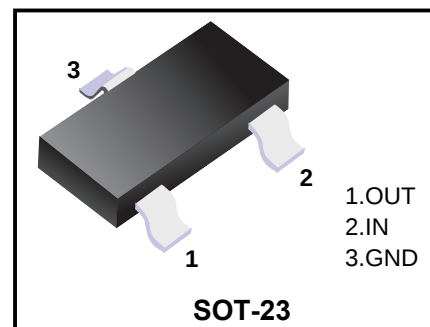


Three-terminal positive voltage regulator

FEATURES

- ◆Maximum Output current I_O : 0.1 A
- ◆Output voltage V_O : 5 V
- ◆Continuous total dissipation P_D : 0.35 W ($T_a = 25^\circ\text{C}$)



Marking Code

78L05	L05
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ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies)

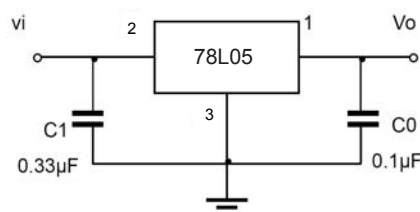
Characteristics	Symbols	Value	Units
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

($V_I=10\text{V}$, $I_O=40\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

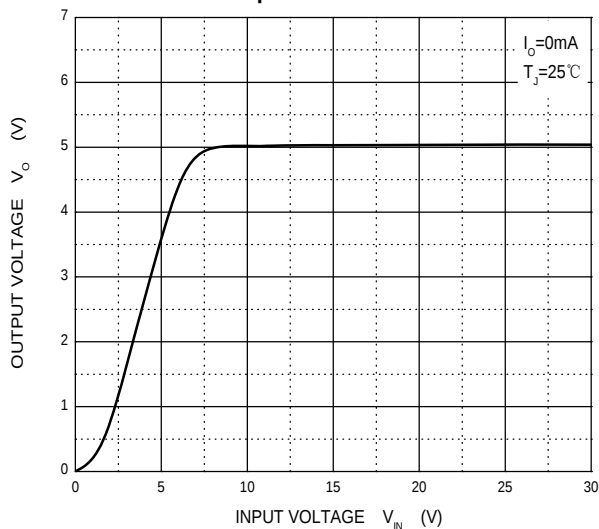
Characteristics	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_O	25°C	4.8	5.0	5.2	V
		$7\text{V} \leq V_I \leq 20\text{V}$, $I_O=1\text{mA} \sim 40\text{mA}$	4.75	5.0	5.25	V
		$I_O=1\text{mA} \sim 70\text{mA}$, $0-125^\circ\text{C}$	4.75	5.0	5.25	V
Load Regulation	ΔV_O	$I_O=1\text{mA} \sim 100\text{mA}$, 25°C		15	60	mV
		$I_O=1\text{mA} \sim 40\text{mA}$, 25°C		8	30	mV
Line regulation	ΔV_O	$7\text{V} \leq V_I \leq 20\text{V}$		32	150	mV
		$8\text{V} \leq V_I \leq 20\text{V}$, 25°C		26	100	mV
Quiescent Current	I_q	25°C		3.8	6	mA
Quiescent Current Change	ΔI_q	$8\text{V} \leq V_I \leq 20\text{V}$, $0-125^\circ\text{C}$			1.5	mA
	ΔI_q	$1\text{mA} \leq V_I \leq 40\text{mA}$, $0-125^\circ\text{C}$			0.1	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{kHz}$, 25°C		42		μV
Ripple Rejection	RR	$8\text{V} \leq V_I \leq 20\text{V}$, $f=120\text{Hz}$, $0-125^\circ\text{C}$	41	49		dB
Dropout Voltage	V_d	25°C		1.7		V

TYPICAL APPLICATION

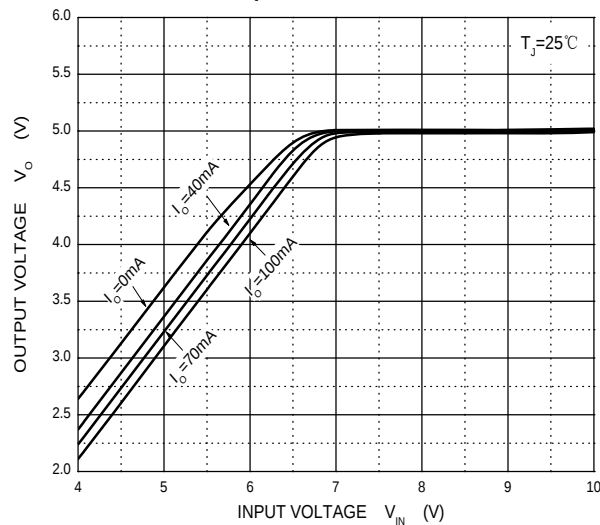


Typical Characteristics

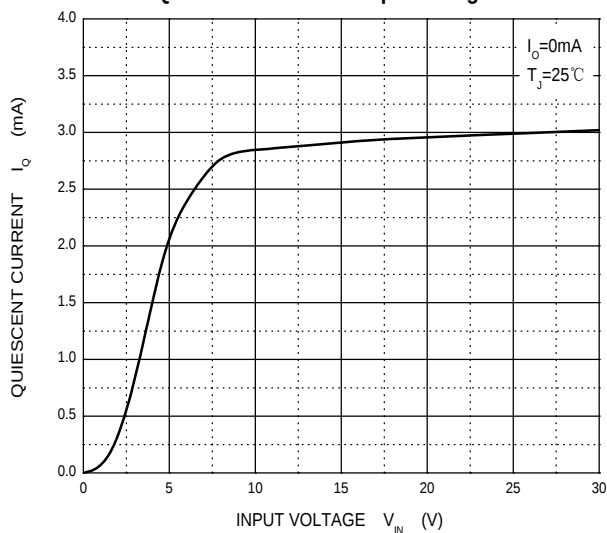
Output Characteristics



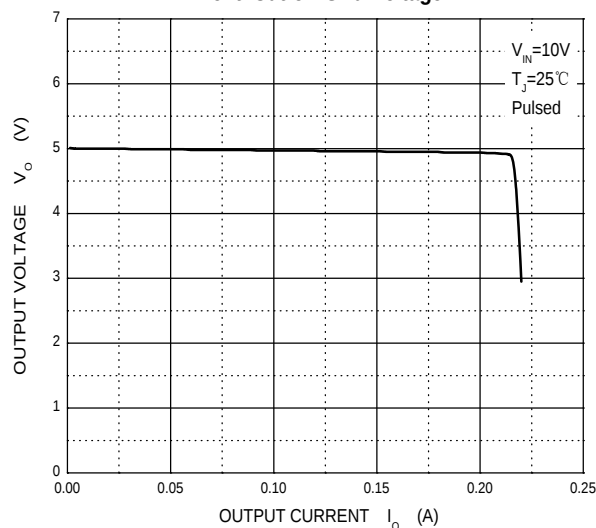
Dropout Characteristics



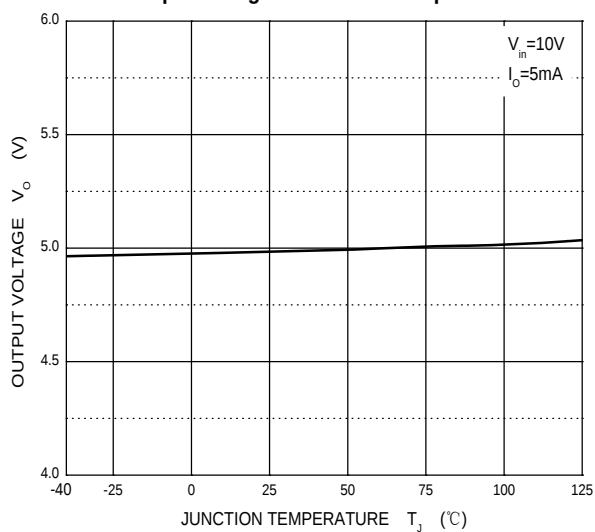
Quiescent Current vs Input Voltage



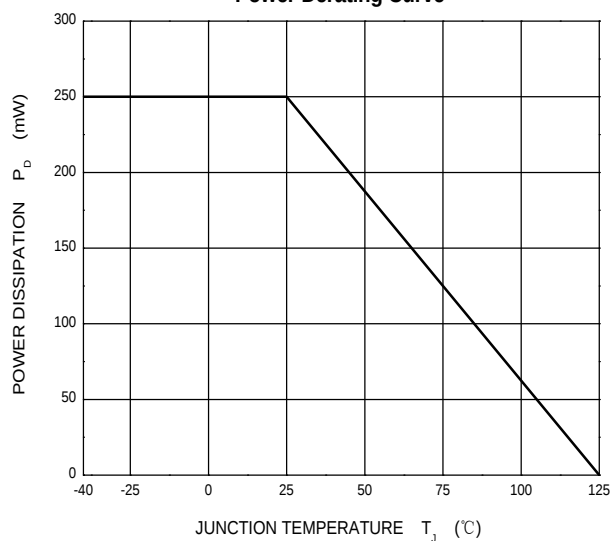
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve



Ordering information

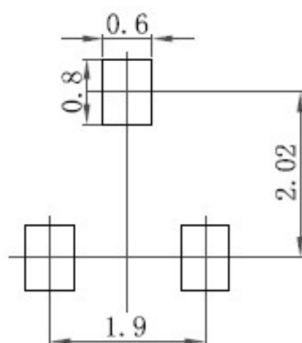
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.1	110	122
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.6	83	102
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



Disclaimer

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