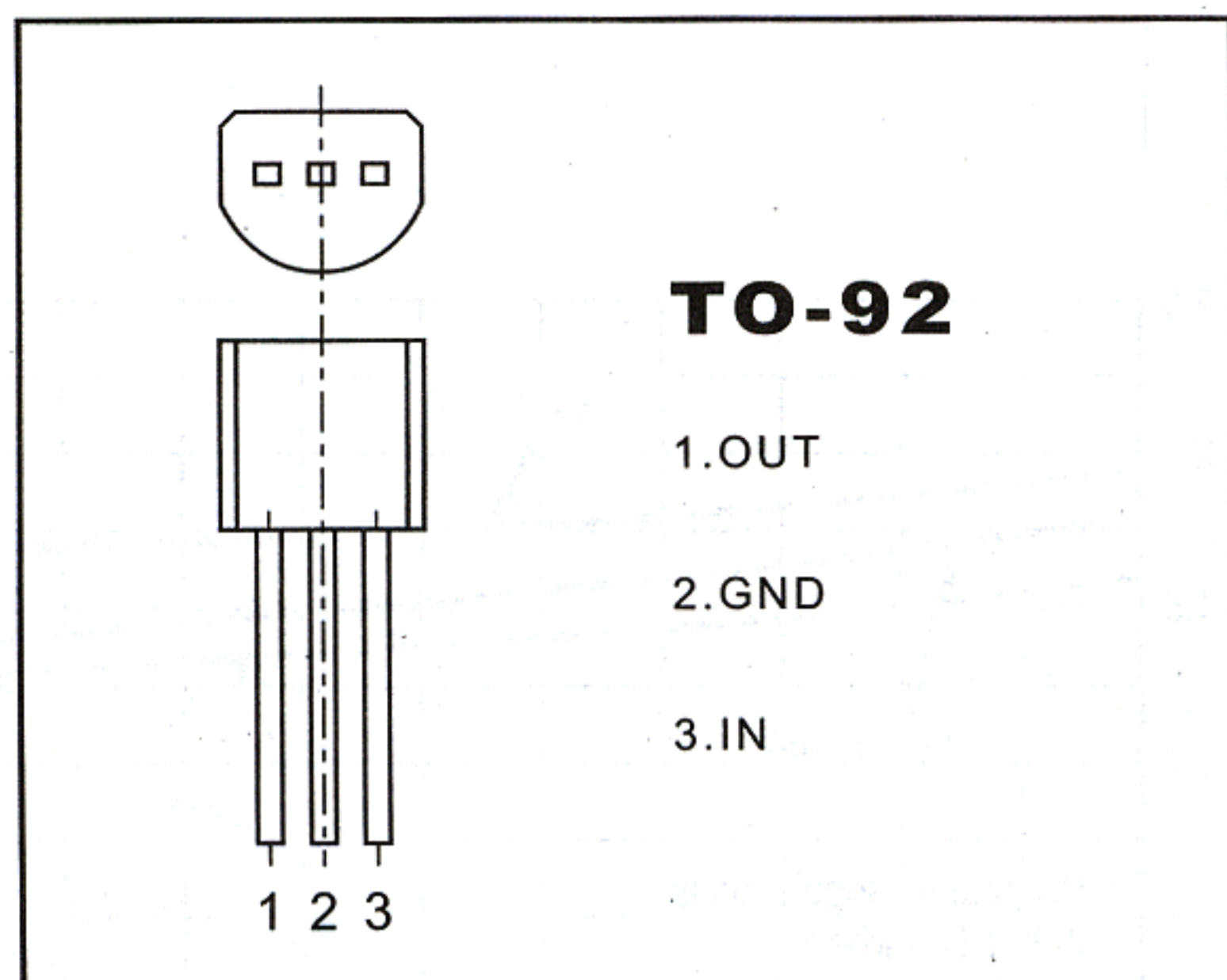


# Three-Terminal Low Current Voltage Regulators

## 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)

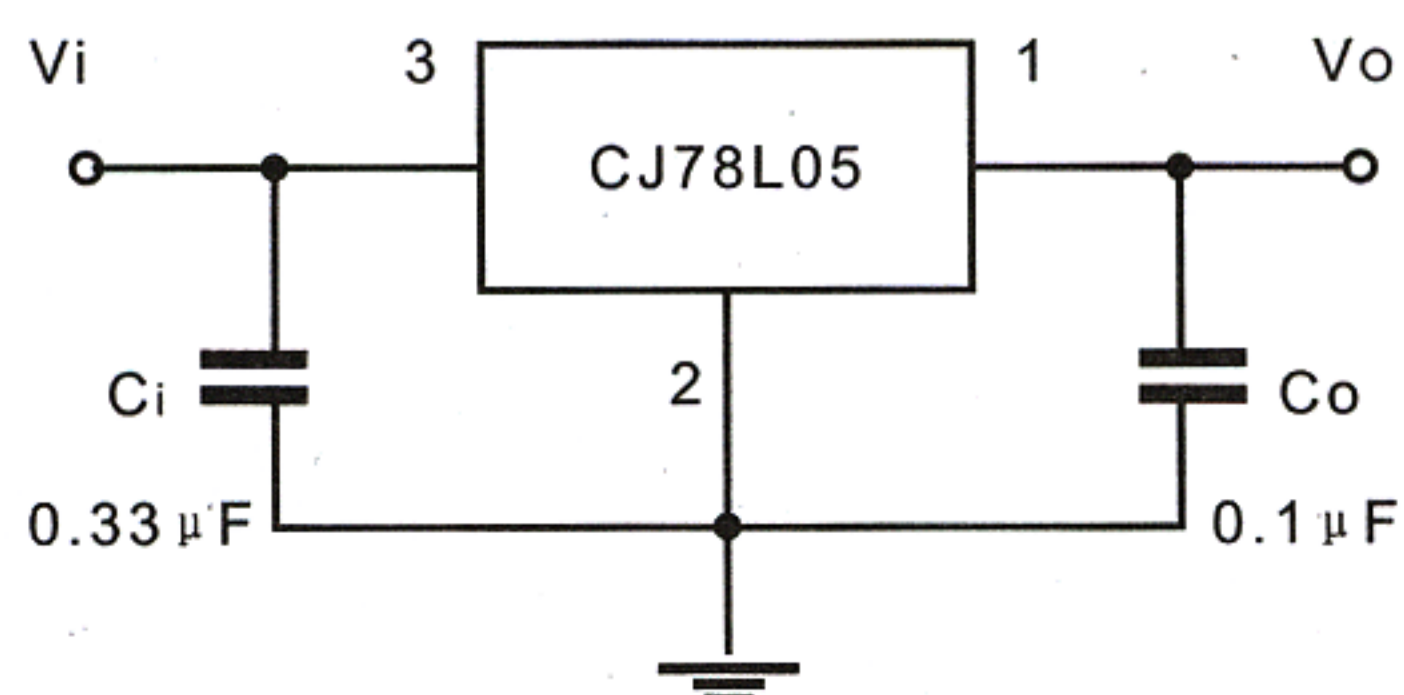
Parameter	Symbol	Value	Units
Input voltage	$V_i$	30	V
Operating junction temperature range	$T_{opr}$	-20-+120	°C
Storage temperature range	$T_{stg}$	-55-+150	°C

### ELECTRICAL CHARACTERISTICS

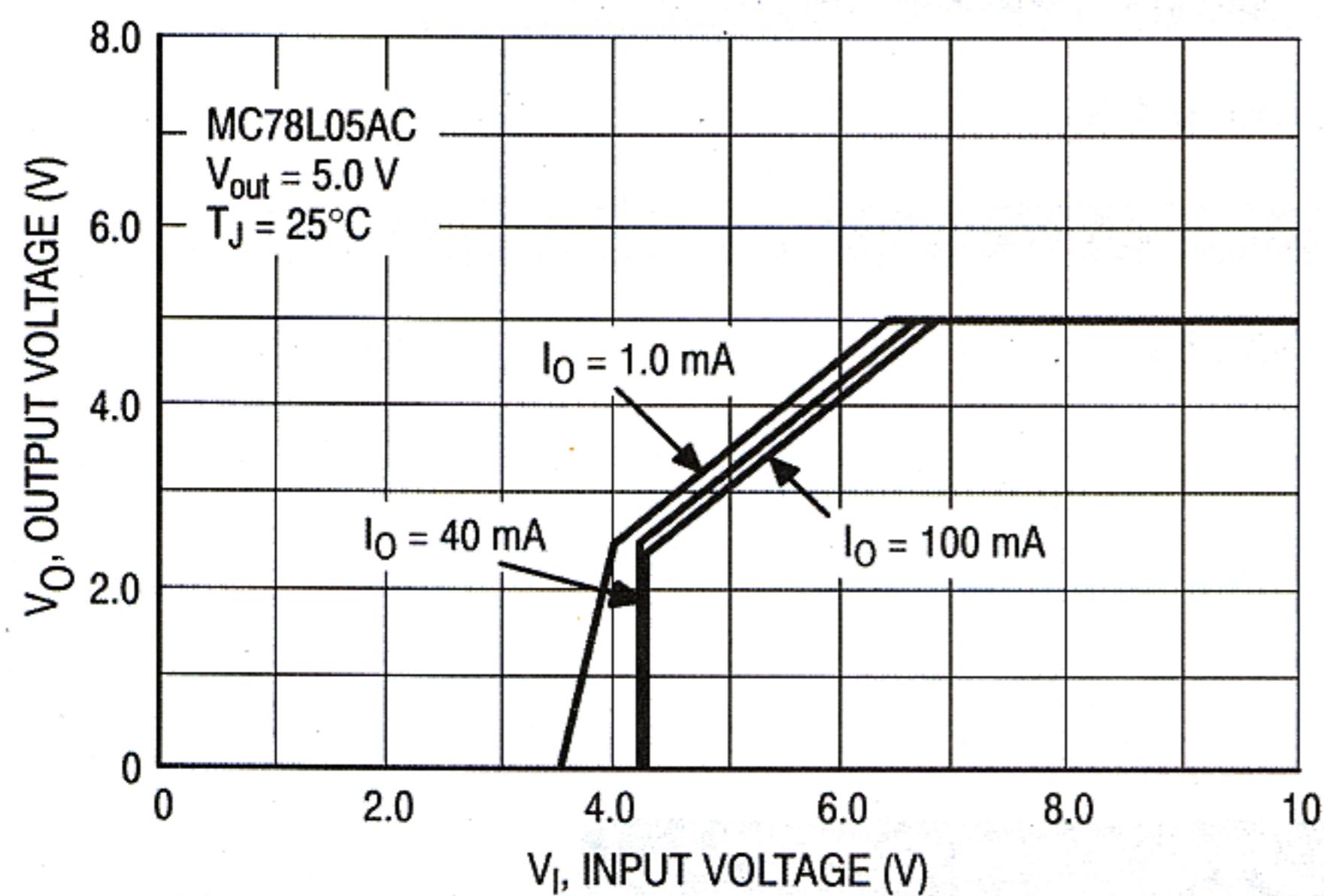
( $V_i=10V$ ,  $I_o=40mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  $C_1=0.33 \mu F$ ,  $C_o=0.1 \mu F$ , unless otherwise specified)

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

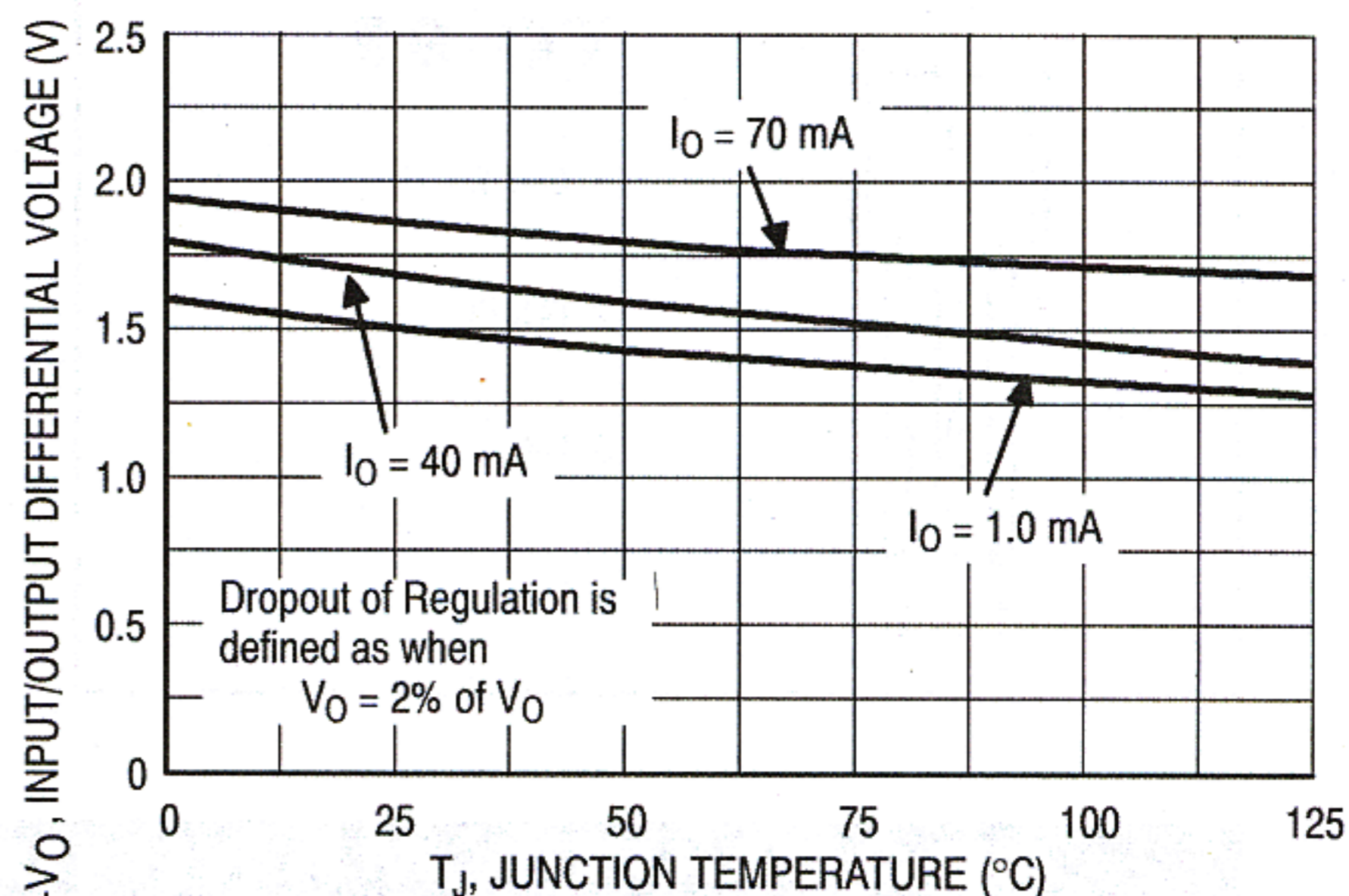
### TYPICAL APPLICATION



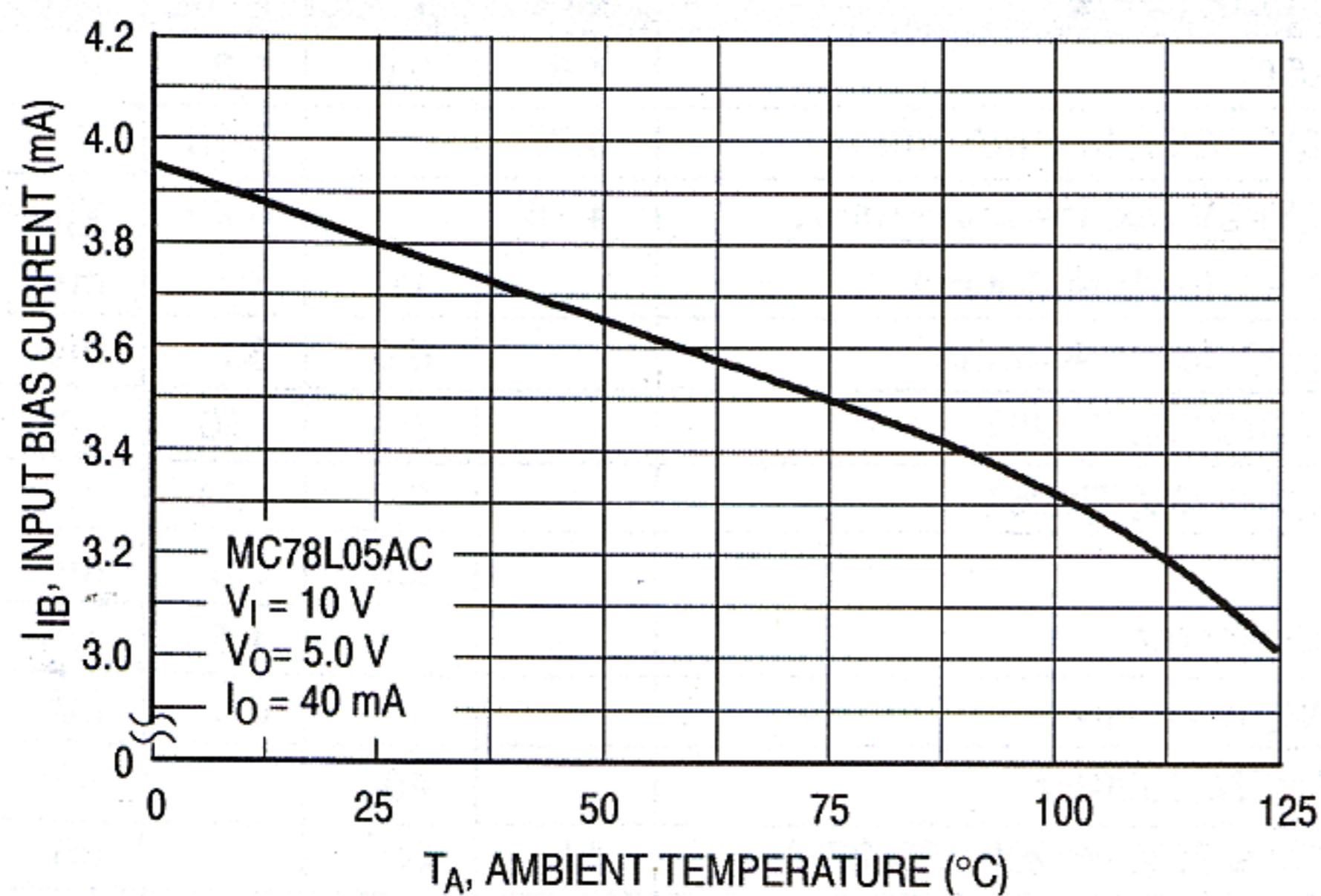
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.



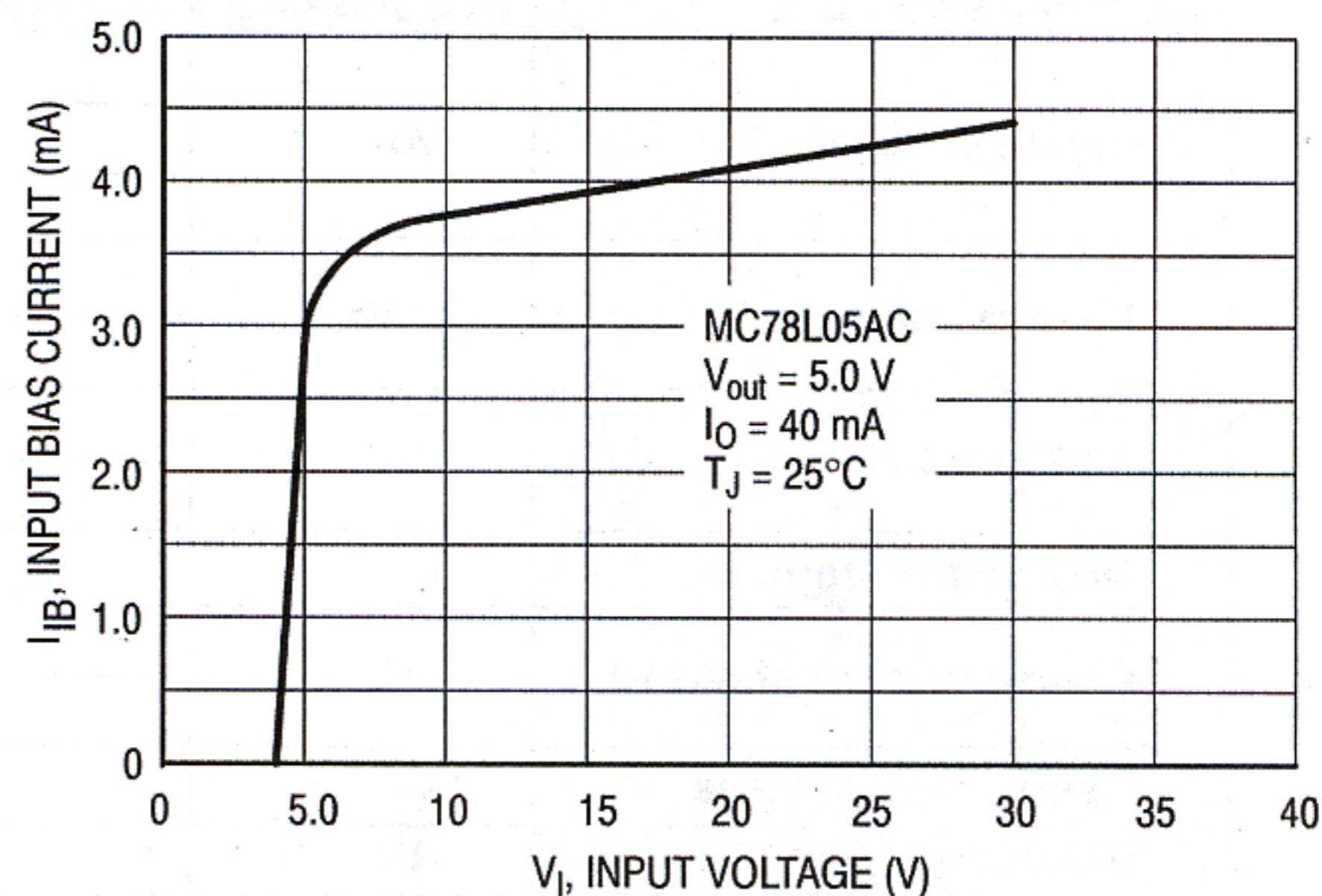
Dropout Characteristics



Dropout Voltage versus Junction Temperature



Input Bias Current versus Ambient Temperature



Input Bias Current versus Input Voltage