

SOT-23-3L D^{Ugh}W Encapsulate Voltage Regulators

CJ78L05 Three-terminal positive voltage regulator

FEATURE

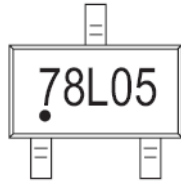
Maximum Output Current I_o : 0.1 A

Output Voltage V_o : 5 V

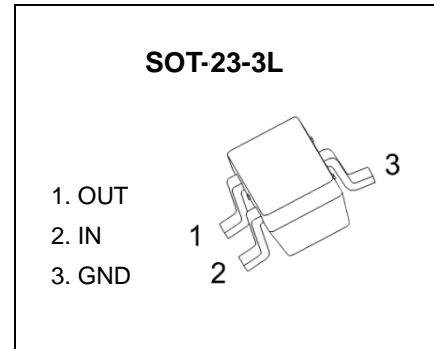
Continuous Total Dissipation

P_D : 0.25 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)

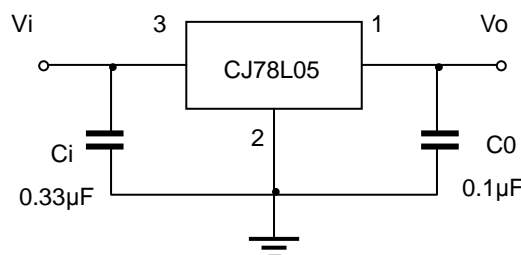
Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

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	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V_o	$7V \leq V_i \leq 20V, I_o = 1mA \sim 40mA$	25 $^\circ\text{C}$	4.80	5.0	5.20	V
				4.85	5.0	5.15	V
				4.90	5.0	5.10	V
				$I_o = 1mA \sim 70mA$	0-125 $^\circ\text{C}$	4.75	5.0
Load Regulation	ΔV_o	$I_o = 1mA \sim 100mA$	25 $^\circ\text{C}$		15	60	mV
		$I_o = 1mA \sim 40mA$	25 $^\circ\text{C}$		8	30	mV
Line regulation	ΔV_o	$7V \leq V_i \leq 20V$			32	150	mV
		$8V \leq V_i \leq 20V$	25 $^\circ\text{C}$		26	100	mV
Quiescent Current	I_q		25 $^\circ\text{C}$		3.8	6	mA
Quiescent Current Change	ΔI_q	$8V \leq V_i \leq 20V$	0-125 $^\circ\text{C}$			1.5	mA
	ΔI_q	$1mA \leq V_i \leq 40mA$	0-125 $^\circ\text{C}$			0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	25 $^\circ\text{C}$		42		$\mu V/V_o$
Ripple Rejection	RR	$8V \leq V_i \leq 20V, f = 120Hz$	0-125 $^\circ\text{C}$	41	49		dB
Dropout Voltage	V_d		25 $^\circ\text{C}$		1.7		V

* Pulse test.

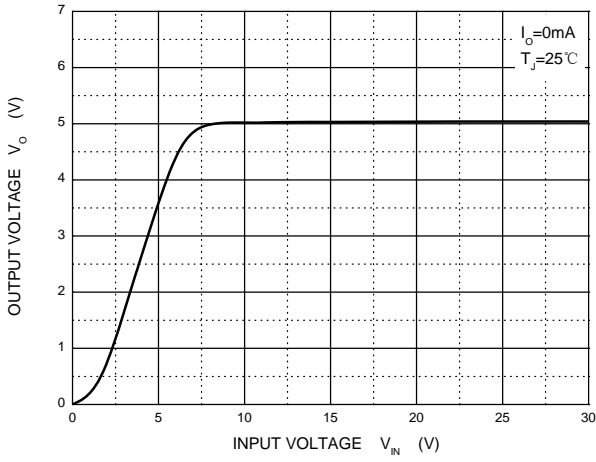
TYPICAL APPLICATION



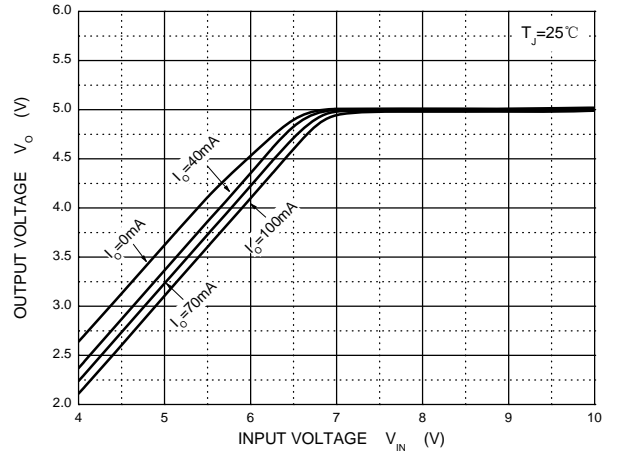
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

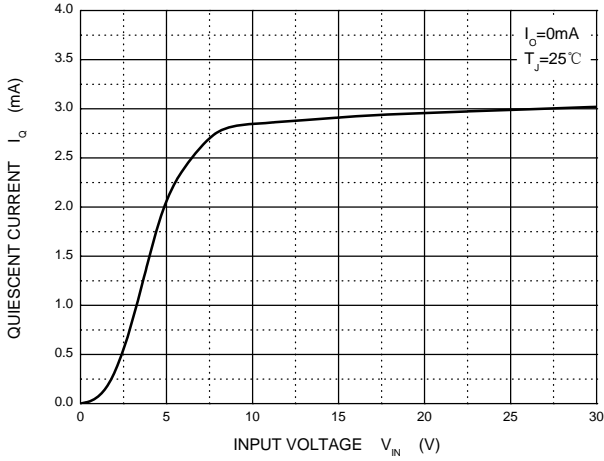
Output Characteristics



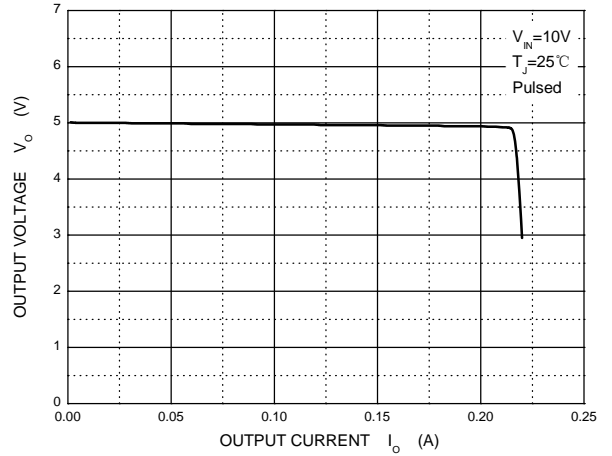
Dropout Characteristics



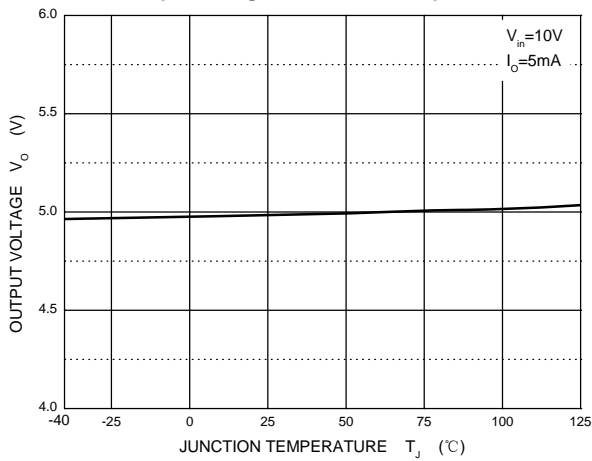
Quiescent Current vs Input Voltage



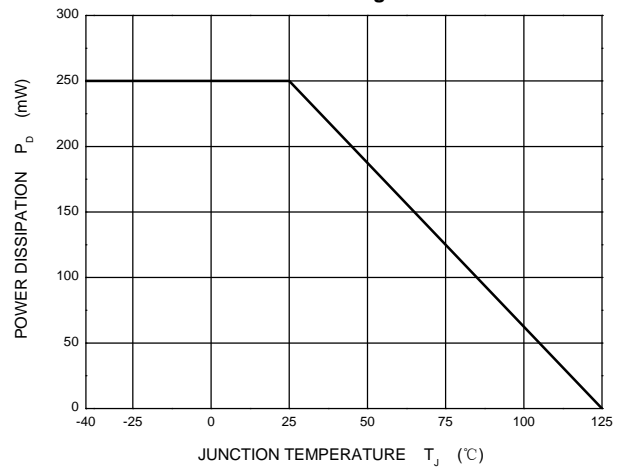
Current Cut-off Grid Voltage



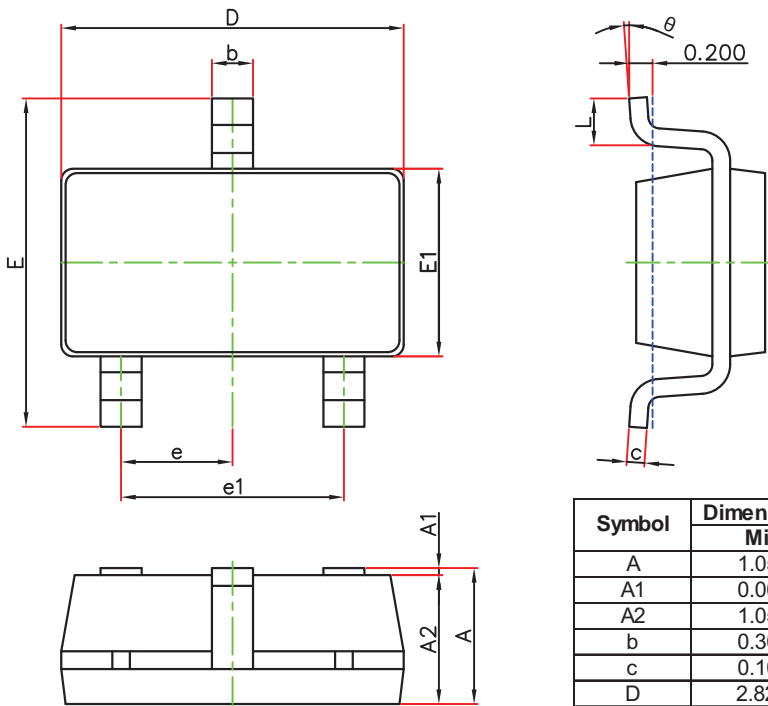
Output Voltage vs Junction Temperature



Power Derating Curve

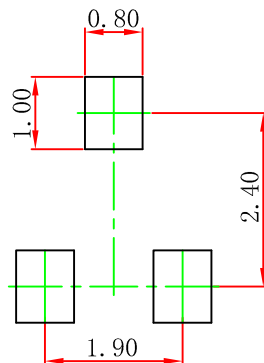


SOT-23-3L Package Outline Dimensions



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:

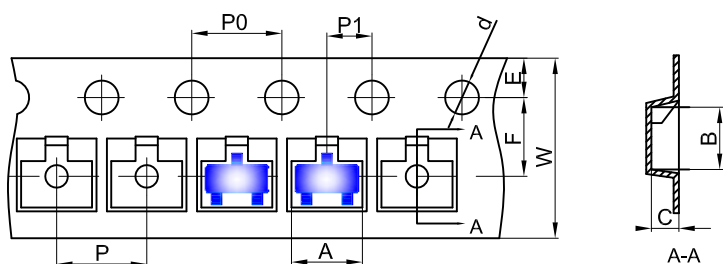
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

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

SOT-23-3L Tape and Reel

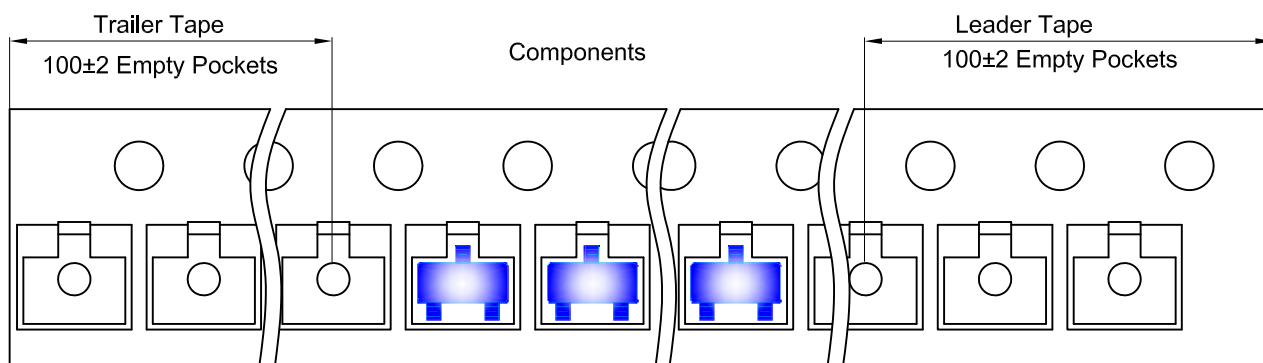
SOT-23-3L Embossed Carrier Tape



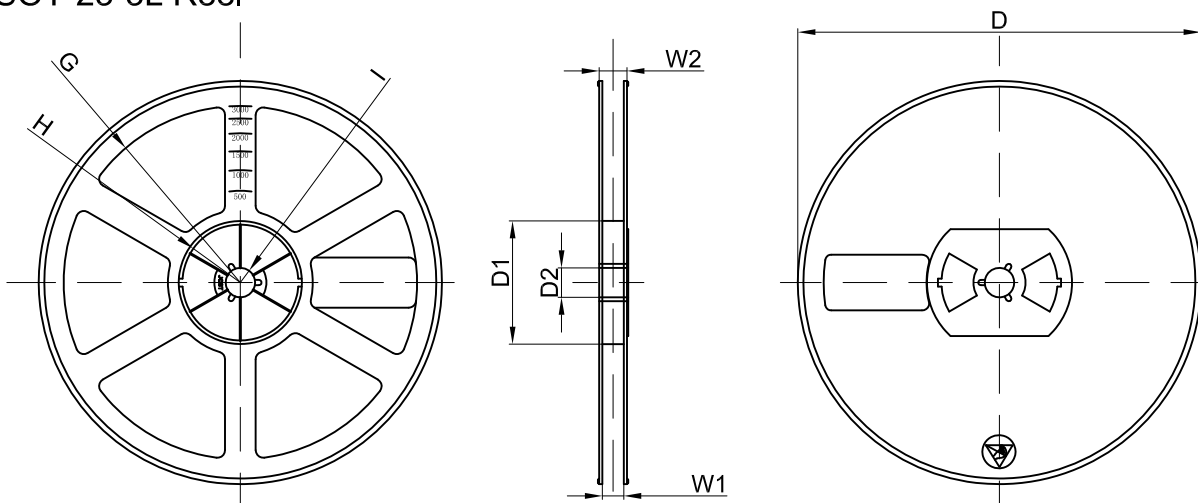
Packaging Description:
 SOT-23-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm 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-23-3L	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	