3-TERMINAL 0.1A POSITIVE VOLTAGE REGULATOR TJ78L05

FEATURES

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

SOT-89 PKG



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

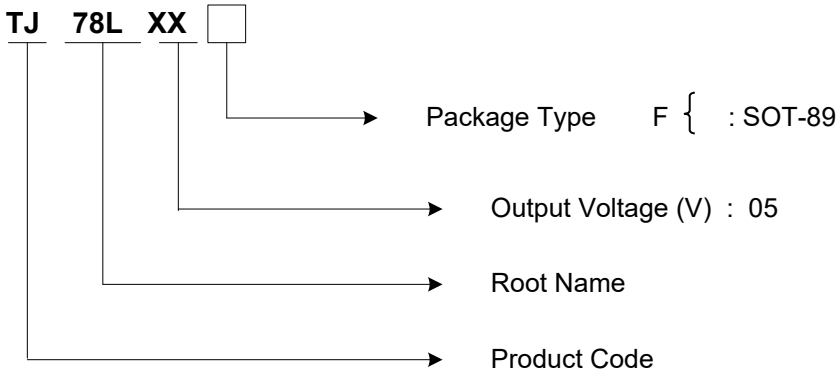
CHARACTERISTIC		SYMBOL	MIN.	MAX.	UNIT
Input Voltage	TJ78L05	V_{IN}	-	30	V
Lead Temperature (Soldering, 10 sec)		T_{SOL}	-	260	℃
Storage Temperature Range		T_{STG}	-65	150	℃
Operating Junction Temperature Range		T_{JOPR}	-40	125	℃

Recommended Operating Conditions

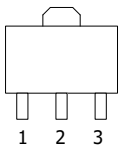
CHARACTERISTIC		SYMBOL	MIN.	MAX.	UNIT
Input Voltage	TJ78L05	V_{IN}	7	20	V
Output Current		Io	-	100	mA
Operating Virtual Junction Temperature		T_J	-40	125	℃

ORDERING INFORMATION

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



PIN CONFIGURATION



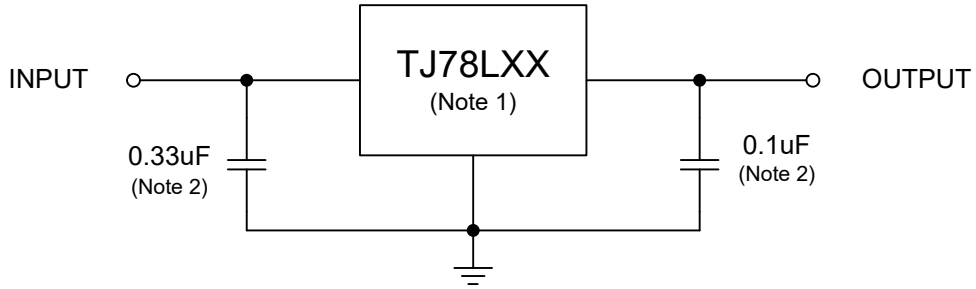
1. VOUT 2. GND 3. VIN

SOT-89

PIN DESCRIPTION

Pin No.	SOT-89 3 LEAD	
	Name	Function
1	V_{OUT}	Output Voltage
2	GND	Ground
3	V_{IN}	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, Io = 40mA, T_J=+25℃ (Unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION(Note 1)	MIN.	TYP.	MAX.	UNIT
Output Voltage(Note 2)	V_{OUT}	1mA ≤ Io ≤ 40mA 7V ≤ V_{IN} ≤ 20V	4.8	5	5.2	V
		1mA ≤ Io ≤ 70mA	4.8	5	5.2	
Line Regulation	ΔV_{LINE}	7V ≤ V_{IN} ≤ 20V	-	-	135	mV
		8V ≤ V_{IN} ≤ 20V	-	-	90	
Load Regulation	ΔV_{LOAD}	1mA ≤ Io ≤ 100mA	-	-	54	mV
		1mA ≤ Io ≤ 40mA	-	-	27	
Quiescent Current	I_B				5.8	mA
Quiescent Current Change	ΔI_B	8V ≤ V_{IN} ≤ 20V			1.4	mA
		1mA ≤ Io ≤ 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.

TYPICAL OPERATING CHARACTERISTICS

T.B.D

REVISION NOTICE

The description in this datasheet can be revised without any notice to describe its electrical characteristics properly.