

GTM**CORPORATION**ISSUED DATE :2004/02/18
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GSC78L05

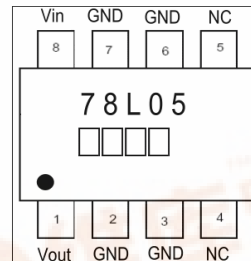
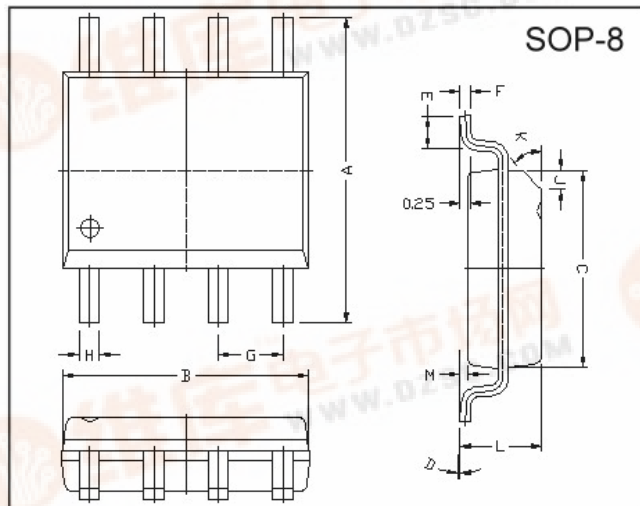
Description

The GSC78L05 of surface mount device regulator is easy-to-use device suitable for multitude of applications that require a regulated supply of up to 100mA. The regulator feature internal current limiting and thermal shutdown making them remarkably rugged. No external components are required with the GSC78L05 device in many applications.

The device offer a substantial performance advantage over the traditional zener diode resistor combination, as output impedance and quiescent current are substantially reduced.

- Wide Range Of Available, Fixed Output Voltages
- Internal Short-Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required

Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	5.20	M	0.10	0.25
B	4.80	5.00	H	0.35	0.49
C	3.80	4.00	L	1.35	1.75
D	0°	8°	J	0.375 REF.	
E	0.40	0.90	K	45°	
F	0.19	0.25	G	1.27 TYP.	

Absolute Maximum Ratings (Note1)

Parameter	Ratings	Unit
Input Voltage	30	V
Operating Junction Temperature Range	-20 ~ +150	°C
Storage Temperature Range	-55 ~ +150	°C
Output Current	100	mA
Power Dissipation	750	mW

Characteristics at Ta = 25°C (Vi=10V, Io=40mA, Tj=25°C, C1=0.33uF, Co=0.1uF unless otherwise specified)

Rank A (3%)				Unit	Test Conditions
Symbol	Min.	Typ.	Max.		
VO	4.85	5	5.15	V	Tj=25°C
	4.85	5	5.15		Io=1mA - 40mA, 7V ≤ Vin ≤ 20V Io=1mA - 70mA, 7V ≤ Vin ≤ Vmax (Note2)
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	5	mA	Tj=25°C, Vin=10V, Io=0mA
Δ IQ	-	-	1.0	mA	8V ≤ Vin ≤ 20V
	-	-	0.1		1mA ≤ Io ≤ 40mA

Rank A (3%)				Unit	Test Conditions
Symbol	Min.	Typ.	Max.		
Vn	-	40	-	uV	10Hz ≤ f ≤ 100KHz (Note3)
RR	47	62	-	dB	8V ≤ Vin ≤ 18, f=120Hz, Tj=25°C
ΔVo/ΔT		-0.65		mV/°C	Io=5mA
Ipk		140		mA	
VIN(Min)	-	6.7	7	V	Tj=25°C
θ JA		230.9		°C/W	

Characteristics at Ta = 25°C

(Vi=10V, Io=40mA, Tj=25°C, C1=0.33uF, Co=0.1uF unless otherwise specified)

RankB (5%)				Unit	Test Conditions
Symbol	Min.	Typ.	Max.		
VO	4.75	5	5.25	V	Tj=25°C
	4.75	5	5.25		Lo=1mA - 40mA, 7V ≤ Vin ≤ 20V Io=1mA - 70mA, 7V ≤ Vin ≤ Vmax (Note2)
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	5	mA	Tj=25°C, Vin=10V, Io=0mA
Δ IQ	-	-	1.0	mA	8V ≤ Vin ≤ 20V
	-	-	0.1		1mA ≤ Io ≤ 40mA
Vn	-	40	-	uV	10Hz ≤ f ≤ 100KHz (Note3)
RR	47	62	-	dB	8V ≤ Vin ≤ 18, f=120Hz, Tj=25°C
ΔVo/ΔT		-0.65		mV/°C	Io=5mA
Ipk		140		mA	
VIN(Min)	-	6.7	7	V	Tj=25°C
θ JA		230.9		°C/W	

Note1: Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Electrical specifications do not apply when operating the device outside of its stated operating conditions.

Note2: Power dissipation ≤ 0.75W.

Note3: Recommended minimum load capacitance of 0.01uF to limit high frequency noise.

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