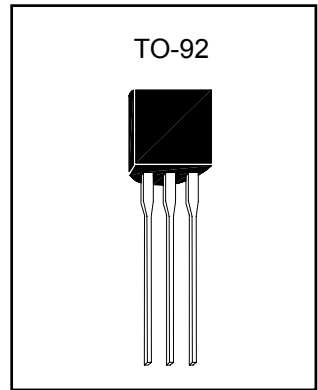


Three Terminal Low Current Negative Voltage Regulators

PL79L05XA3



Description

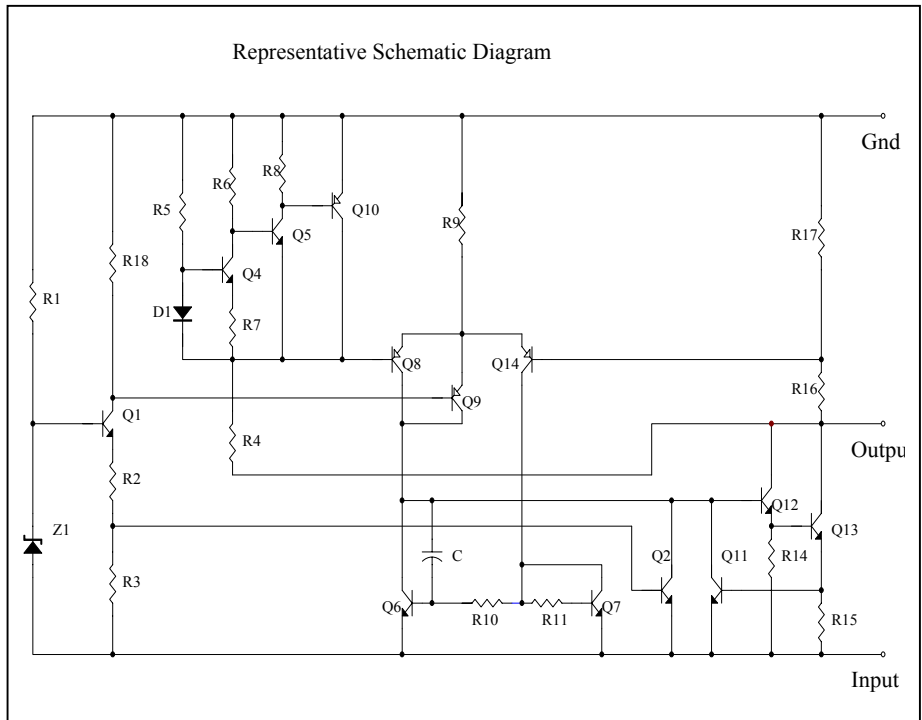
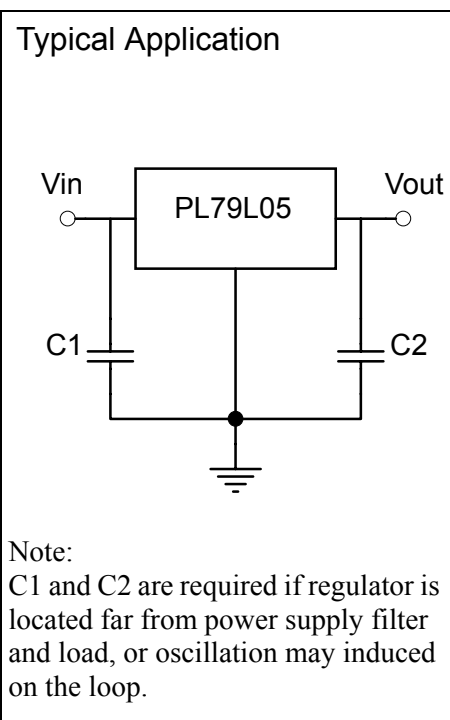
The PL79L05XA3 is an inexpensive, easy-to-use device suitable for numerous applications requiring up to 100mA. Like the higher powered PL7900E3 series negative regulators, this device features thermal shutdown and current limiting, making it remarkably rugged. In most applications, no external components are required for operation.

The PL79L05A3 device is useful for on-card regulation or any other application where a regulated negative voltage at a modest current level is needed. This regulator offers substantial advantage over the common resistor/zener diode approach.

- No external components required
- Internal short circuit current limiting
- Internal thermal overload protection
- Low cost
- Complementary positive regulators offered (PL78L05A3)
- Available in either $\pm 3\%$ or $\pm 5\%$ selection.

Absolute Maximum Ratings (Ta=25°C)

- Input Voltage.....-30V
- Total Power Dissipation..... Internally limited
- Operating Temperature Range..... 0 °C to +125 °C
- Maximum Junction Temperature.....+150 °C
- Storage Temperature Range.....-55 °C to +150 °C
- Lead Temperature (Soldering 10S).....260 °C





Ordering Information

Device	Output Voltage Tolerance
PL79L05AA3	3%
PL79L05BA3	5%

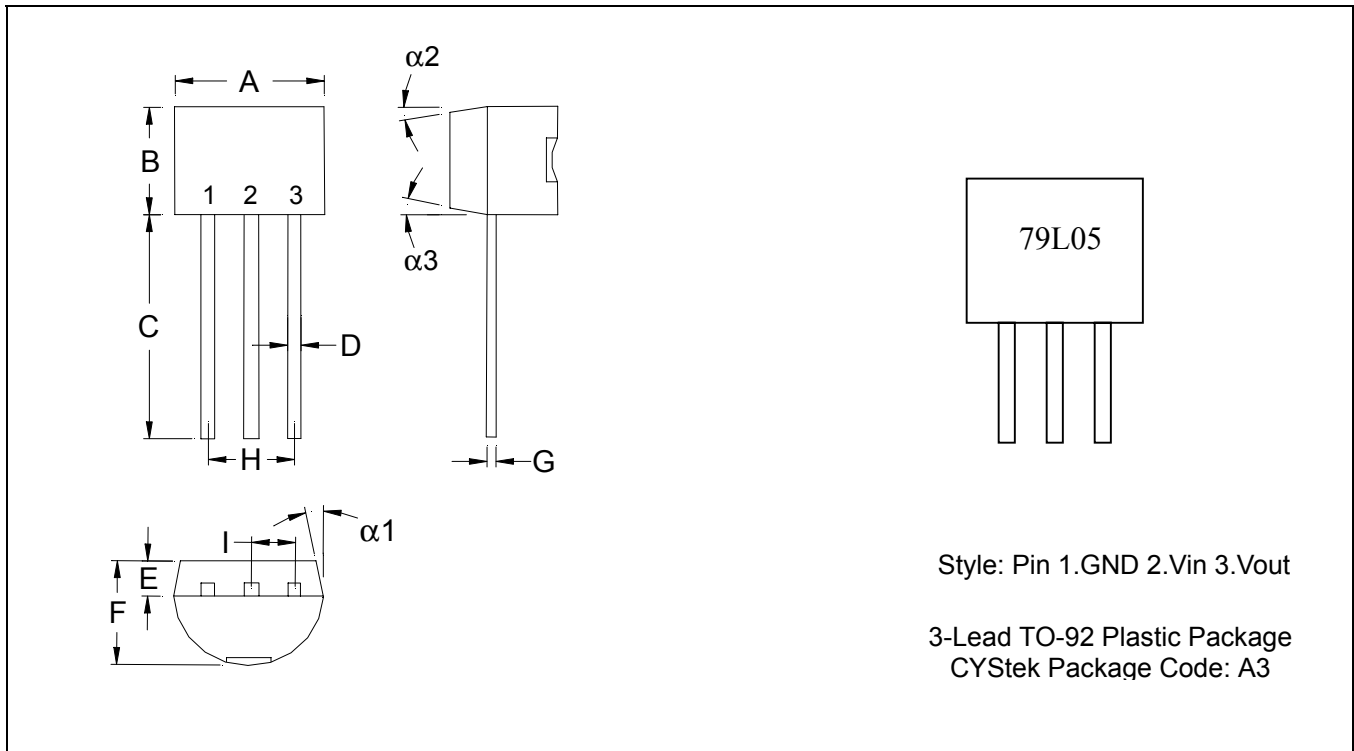
Electrical Characteristics

$V_{in} = -10V$, $I_{out} = 40mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{in} = 0.33\mu F$, $C_{out} = 0.1\mu F$ (unless otherwise noted)

Symbol	Parameter	Conditions	PL79L05A			Units
			Min	Typ	Max	
V_o	Output Voltage	$T_j = 25^{\circ}C$	-4.85	-5.00	-5.15	V
		$1mA \leq I_o \leq 70mA$	-4.8	-	-5.2	
		$1mA \leq I_o \leq 40mA$ and $-7V \geq V_{in} \geq -20V$	-4.8	-	-5.2	
ΔV_o	Line Regulation	$T_j = 25^{\circ}C$, $-7V \geq V_{in} \geq -20V$	-	-	150	mV
		$T_j = 25^{\circ}C$, $-8V \geq V_{in} \geq -20V$	-	-	100	
ΔV_o	Load Regulation	$T_j = 25^{\circ}C$, $1mA \leq I_o \leq 100mA$	-	-	60	mV
		$T_j = 25^{\circ}C$, $1mA \leq I_o \leq 40mA$	-	-	30	
IQ	Quiescent Current	$T_j = 25^{\circ}C$	-	-	6	mA
		$T_j = 125^{\circ}C$	-	-	5.5	
ΔIQ	Quiescent Current Change	$1mA \leq I_o \leq 40mA$	-	-	0.1	mA
		$-8V \geq V_{in} \geq -20V$	-	-	1.5	
V_n	Output Noise Voltage	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100KHz$	-	40	-	μV
$\Delta V_{in} / \Delta V_{out}$	Ripple Rejection	$-8V \geq V_{in} \geq -18V$, $f = 120Hz$	41	49	-	dB
VD	Dropout Voltage	$T_j = 25^{\circ}C$, $I_{out} = 40mA$	-	1.7	-	V

Symbol	Parameter	Conditions	PL79L05B			Units
			Min	Typ	Max	
V_o	Output Voltage	$T_j = 25^{\circ}C$	-4.8	-5.00	-5.2	V
		$1mA \leq I_o \leq 70mA$	-4.75	-	-5.25	
		$1mA \leq I_o \leq 40mA$ and $-7V \geq V_{in} \geq -20V$	-4.75	-	-5.25	
ΔV_o	Line Regulation	$T_j = 25^{\circ}C$, $-7V \geq V_{in} \geq -20V$	-	-	150	mV
		$T_j = 25^{\circ}C$, $-8V \geq V_{in} \geq -20V$	-	-	100	
ΔV_o	Load Regulation	$T_j = 25^{\circ}C$, $1mA \leq I_o \leq 100mA$	-	-	60	mV
		$T_j = 25^{\circ}C$, $1mA \leq I_o \leq 40mA$	-	-	30	
IQ	Quiescent Current	$T_j = 25^{\circ}C$	-	-	6	mA
		$T_j = 125^{\circ}C$	-	-	5.5	
ΔIQ	Quiescent Current Change	$1mA \leq I_o \leq 40mA$	-	-	0.1	mA
		$-8V \geq V_{in} \geq -20V$	-	-	1.5	
V_n	Output Noise Voltage	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100KHz$	-	40	-	μV
$\Delta V_{in} / \Delta V_{out}$	Ripple Rejection	$-8V \geq V_{in} \geq -18V$, $f = 120Hz$	41	49	-	dB
VD	Dropout Voltage	$T_j = 25^{\circ}C$, $I_{out} = 40mA$	-	1.7	-	V

TO-92 Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	α1	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	α2	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	α3	-	*2°	-	*2°

- Notes: 1.Controlling dimension: millimeters.
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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