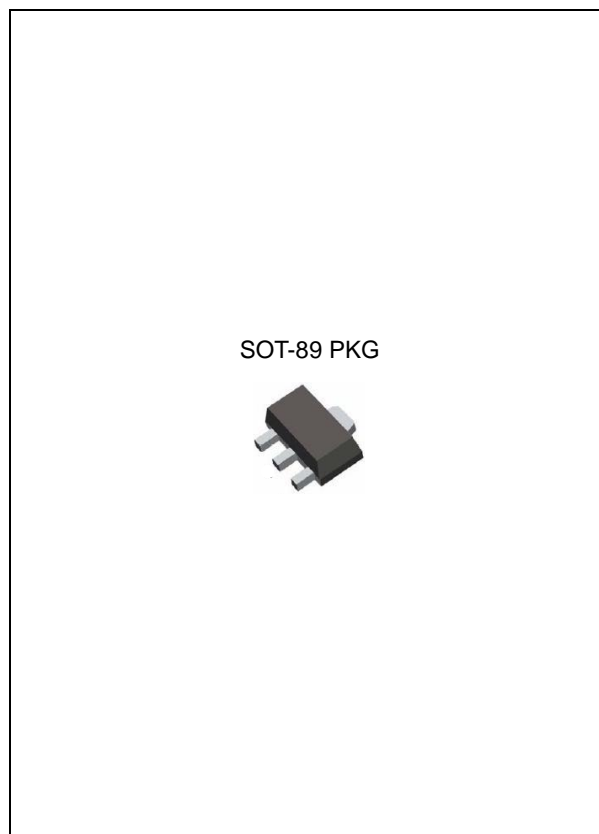


## FEATURES

- Output Current Up to 100mA
- No External Components
- Internal Thermal Overload Protection
- Internal Short-Circuit Limiting
- Output Voltage: 5V
- Moisture Sensitivity Level 3

## DESCRIPTION

This series of fixed-voltage monolithic integrated-circuit voltage regulators is designed for a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used with power-pass elements to make high current voltage regulators.



## ORDERING INFORMATION

Device	Package
TJ78LXXF	SOT-89

XX : Output Voltage = 05

## ABSOLUTE MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	MIN.	MAX.	UNIT
Input Voltage	TJ78L05	$V_{IN}$	-	30	V
Lead Temperature (Soldering, 10 sec)		$T_{SOL}$	-	260	°C
Storage Temperature Range		$T_{STG}$	-65	150	°C
Operating Junction Temperature Range		$T_{JOPR}$	-40	125	°C

# 3-TERMINAL 0.1A POSITIVE VOLTAGE REGULATOR

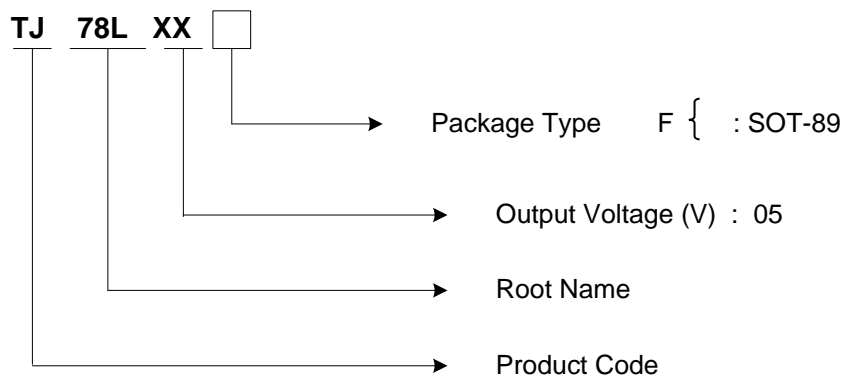
# TJ78L05

## Recommended Operating Conditions

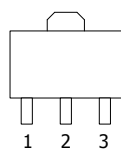
CHARACTERISTIC		SYMBOL	MIN.	MAX.	UNIT
Input Voltage	TJ78L05	$V_{IN}$	7	20	V
Output Current		$I_o$	100	100	mA
Operating Virtual Junction Temperature		$T_J$	-40	125	°C

## ORDERING INFORMATION

$V_{OUT}$	Package	Order No.	Description	Supplied As	Status
5.0V	SOT-89	TJ78L05F	0.1A, Positive	Reel	Active



## PIN CONFIGURATION



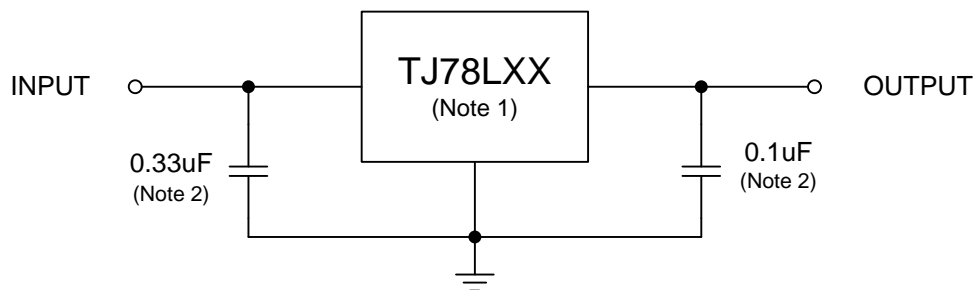
1. VOUT 2. GND 3. VIN

SOT-89

## PIN DESCRIPTION

Pin No.	SOT-89 3 LEAD	
	Name	Function
1	V <sub>OUT</sub>	Output Voltage
2	GND	Ground
3	V <sub>IN</sub>	Input Voltage

## TYPICAL APPLICATION



Note)

1. To specify an output voltage, substitute voltage for "XX".
2. Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

## ELECTRICAL CHARACTERISTICS

**TJ78L05** (At specified virtual junction temperature,  $V_{IN} = 10V$ ,  $I_o = 40mA$ ,  $T_J = +25^\circ C$  (Unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION <sup>(Note 1)</sup>	MIN.	TYP.	MAX.	UNIT
Output Voltage <sup>(Note 2)</sup>	$V_{OUT}$	$1mA \leq I_o \leq 40mA$ $7V \leq V_{IN} \leq 20V$	4.8	5	5.2	V
		$1mA \leq I_o \leq 70mA$	4.8	5	5.2	
Line Regulation	$\Delta V_{LINE}$	$7V \leq V_{IN} \leq 20V$	-	-	135	mV
		$8V \leq V_{IN} \leq 20V$	-	-	90	
Load Regulation	$\Delta V_{LOAD}$	$1mA \leq I_o \leq 100mA$	-	-	54	mV
		$1mA \leq I_o \leq 40mA$	-	-	27	
Quiescent Current	$I_B$				5.8	mA
Quiescent Current Change	$\Delta I_B$	$8V \leq V_{IN} \leq 20V$			1.4	mA
		$1mA \leq I_o \leq 40mA$			0.09	
Dropout Voltage	$V_D$			1.7		V

Note 1. Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into account separately.

All characteristics are measured with a 0.33uF capacitor across the input and a 0.1uF capacitor across the output.

Note 2. This specification applies only for DC power dissipation permitted by absolute maximum ratings.