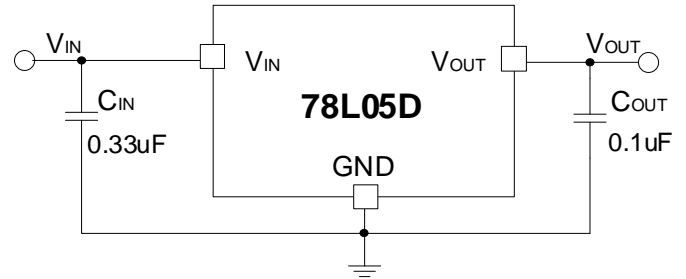


Features

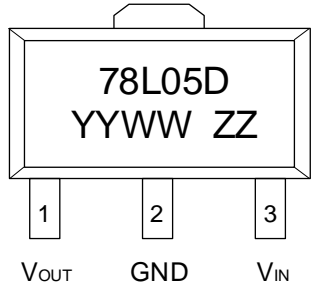
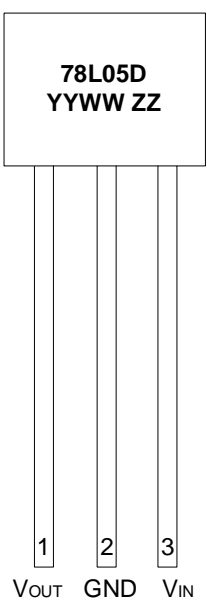
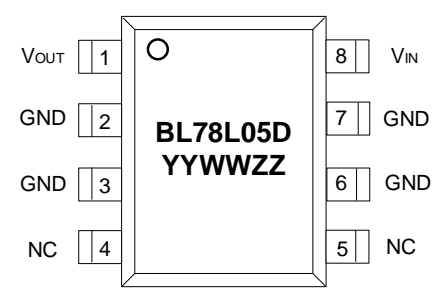
- Maximum Output Current: 0.1A
- Output Voltage: 5V
- Thermal Overload Protection
- 2% Output Voltage Accuracy

Typical Application Circuit



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

Pin Configuration

SOT89-3	TO92	SOP8
		

YY: Stand for the assembly year.

WW: Stand for the assembly week.

ZZ: Stand for the assembly factory.

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Input voltage	V_{IN}	42	V
Operating junction temperature range	T_J	-40 ~ +140	°C
Power dissipation	SOT89-3	1.15	W
	TO92	0.76	
	SOP8	0.84	
Thermal resistance (Junction to ambient)	SOT89-3	100	°C/W
	TO92	151	
	SOP8	136	
Operating ambient temperature range	T_A	-40 ~ +125	°C
Storage temperature range	T_{stg}	-40 ~ +150	°C

Note:

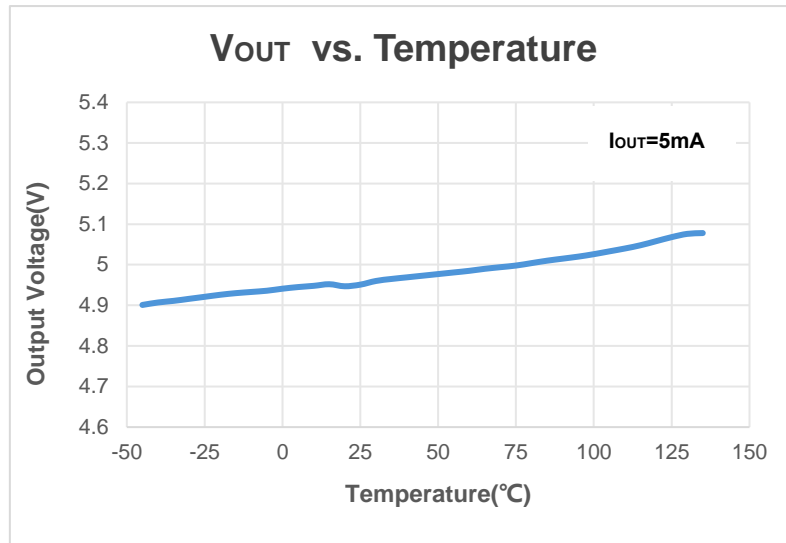
1. Stresses at or above those listed under Absolute Maximum Ratings may cause permanent damage to the product.
2. The maximum allowable power dissipation is a function of the maximum junction temperature $T_{J(MAX)}$, the junction-to-ambient thermal resistance θ_{JA} , and the ambient temperature T_A . The maximum allowable continuous power dissipation at any ambient temperature is calculated by $P_{D(MAX)}=(T_{J(MAX)}-T_A)/\theta_{JA}$.
3. The θ_{JA} values given in this table are for comparison with other packages only and cannot be used for design purposes. They do not represent the performance achieved in real-world applications.

Electrical Characteristics

($V_{IN}=10V$, $I_{OUT}=40mA$, $-30^{\circ}C < T_A < 85^{\circ}C$, $C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, unless otherwise noted)

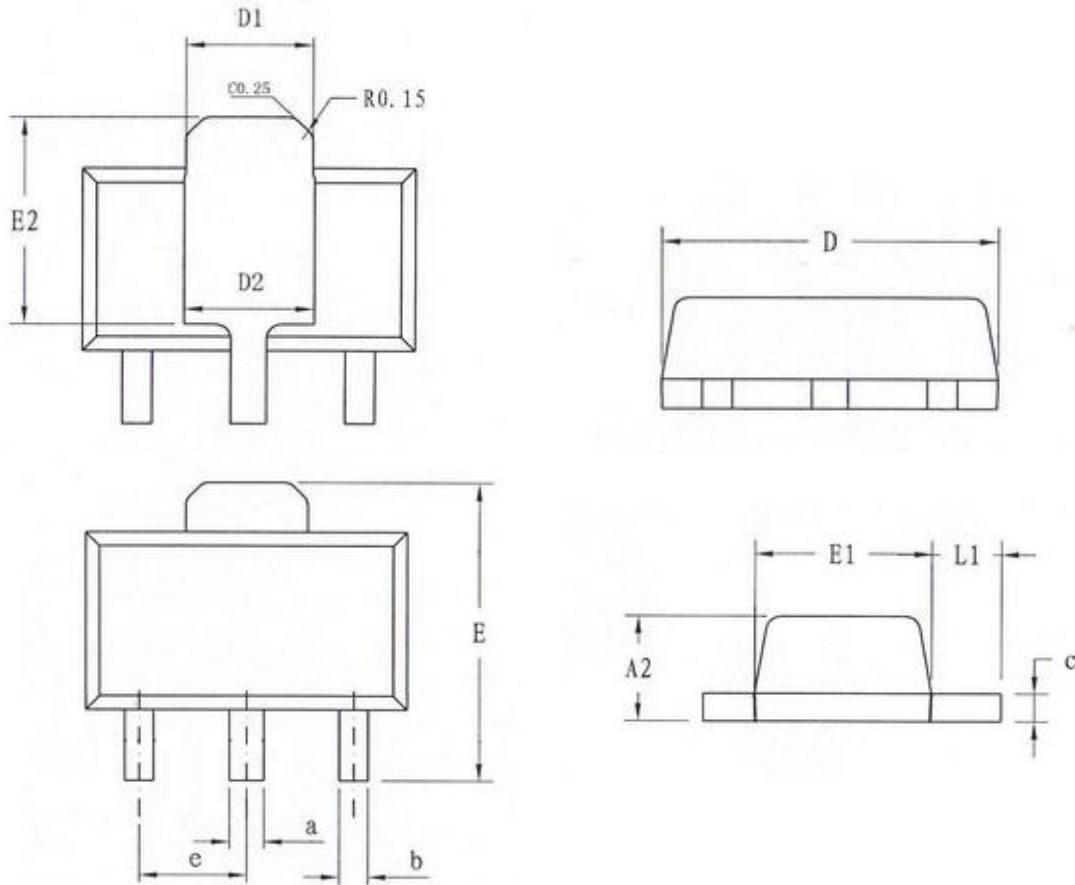
Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Output Voltage	V_{OUT}	$T_A=25^{\circ}C$	4.9	5	5.1	V
		$V_{IN}=7V\sim 20V$, $I_{OUT}=1mA\sim 40mA$	4.8	-	5.2	
		$V_{IN}=7V\sim V_{MAX}$, $I_{OUT}=1mA\sim 70mA$	4.8	-	5.2	
Load Regulation	ΔV_{OUT}	$T_A=25^{\circ}C$, $I_{OUT}=1mA\sim 100mA$	-	11	60	mV
		$T_A=25^{\circ}C$, $I_{OUT}=1mA\sim 40mA$	-	5	6	
Line Regulation	ΔV_{OUT}	$T_A=25^{\circ}C$, $V_{IN}=7V\sim 20V$	-	8	150	mV
		$T_A=25^{\circ}C$, $V_{IN}=8V\sim 20V$	-	6	100	
Quiescent Current	I_q	-	-	3	5.5	mA
Quiescent Current Change	ΔI_q	$V_{IN}=8V\sim 20V$	-	-	1.5	mA
		$I_{OUT}=1mA\sim 40mA$	-	-	0.2	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100kHz$	-	63	-	uV
Temperature Coefficient	$\frac{\Delta V_{OUT}}{\Delta T}$	$I_{OUT}=5mA$	-	0.65	-	mV/°C
Ripple Rejection	PSRR	$V_{IN}=10V\sim 20V$, $f=120Hz$, $T_A=25^{\circ}C$	41	60	-	dB
Dropout Voltage	V_{Drop}	$T_A=25^{\circ}C$	-	1.7	-	V

Typical Performance Characteristics



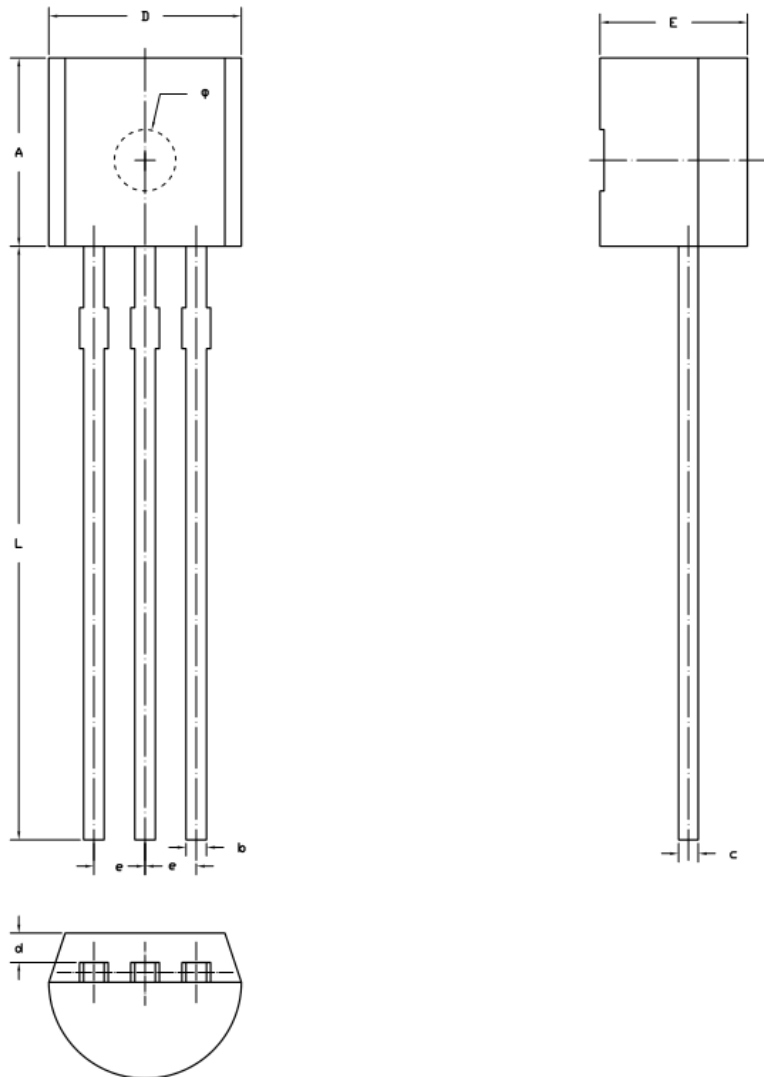
Package Information

Package	SOT89-3	Devices per reel	1000 pcs
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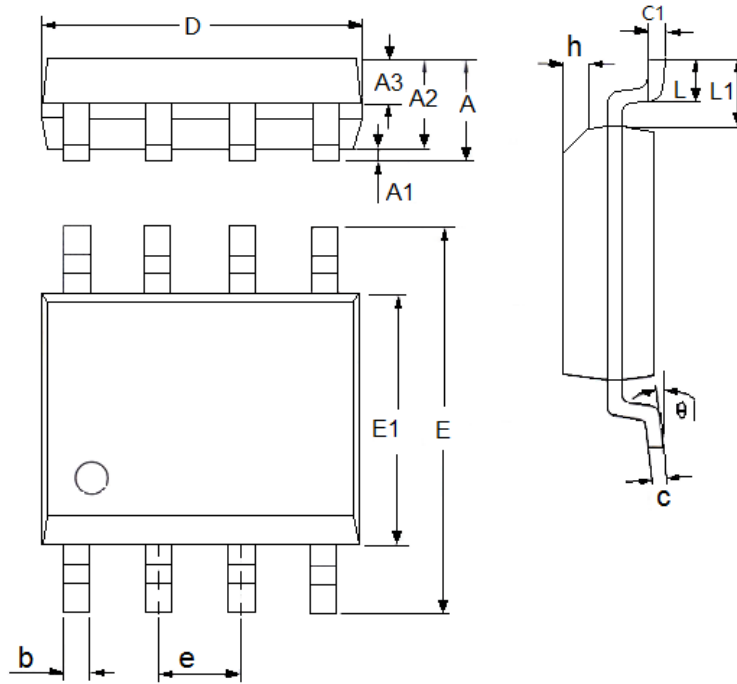
DIM	Millimeters		Inches	
	Min	Max	Min	Max
A2	1.4	1.6	0.0551	0.0630
b	0.38	0.46	0.0150	0.0181
a	0.46	0.56	0.0181	0.0220
c	0.38	0.42	0.0150	0.0165
D	4.4	4.6	0.1732	0.1811
D1	1.62	1.83	0.0638	0.0720
E2	2.84(TYP)		0.1118(TYP)	
D2	1.75(TYP)		0.0689(TYP)	
E	3.95	4.25	0.1555	0.1673
E1	2.4	2.6	0.0945	0.1024
e	1.5(TYP)		0.0591(TYP)	
L1	0.89	1.2	0.0350	0.0472

Package	TO92	Devices per bag	1000pcs
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DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.35	4.7	0.1713	0.1850
b	0.4	0.55	0.0157	0.0217
c	0.36	0.5	0.0142	0.0197
D	4.4	4.7	0.1732	0.1850
d	0.8	1.2	0.0315	0.0472
E	3.4	3.7	0.1339	0.1457
e	1.2	1.3	0.0472	0.0512
L	13.5	14.5	0.5315	0.5709
ϕ	1.45	1.6	0.0571	0.0630

Package	SOP8	Devices per reel	3000 pcs
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DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	1.3	1.8	0.0512	0.0709
A1	0.05	0.25	0.002	0.0098
A2	1.25	1.65	0.0492	0.065
A3	0.5	0.7	0.0197	0.0276
b	0.3	0.51	0.0118	0.0201
c	0.17	0.25	0.0067	0.0098
D	4.7	5.1	0.185	0.2008
E	5.8	6.2	0.2283	0.2441
E1	3.8	4	0.1496	0.1575
e	1.27(TYP)		0.05(TYP)	
h	0.25	0.5	0.0098	0.0197
L	0.4	1.27	0.0157	0.05
L1	1.04(TYP)		0.0409(TYP)	
θ	0	8°	0	8°
c1	0.25(TYP)		0.0098(TYP)	