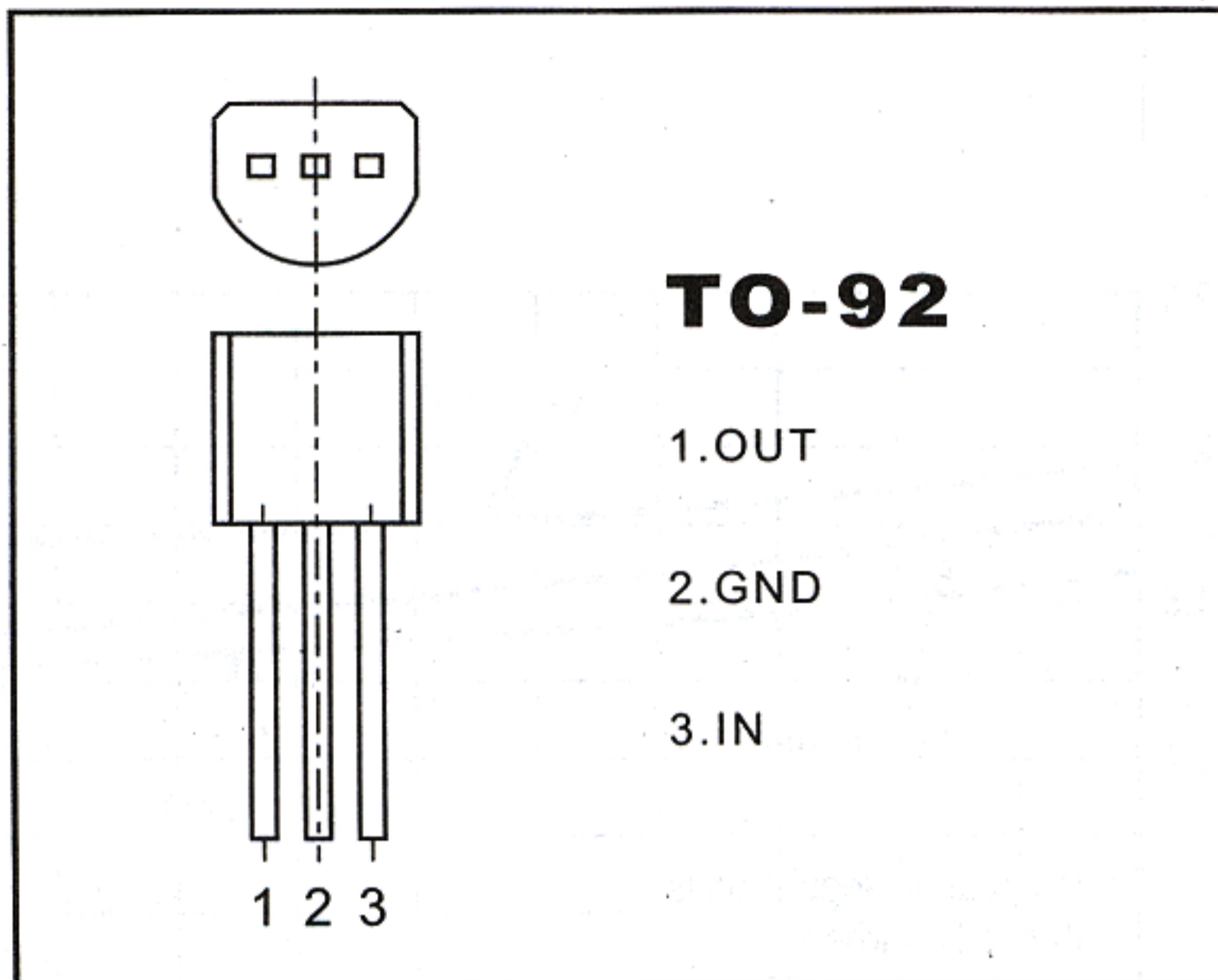


# Three-Terminal Low Current Voltage Regulators

## CJ78L05 Three-terminal positive voltage regulator



### FEATURES

#### Maximum Output current

$I_{OM}$ : 0.1 A

#### Output voltage

$V_o$  : 5V

### ABSOLUTE MAXIMUM RATINGS

(Operating temperature range applies unless otherwise specified)

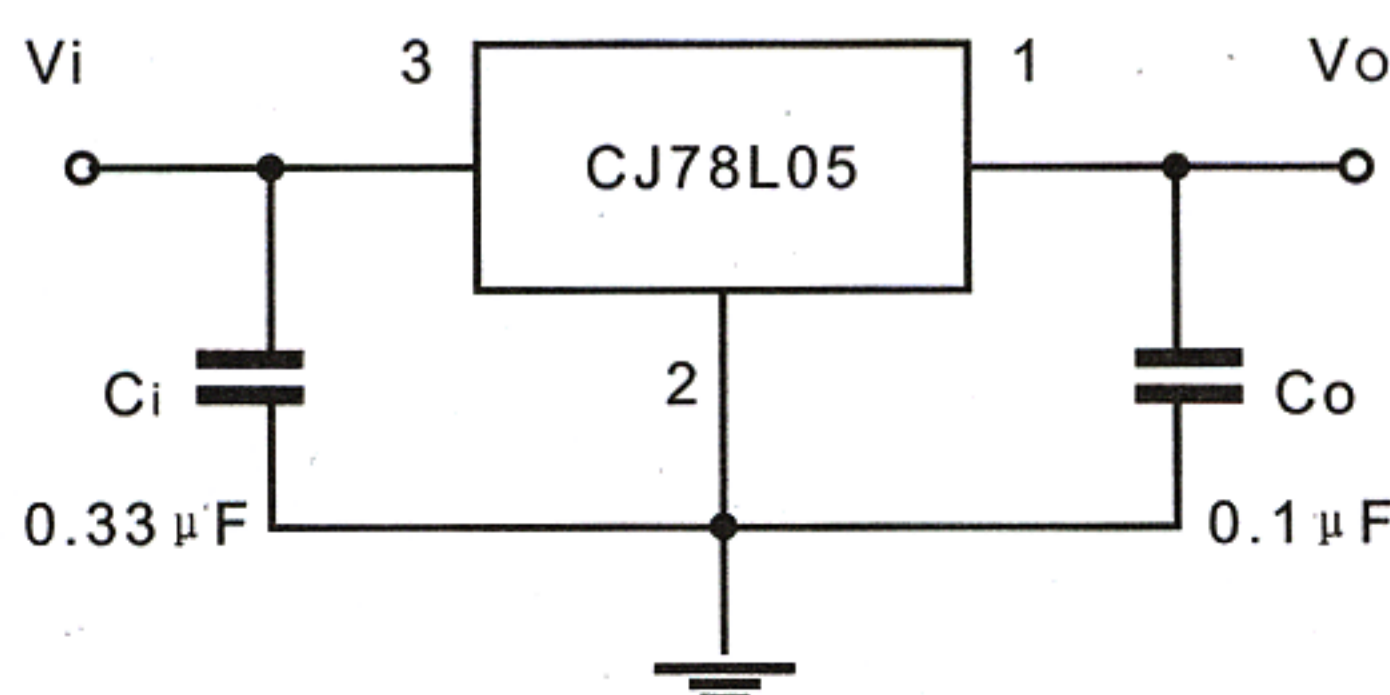
Parameter	Symbol	Value	Units
Input voltage	$V_i$	30	V
Operating junction temperature range	$T_{opr}$	-20+120	°C
Storage temperature range	$T_{stg}$	-55+150	°C

### 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
		$7V \leq V_i \leq 20V$ , $I_o=1mA \sim 40mA$	4.75		5.25	V
		$7V \leq V_i \leq V_{MAX}$ , $I_o=1mA \sim 70mA$	4.75		5.25	V(note)
Load regulation	$\Delta V_o$	$T_j=25^\circ C$ , $I_o=1mA \sim 100mA$		11	60	mV
		$T_j=25^\circ C$ , $I_o=1mA \sim 40mA$		5.0	30	mV
Line regulation	$\Delta V_o$	$7V \leq V_i \leq 20V$ , $T_j=25^\circ C$		8	150	mV
		$8V \leq V_i \leq 20V$ , $T_j=25^\circ C$		6	100	mV
Quiescent current	$I_q$			2.0	5.5	mA
Quiescent current change	$\Delta I_q$	$8V \leq V_i \leq 20V$			1.5	mA
		$1mA \leq I_o \leq 40mA$			0.1	mA
Output noise voltage	$V_N$	$10Hz \leq f \leq 100KHz$		40		$\mu V$
Ripple rejection	RR	$8V \leq V_i \leq 20V$ , $f=120Hz$ , $T_j=25^\circ C$	41	80		dB
Dropout voltage	$V_d$	$T_j=25^\circ C$		1.7		V

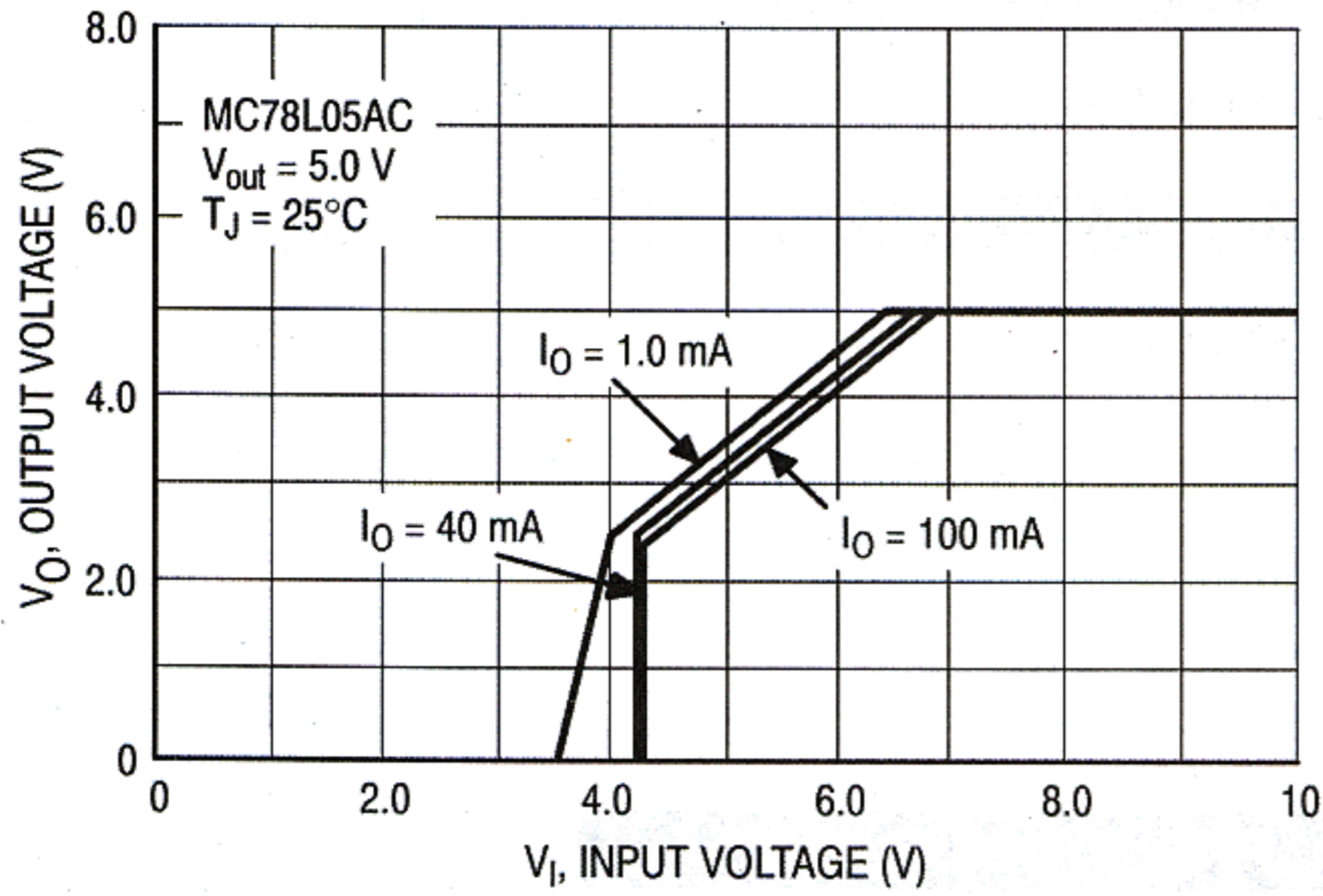
### TYPICAL APPLICATION



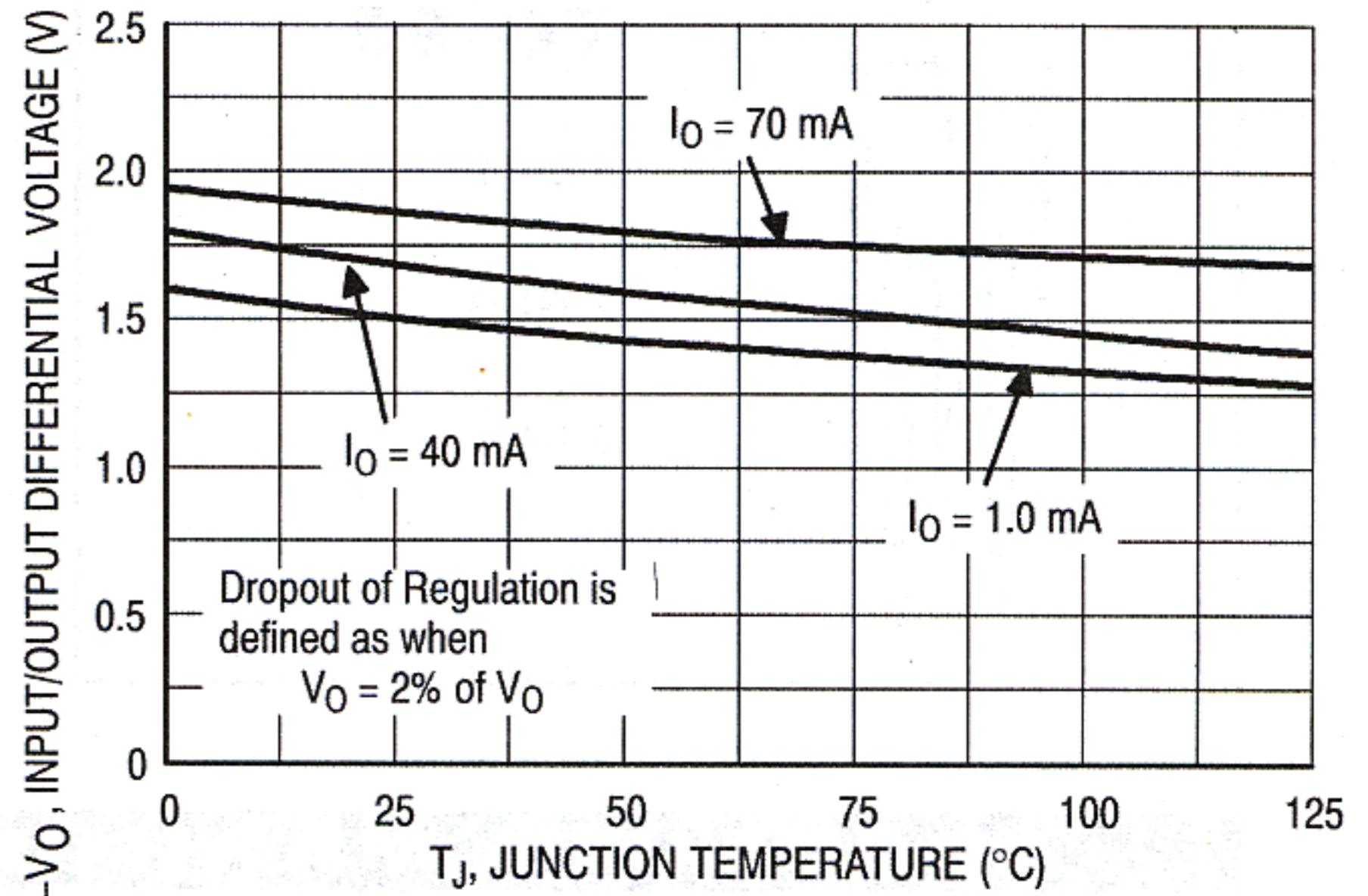
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

# Typical Characteristics

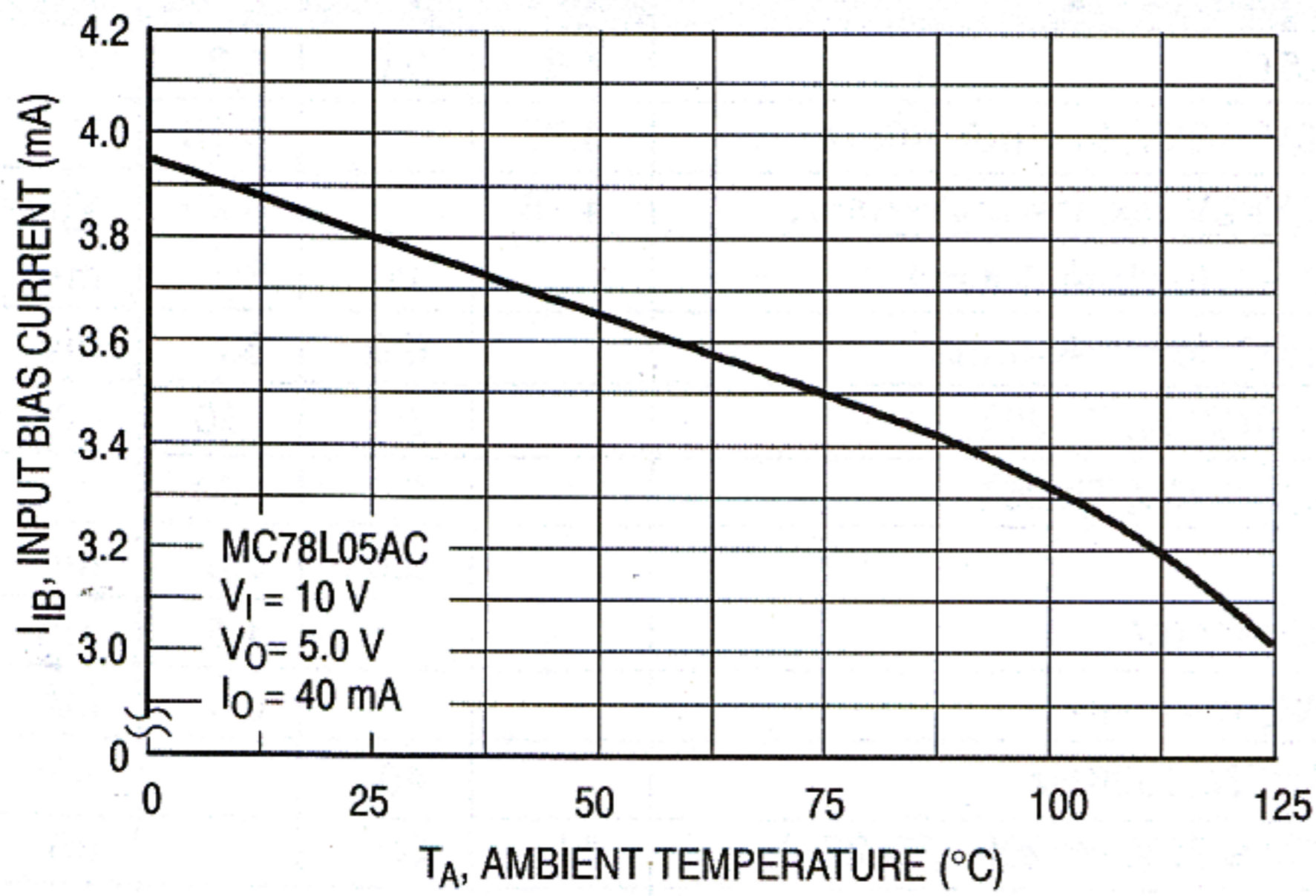
# CJ78L05



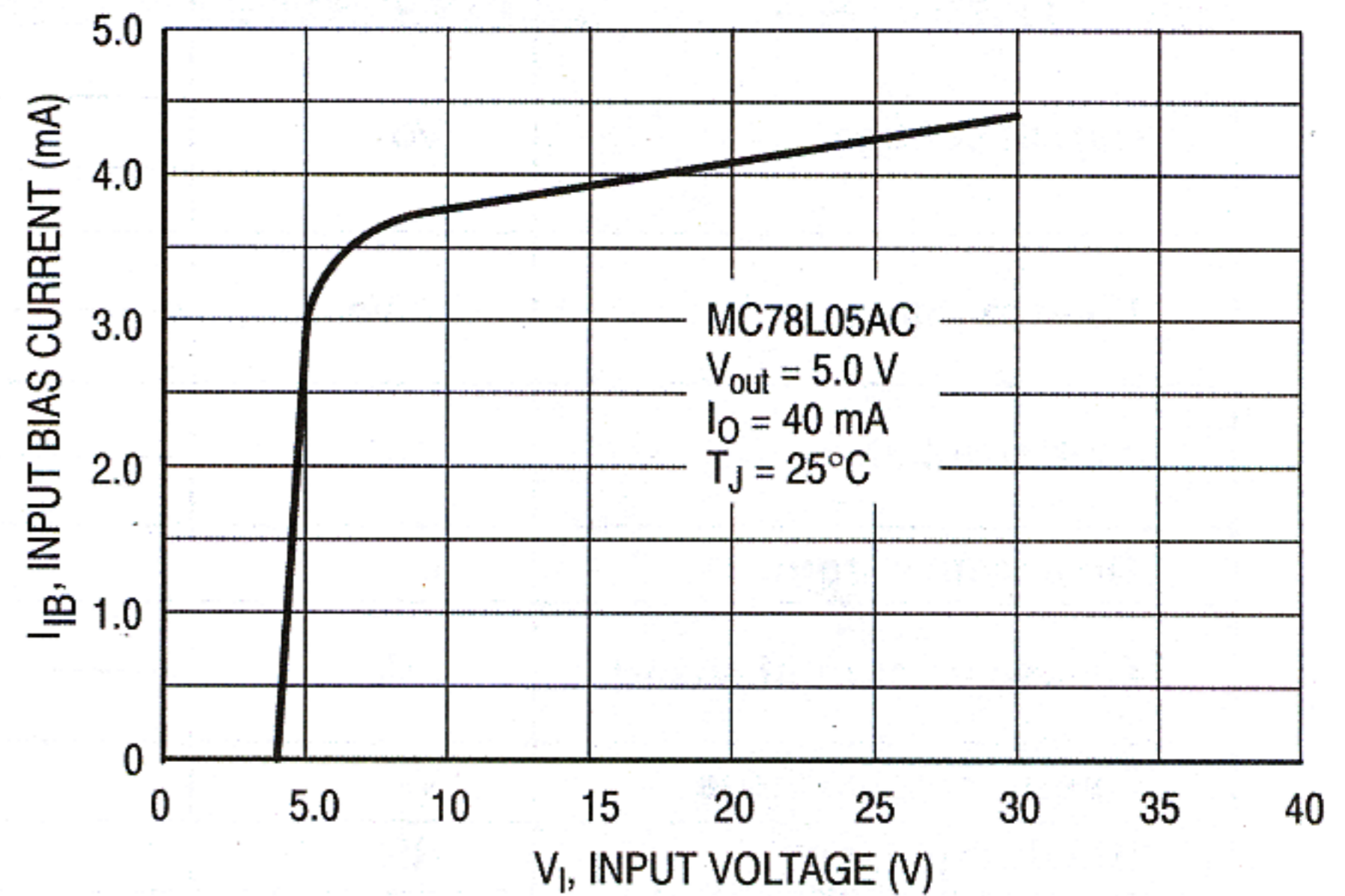
**Dropout Characteristics**



**Dropout Voltage versus Junction Temperature**



**Input Bias Current versus Ambient Temperature**



**Input Bias Current versus Input Voltage**