

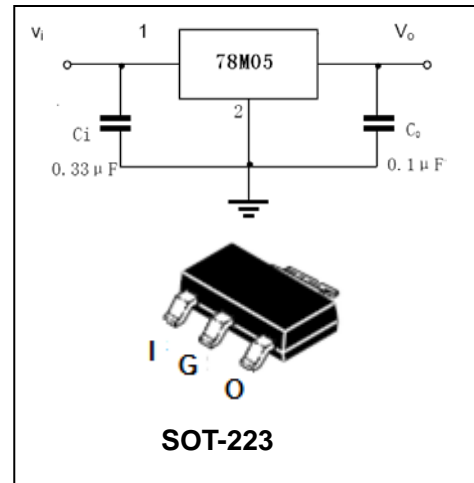


FEATURES

- Output current in excess of 0.5A
- No external components
- Internal thermal overload protection
- Internal short circuit current-limiting
- Output transistor safe-area compensation

APPLICATIONS

- Three-terminal positive voltage regulator



Ordering Information

Part Number	Package	Shipping	Marking Code
78M05R	SOT-223	4000pcs / Tape & Reel	78M05

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_i	Input voltage	35	V
P_D	Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance Junction-Air	90	$^{\circ}\text{C}/\text{W}$
T_{OPR}	Operating junction temperature	-25 to +125	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-65 to +150	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS

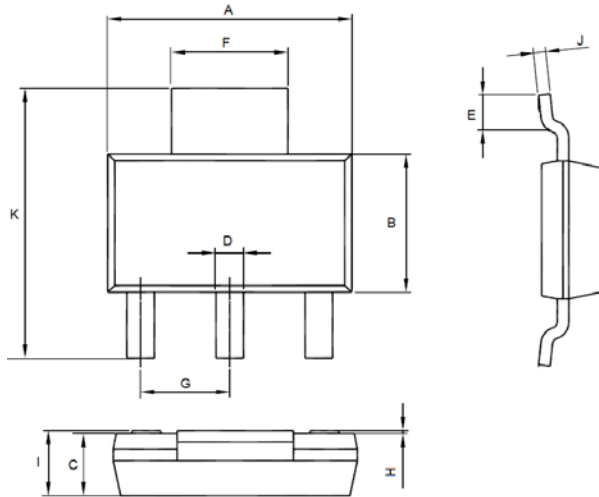
($V_{IN}=10V, I_O=350mA, C_{IN}=0.33\mu F, C_O=0.1\mu f$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_O	$I_O=350mA, V_{IN}=10V$ $5mA \leq I_O \leq 350mA$ $7V \leq V_{IN} \leq 20V$	4.8 4.75 4.75	5 5 5	5.2 5.25 5.25	V
Load regulation(Note1)	Δ Reg_{load}	$5mA \leq I_O \leq 500mA$ $5mA \leq I_O \leq 200mA$			100 50	mV
Line regulation(Note1)	Δ Reg_{line}	$7V \leq V_{IN} \leq 25V, I_O=200mA$ $8V \leq V_{IN} \leq 20V, I_O=200mA$			100 50	mV
Quiescent Current	I_Q	$V_{IN}=10V, I_O=350mA$		4.0	6.0	mA
Quiescent Current Change	ΔI_Q	$5mA \leq I_O \leq 350mA$ $8V \leq V_{IN} \leq 25V, I_O=200mA$			0.5 0.8	mA
Output Voltage Drift	$\Delta V / \Delta T$	$I_O=5mA, T_J=0 \text{ to } +125^\circ C$		-0.5		mV/ $^\circ C$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		40		$\mu V/V_O$
Ripple Rejection	RR	$f=120Hz, I_O=300mA,$ $V_I=8V \text{ to } 18V$	62			dB
Dropout Voltage	V_D	$T_A=+25^\circ C, I_O=500mA$		2.0		V
Short Circuit Current	I_{SC}	$V_I=35V, T_J=25^\circ C$		300		mA
Peak Current	I_{PK}	$T_J=25^\circ C$		700		mA

Note: 1. Load and line regulation are specified at constant, junction temperature. Change in V_O due to Heating effects must be taken into account separately. Pulse testing with low duty is used.

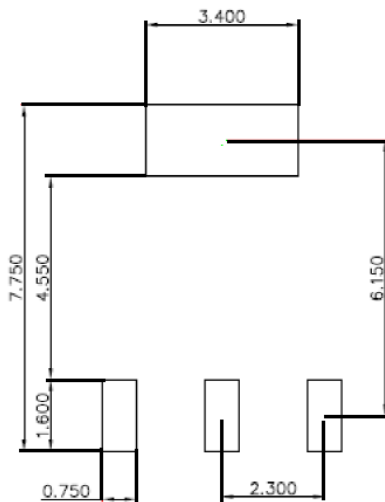


PACKAGE OUTLINE



SOT-223		
Dim	Min	Max
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm