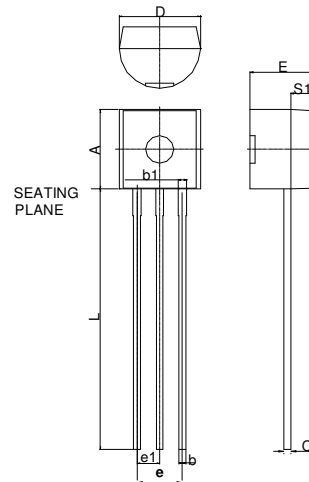


TO-92

Description

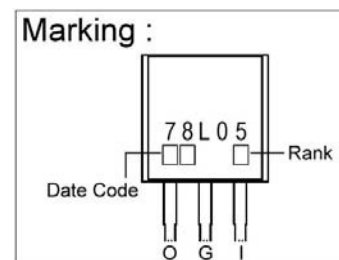
The S78L05 series of regulators are easy-to-use devices suitable for multitude of applications that require a regulated supply of up to 100mA. These regulators feature internal current limiting and thermal shutdown making them remarkably rugged. No external components are required with the S78L05 devices in many applications. These devices offer a substantial performance advantage over the traditional zener diode resistor combination, as output impedance and quiescent current are substantially reduced.



Features

- * Internal Short-Circuit Current Limiting
- * No External Components Required
- * Internal Thermal Overload Protection

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.45	4.7	D	4.44	4.7
S1	1.02	-	E	3.30	3.81
b	0.36	0.51	L	12.70	-
b1	0.36	0.76	e1	1.150	1.390
C	0.36	0.51	e	2.42	2.66



Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Input Voltage	V_{IN}	30	V
Output Current	I_o	100	mA
Operating Junction Temperature Range	T_J	0~+125	°C
Storage Temperature Range	T_{stg}	-55~+150	°C
Total Power Dissipation	P_D	500	mW

Electrical Characteristics at Ta=25°C (Vi=10V, Io=40mA, Tj=25°C, Ci=0.33uF, Co=0.1uF unless otherwise specified) (Note1)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
VO	S-Rank (1%)	4.95	5	5.05	V	Io = 40mA, Vin=10V, Tj=25°C Io = 1mA - 40mA, 7V ≤ Vin ≤ 20V Io = 1mA - 70mA, 7V ≤ Vin ≤ Vmax (Note2)
	A-Rank (3%)	4.85	5	5.15		
	B-Rank (5%)	4.75	5	5.25		
ΔVO (Line Regulation)	-	18	75	mV	7V ≤ Vin ≤ 20V	
	-	10	54		8V ≤ Vin ≤ 20V	
ΔVO (Load Regulation)	-	20	60	mV	Io = 1mA - 100mA	
	-	5.0	30		Io = 1mA - 40mA	
IQ	-	3.0	5.0	mA	Tj=25°C, Vin=10V, Io=0mA	
Δ IQ	-	-	1.0	mA	8V ≤ Vin ≤ 20V	
	-	-	0.1		1mA ≤ Io ≤ 40mA	
Vn	-	40	-	μV	10Hz ≤ f ≤ 100KHz	
RR	47	62	-	dB	8V ≤ Vin ≤ 20, f=120Hz, Tj=25°C	
ΔVo / ΔT	-	-0.65	-	mV/°C	Tj= 0°C ~ +125°C, Io= 5mA	
VD	-	1.7	-	V	Tj=25°C	

- Note: 1. The Max. steady state usable output current is dependent on input voltage, heat sinking, lead length of the package and copper of PCB. The data above represent pulse test conditions with junction temperatures specified at the initiation of test.
2. Power dissipation < 0.5W

Characteristics Curve

