



TIGER ELECTRONIC CO.,LTD

SOT-89 Encapsulate Three Terminal Voltage Regulator

LM78L05F Three-terminal positive voltage regulator

FEATURES

Maximum Output current

I_{OM} : 0.1 A

Output voltage

V_o : 5 V

Continuous total dissipation

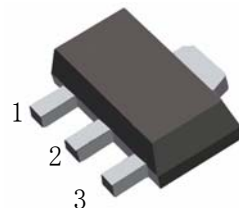
P_D : 0.5 W

SOT-89

1. OUT

2. GND

3. IN



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

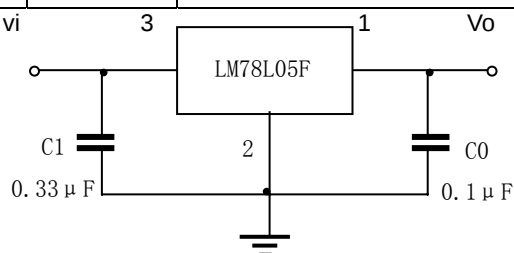
Parameter	Symbol	Value	Units
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	0—+125	°C
Storage Temperature Range	T_{STG}	-55—+150	°C

ELECTRICAL CHARACTERISTICS

($V_i=10V, I_o=40mA, 0^{\circ}C < T_j < 125^{\circ}C, C_1=0.33 \mu F, C_o=0.1 \mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	$T_j=25^{\circ}C$	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20V, I_o=1mA-40mA$	4.75	5.0	5.25	V
		$7V \leq V_i \leq V_{MAX}, I_o=1mA-70mA$	4.75	5.0	5.25	V (note)
Load Regulation	ΔV_o	$T_j=25^{\circ}C, I_o=1mA-100mA$		11	60	mV
		$T_j=25^{\circ}C, I_o=1mA-40mA$		5.0	30	mV
Line regulation	ΔV_o	$7V \leq V_i \leq 20V, T_j=25^{\circ}C$		32	150	mV
		$8V \leq V_i \leq 20V, T_j=25^{\circ}C$		26	100	mV
Quiescent Current	I_q	$25^{\circ}C$		3.8	6	mA
Quiescent Current Change	ΔI_q	$8V \leq V_i \leq 20V$			1.5	mA
	ΔI_q	$1mA \leq I_o \leq 40mA$			0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		42		μV
Ripple Rejection	RR	$8V \leq V_i \leq 18V, f=120Hz, T_j=25^{\circ}C$	41	80		dB
Dropout Voltage	V_d	$T_j=25^{\circ}C$		1.7		V

TYPICAL APPLICATION



Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

L M 78L05 F

