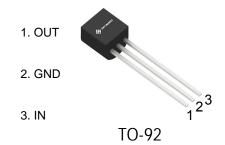


#### **Features**

- Available Output Voltage:5.0V
- Maximum Input Voltage: 30V for V<sub>OUT</sub> < 10V</li>
- Maximum Output Current:
   Exceed 100mA at T<sub>J</sub> = 25°C
- Output Tolerances:
   ±3% at T<sub>J</sub> = 25°C
   ±5% over the Operating T<sub>J</sub>
- No External Components

# **Pin Configuration**



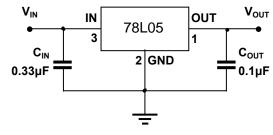
### **Package Marking and Ordering Information**

Product ID	Pack	Marking	Qty(PCS)	
78L05	TO-92	78L05	1000	

### **Applications**

- TV Board
- Air Conditioner
- Vehicle Mounted Radar
- Charging Device

## **Typical Application Circuit**



**Conventional Circuit** 



### **Absolute Maximum Ratings**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Maximum input voltage	V <sub>IN</sub>	30	V
Maximum junction temperature	ТЈ Мах	150	°C
Storage temperature	T <sub>stg</sub>	- 65 ~ 150	°C
Soldering temperature & time	T <sub>solder</sub>	260°C, 10s	-

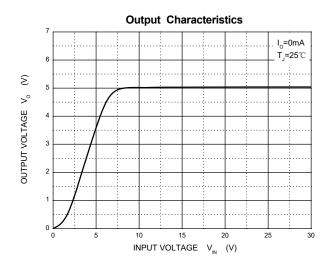
#### **Electrical Characteristics**

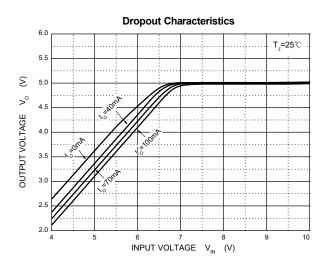
78L05 (V  $_{OUT}$  = 5.0V, V $_{IN}$  = 10V, I $_{OUT}$  = 40mA, C $_{IN}$  = 0.33 $\mu$ F, C $_{OUT}$  = 0.1 $\mu$ F, T $_{J}$  = 25°C, unless otherwise specified)

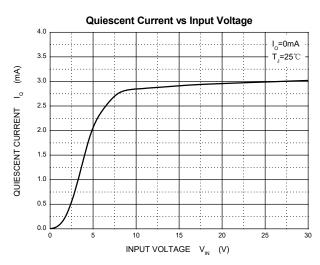
CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT	
Input voltage	VIN	-	-	-	30	V	
	Vouт	T <sub>J</sub> = 25°C	4.85	5.00	5.15	V	
Output voltage		V <sub>IN</sub> = 7 to 20V, I <sub>OUT</sub> = 1 to 40mA	4.75	5.00	5.25		
		I <sub>OUT</sub> = 1 to 70mA	4.75	5.00	5.25		
Output current	Іоит	T <sub>J</sub> = 25°C	100	-	-	mA	
Quiescent current	ΙQ	I <sub>OUT</sub> = 0mA	-	3.8	6.0	mA	
Quiescent current	$\Delta I_{Q}$	V <sub>IN</sub> = 8 to 20V	-	-	1.5	mA	
change		I <sub>OUT</sub> = 1 to 40mA	-	-	0.1	mA	
Dropout voltage	V <sub>DO</sub>	T <sub>J</sub> = 25°C	-	1.7	-	V	
Line regulation	ΔV <sub>LINE</sub>	V <sub>IN</sub> = 7 to 20V, T <sub>J</sub> = 25°C	-	32	150	m)/	
Line regulation		V <sub>IN</sub> = 8 to 20V, T <sub>J</sub> = 25°C	-	26	100	mV	
Load regulation	ΔVLOAD	I <sub>OUT</sub> = 1 to 100mA, T <sub>J</sub> = 25°C	-	15	60	- mV	
Load regulation		I <sub>OUT</sub> = 1 to 40mA, T <sub>J</sub> = 25°C	-	8	30		
Output noise voltage	V <sub>N</sub>	f = 10 to 100kHz, T <sub>J</sub> = 25°C		42	-	μV/V <sub>OUT</sub>	
Ripple rejection	RR	V <sub>IN</sub> = 8 to 20V, f = 120Hz	41	49	_	dB	

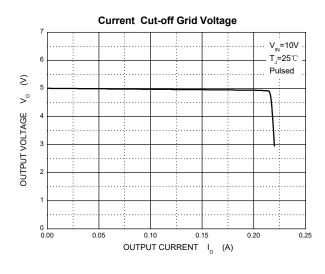


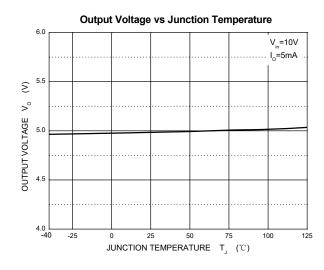
## **Typical Characteristics**

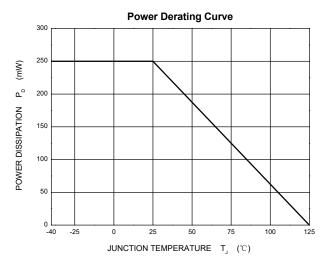






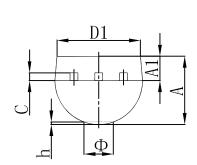


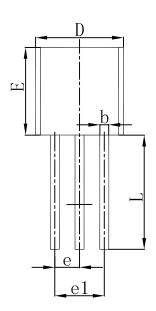






# **TO-92 Package Outline Dimensions**





Cymab al	Dimensions In Millimeters		Dimensions In Inches			
Symbol	Min	Max	Min	Max		
Α	3.300	3.700	0.130	0.146		
A1	1.100	1.400	0.043	0.055		
b	0.380	0.550	0.015	0.022		
С	0.360	0.510	0.014	0.020		
D	4.300	4.700	0.169	0.185		
D1	3.430		0.135			
E	4.300	4.700	0.169	0.185		
е	1.27	1.270 TYP		0.050 TYP		
e1	2.440	2.640	0.096	0.104		
L	14.100	14.500	0.555	0.571		
Ф		1.600		0.063		
h	0.000	0.380	0.000	0.015		



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