



SOT-23-3L D`UghWEncapsulate Voltage Regulators

78L05 ~~AT~~ Three-terminal positive voltage regulator

FEATURE

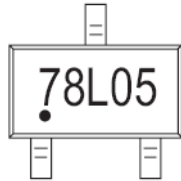
Maximum Output Current I_o : 0.1 A

Output Voltage V_o : 5 V

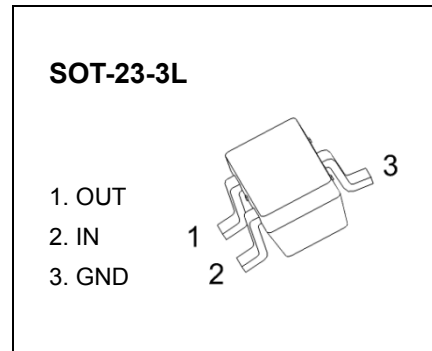
Continuous Total Dissipation

P_D : 0.65 W ($T_a = 25^\circ\text{C}$)

MARKING:



Solid dot = Green molding compound device,
if none, the normal device.



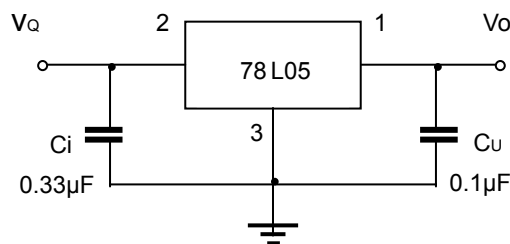
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	0 ~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

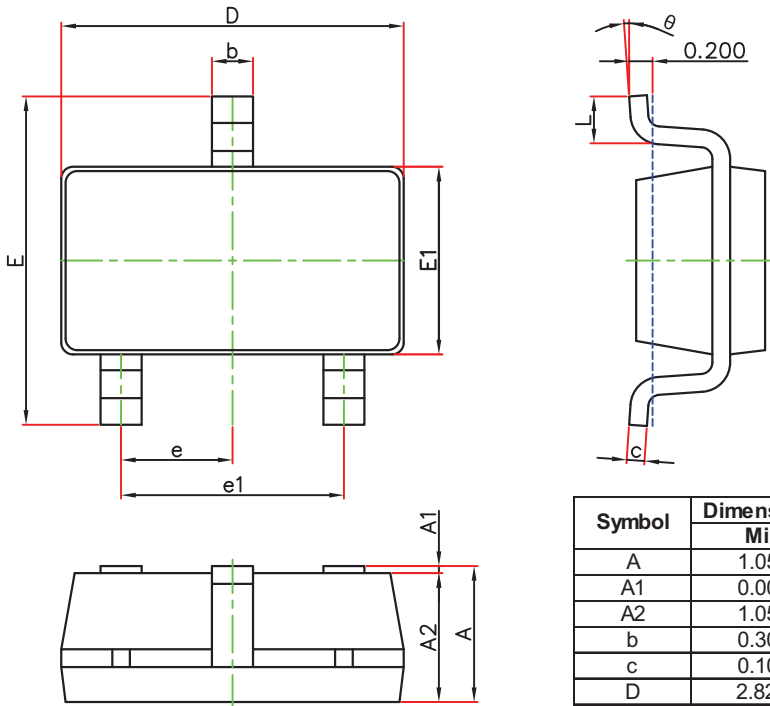
Parameter	Symbol	Test conditions	M_j	T_{nd}	MU	U_{bjh}	
Output voltage	V_o	25°C	4.8	5.0	5.2	V	
		0-125 $^\circ\text{C}$	$7\text{V} \leq V_i \leq 20\text{V}, I_o = 1\text{mA} \sim 40\text{mA}$	4.75	5.0	5.25	V
			$I_o = 1\text{mA} \sim 70\text{mA}$	4.75	5.0	5.25	V
Load regulation	ΔV_o	$I_o = 1\text{mA} \sim 100\text{mA}$ 25°C		15	60	mV	
		$I_o = 1\text{mA} \sim 40\text{mA}$ 25°C		8	30	mV	
Line regulation	ΔV_o	$7\text{V} \leq V_i \leq 20\text{V}$		32	150	mV	
		$8\text{V} \leq V_i \leq 20\text{V}$ 25°C		26	100	mV	
Quiescent current	I_q	25°C		3.8	6	mA	
Quiescent current change	ΔI_q	$8\text{V} \leq V_i \leq 20\text{V}$ 0-125 $^\circ\text{C}$			1.5	mA	
		$1\text{mA} \leq I_o \leq 40\text{mA}$ 0-125 $^\circ\text{C}$			0.1	mA	
Output noise voltage	V_N	$10\text{Hz} \leq f \leq 100\text{Hz}$ 25°C				1 V	
Ripple rejection	RR	$8\text{V} \leq V_i \leq 20\text{V}, f=120\text{Hz}$ 0-125 $^\circ\text{C}$	41	49		dB	
Dropout voltage	V_d	25°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 regulator .

SOT-23-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-3L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

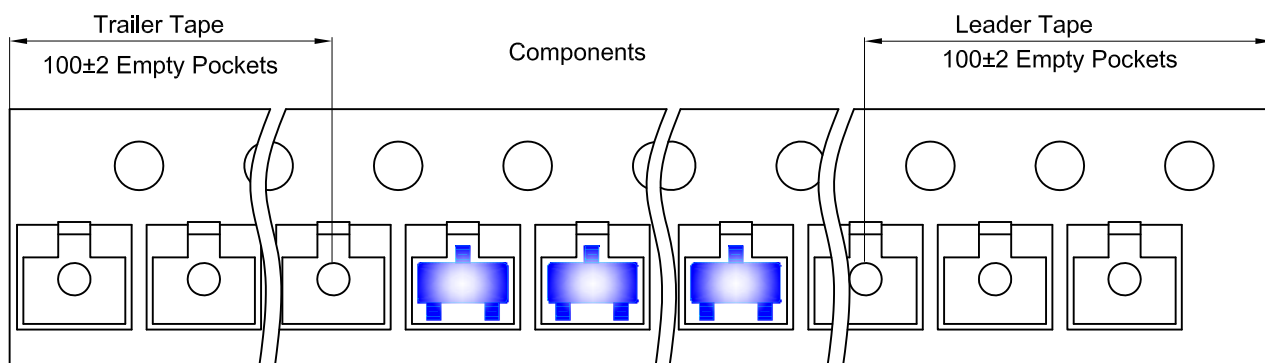
SOT-23-3L Tape and Reel

SOT-23-3L Embossed Carrier Tape

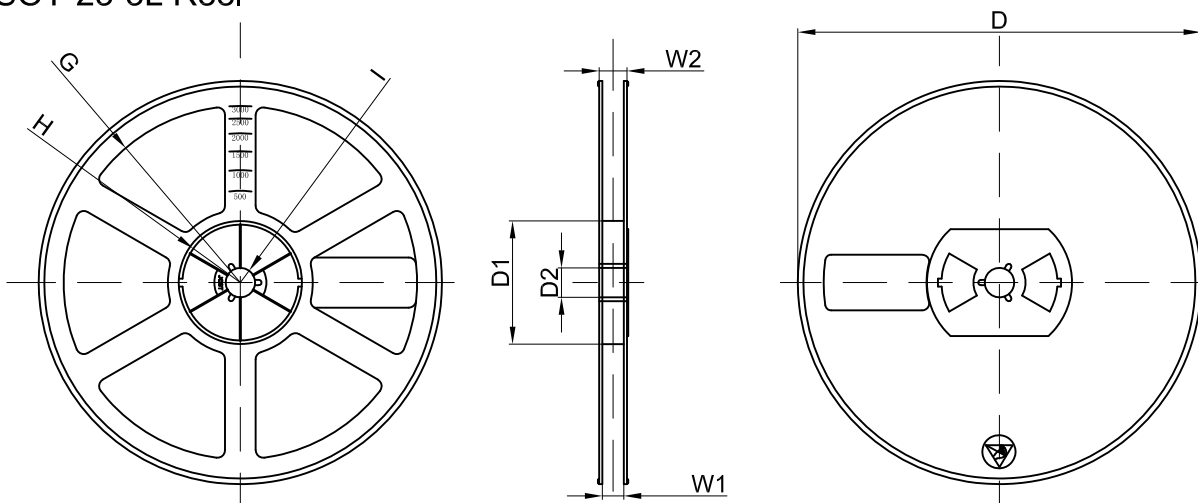


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23-3L	3.18	3.28	1.32	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-3L Tape Leader and Trailer



SOT-23-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	