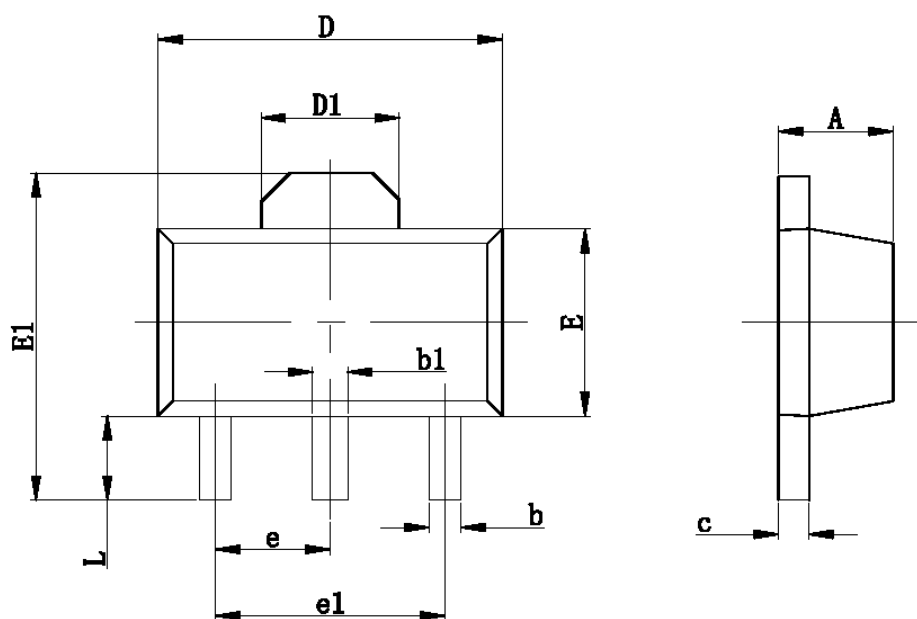


Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



SOT-89-3L Package Outline Dimensions


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	0.197
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	1.550REF		0.061REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	3.000TYP		0.118TYP	
L	0.900	1.200	0.035	0.047