

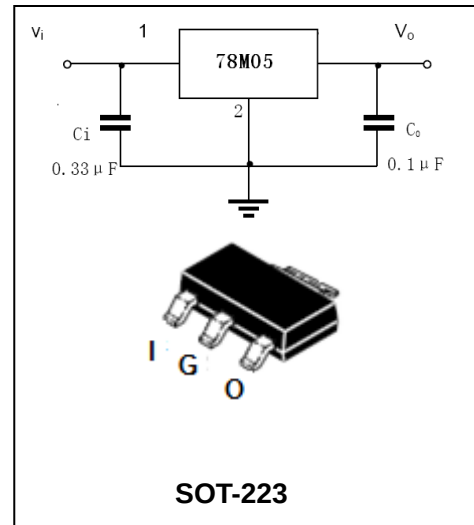
Three-terminal positive voltage regulator

BL78M05R

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
- RoHS compliant with Halogen-free

HF



APPLICATIONS

- Three-terminal positive voltage regulator

Ordering Information

Part Number	Package	Shipping	Marking Code
BL78M05R	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	°C/W
T_{OPR}	Operating junction temperature	-25 to +125	°C
T_{STG}	Storage temperature range	-65 to +150	°C

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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	$\Delta V / \Delta T$	$I_O=5mA$, $T_J=0$ 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	$f=120Hz$, $I_O=300mA$, $V_I=8V$ 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.

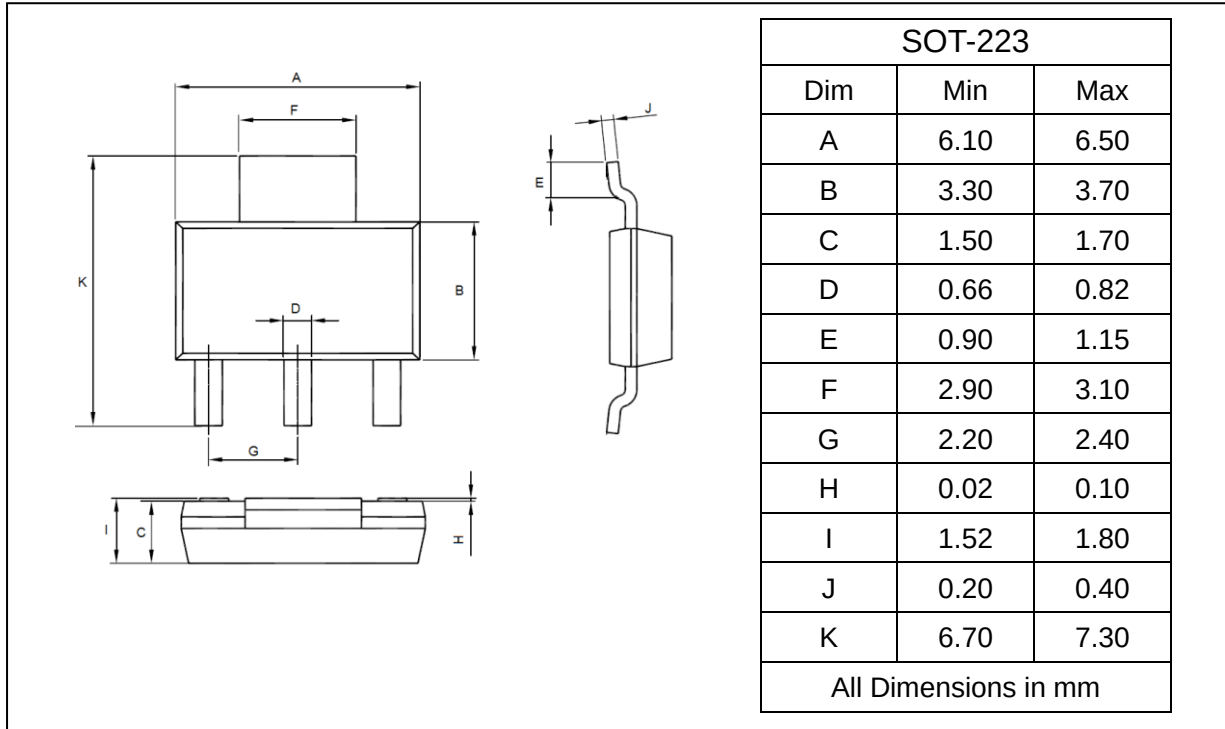
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PACKAGE OUTLINE

Plastic surface mounted package

SOT-223



SOLDERING FOOTPRINT

