



# 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

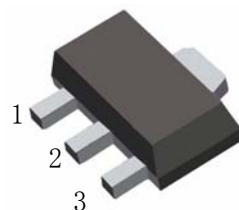
$P_D$ : 0.5 W

SOT-89

1. OUT

2. GND

3. IN



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

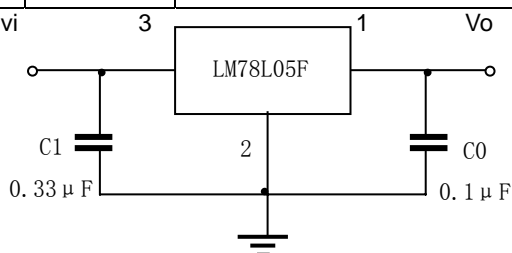
Parameter	Symbol	Value	Units
Input Voltage	$V_i$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0—+125	°C
Storage Temperature Range	$T_{STG}$	-55—+150	°C

#### 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	$\Delta V_o$	$T_j=25^{\circ}C, I_o=1mA-100mA$		11	60	mV
		$T_j=25^{\circ}C, I_o=1mA-40mA$		5.0	30	mV
Line regulation	$\Delta V_o$	$7V \leq V_i \leq 20V, T_j=25^{\circ}C$		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	$\Delta I_q$	$8V \leq V_i \leq 20V$			1.5	mA
	$\Delta I_q$	$1mA \leq I_o \leq 40mA$			0.1	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$		42		$\mu V$
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

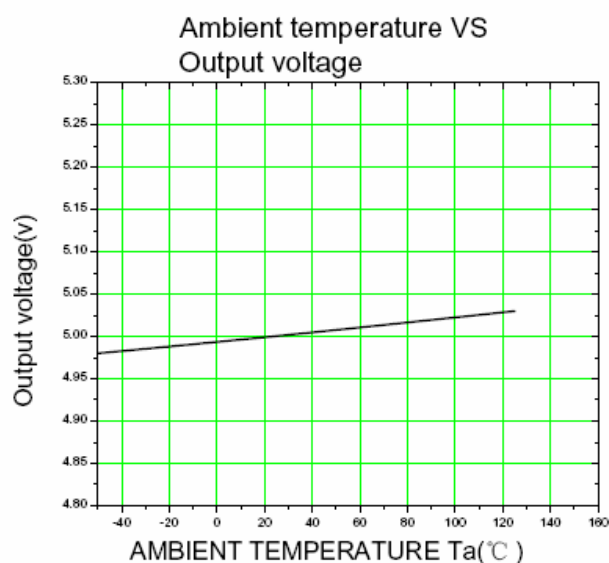
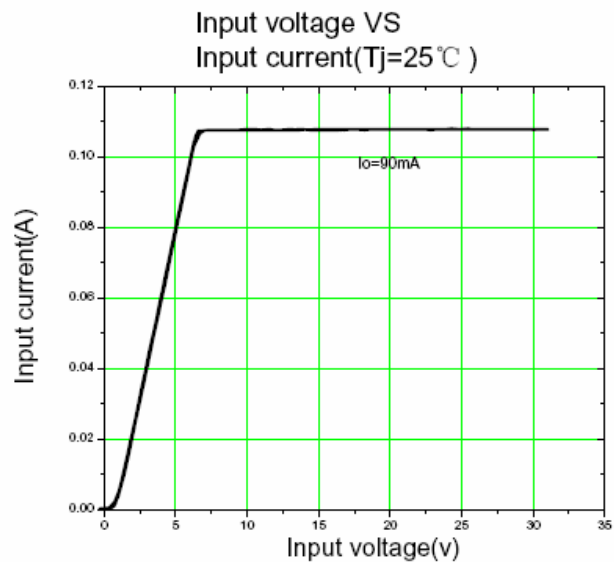
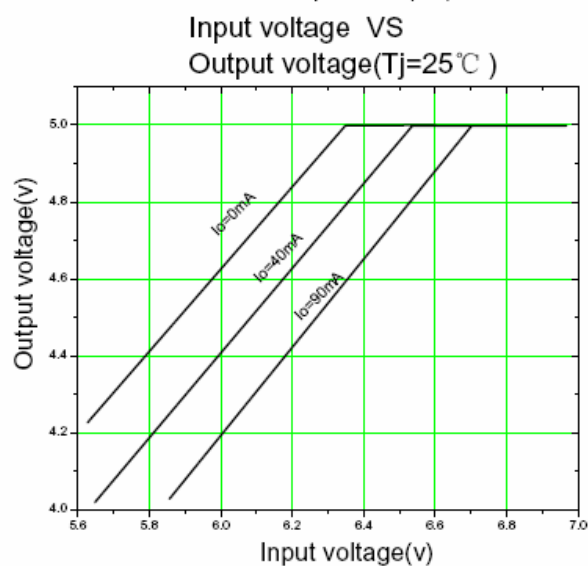
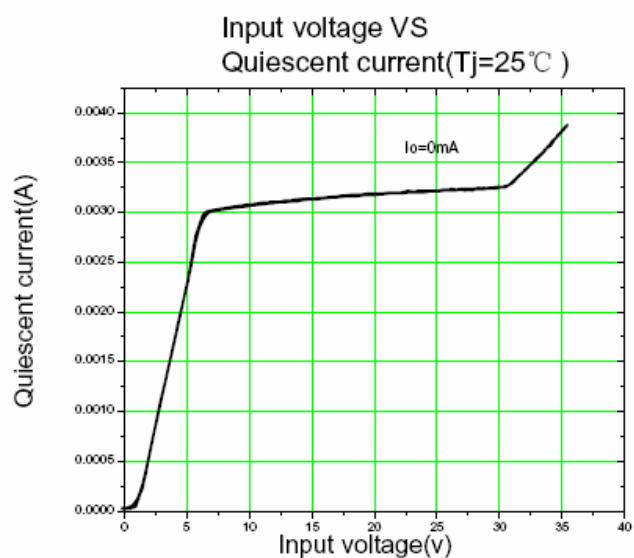
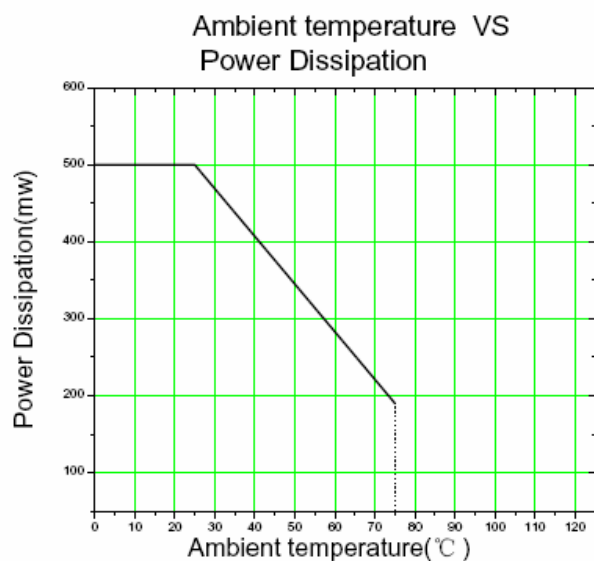
#### TYPICAL APPLICATION



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



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