

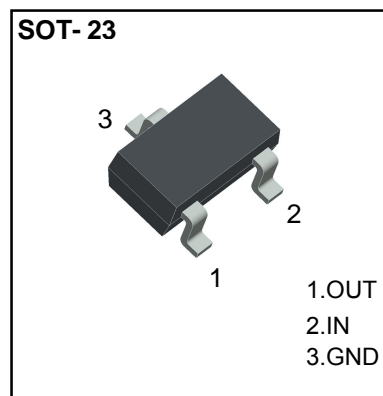
## SOT-23 D'UghjWEncapsulate Voltage Regulators

Three-terminal positive voltage regulator

### Feature

- Maximum output current  
 $I_{OM}: 0.1A$
- Output voltage  
 $V_O: 5V$
- Continuous total dissipation  
 $P_D: 0.25 W(T_a = 25^\circ C)$

Marking: 78L05



**Absolute Maximum Ratings** (Operating temperature Range applies unless otherwise specified.)

Parameters	Symbol	Value	Unit
Input Voltage	$V_i$	30	V
Operating Junction Temperature Range	$T_{OPR}$	-40-+125	$^\circ C$
Storage Temperature Range	$T_{stg}$	-65-+150	$^\circ C$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	$^\circ C/W$

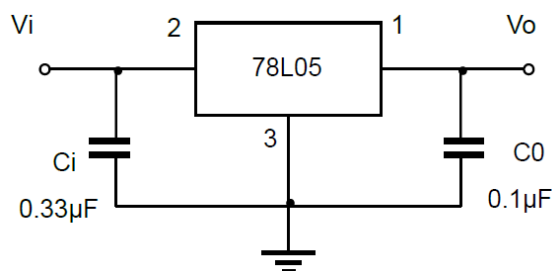
### Electrical Characteristics at Specified Virtual Junction Temperature

( $V_i=10V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified).

Parameter	Symbols	Test Condition	Limits			Unit		
			Min	Typ	Max			
Output Voltage	$V_o$		25 $^\circ C$	4%	4.80	5.00	5.20	V
				4.85	5.00	5.15	V	
		$7V \leq V_i \leq 20V, I_o = 1mA \sim 40mA$	0-125 $^\circ C$	4.90	5.00	5.10	V	
				4.75	5.00	5.25	V	
Load Regulation	$\Delta V_o$	$I_o = 1mA \sim 100mA$	25 $^\circ C$		15	60	mV	
		$I_o = 1mA \sim 40mA$	25 $^\circ C$		8	30	mV	
Line Regulation	$\Delta V_o$	$7V \leq V_i \leq 20V$			32	150	mV	
		$8V \leq V_i \leq 20V$	25 $^\circ C$		26	100	mV	
Quiescent Current	$I_q$		25 $^\circ C$		3.8	6	mA	
Quiescent Current Change	$\Delta I_q$	$8V \leq V_i \leq 20V$	0-125 $^\circ C$			1.5	mA	
	$\Delta I_q$	$1mA \leq I_i \leq 40mA$	0-125 $^\circ C$			0.1	mA	
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$	25 $^\circ C$		42		$\mu V/V_o$	
Ripple Rejection	$RR$	$8V \leq V_i \leq 20V, f=120Hz$	0-125 $^\circ C$	41	49		dB	
Dropout Voltage	$V_d$		25 $^\circ C$		1.7		V	

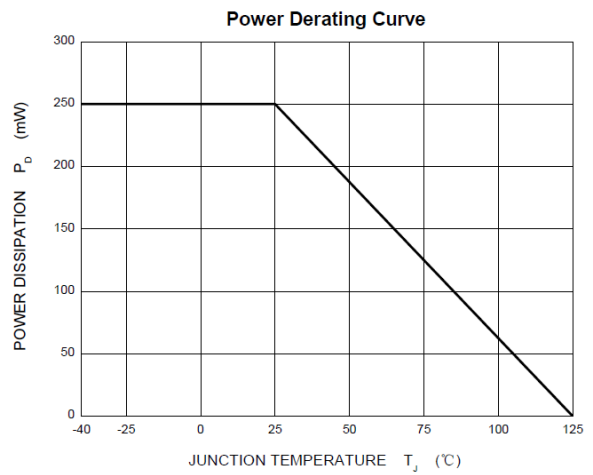
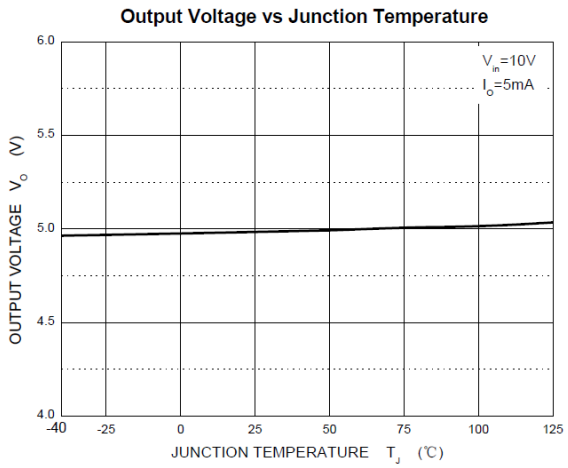
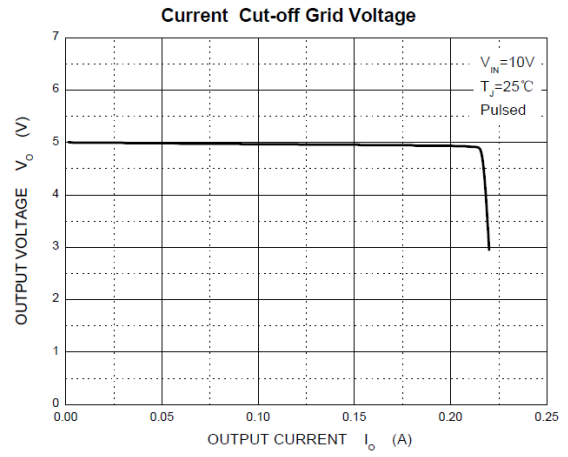
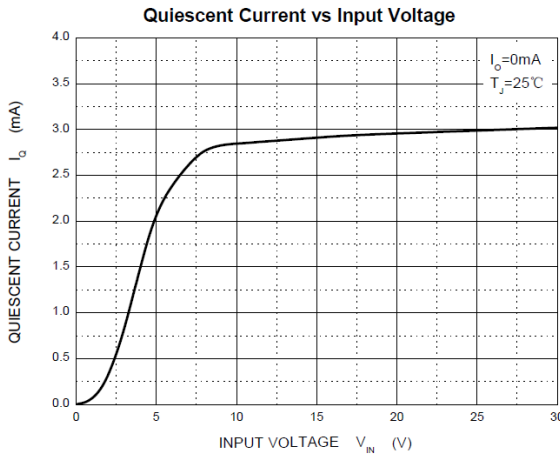
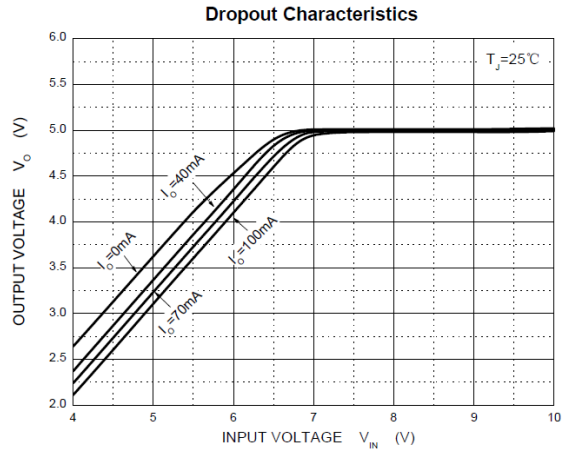
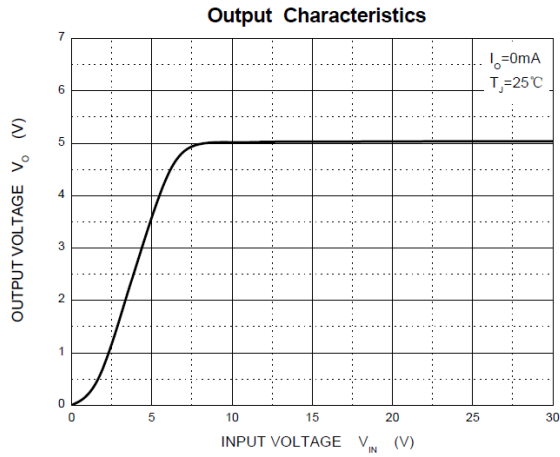
\* Pulse test.

TYPICAL APPLICATION

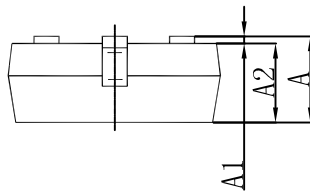
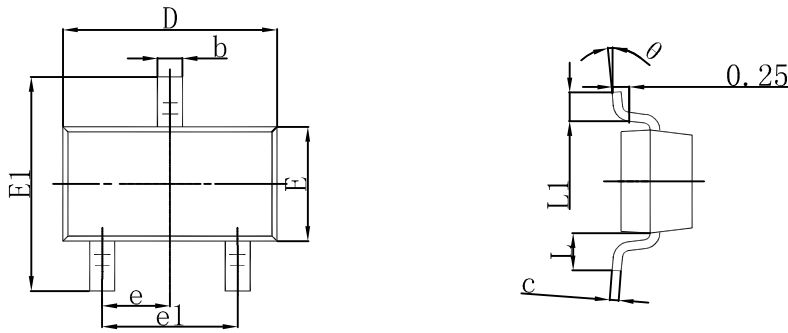


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

# Typical Characteristics

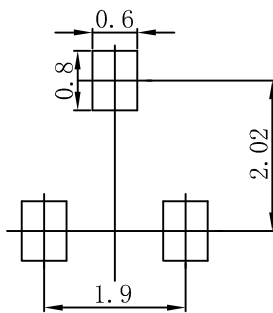


## SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



### Note:

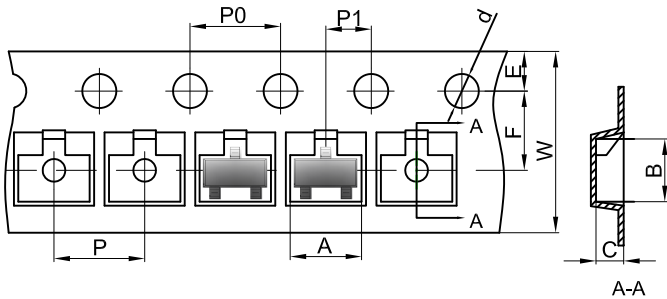
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.

# Reel Taping Specifications For Surface Mount Devices-SOT-23

## SOT-23 Embossed Carrier Tape

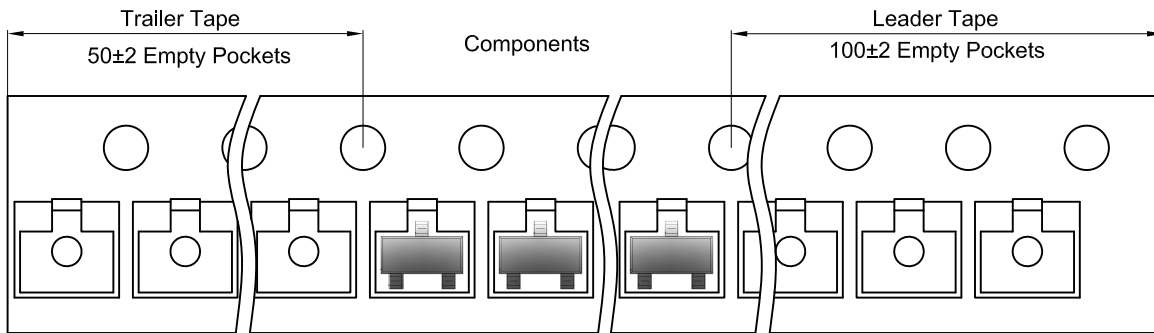


### Packaging Description:

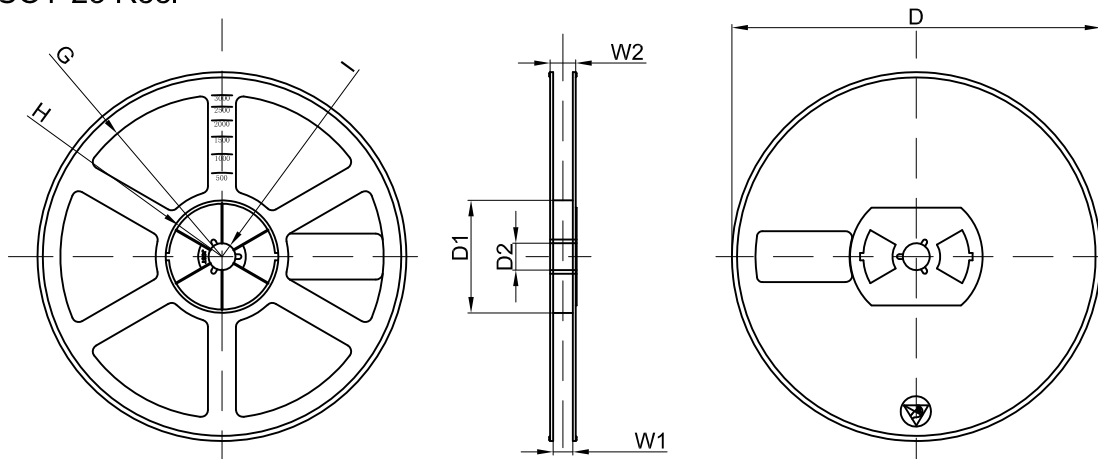
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-23 Tape Leader and Trailer



## SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×230	