Three-terminal positive Voltage Regulator

BL78D05

FEATURES

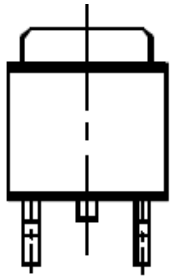
- Output Crrent in Excess of 1A
- Output Voltage is 5V
- Internal thermal Overload protection
- Internal Short Circuit Current Limiting

PIN CONNECTION

1.INPUT

2. GND

3. OUTPUT



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ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristics	Symbol	Value	Unit
Input Voltage	Vi	35	V
Thermal Resistance Junction-Case	$R_{\theta JC}$	10	℃ /W
Thermal Resistance Junction-Air	$R_{\theta JC}$	93	℃ /W
Operating Temperature	Topr	-40～85	℃
Storage Temperature Range	Tstg	-55～150	℃

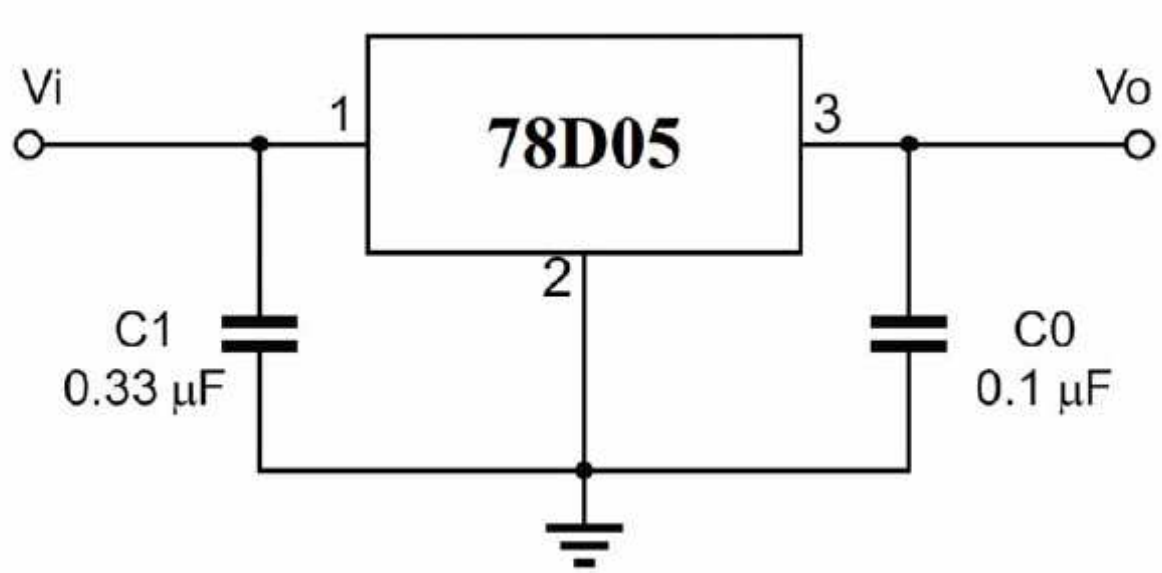
ELECTRICAL CHARACTERISTICS

(unless otherwise noted, Vi=10V,Io=500mA, -40℃<Tj<85℃,C1=0.33μF,Co=0.1μF)

Characteristics	Symbol	Test Conditions		Min	Typ	Max	Unit
Output Voltage	Vo	T_J=+25°C		4.9	5.0	5.1	V
		5.0mA≤Io≤1.0A,Po≤15W Vi=7V to 20V		4.85	5.0	5.15	
Line Regulation*	Regline	T_J=+25°C	Vi=7V to 25V		4.0	100	mV
			Vi=8V to 12V		2	50	
Load Regulation*	Regload	T_J=+25°C	Io=5.0mA to 1A		25	100	mV

			Io=250mA to 750mA		10	50	
Quiescent Current	I_Q	T_J=+25°C			5.0	8.0	mA
Quiescent Current Change	ΔI_Q	Io=5.0mA to 1.0A			0.03	0.5	mA
		Vi=8V to 25V			0.3	1.3	
Output Noise Voltage	V_N	f=10Hz to 100KHz,T_A=+25°C			40	200	μV/Vo
Ripple Rejection	RR	f=120Hz Vi=8V to 18V		56	73		dB
Dropout Voltage	VDrop	Io=1A, T_J=+25°C			2		V
Short Circuit Current	I_{SC}	Vi=35V, T_A=+25°C			230		mA
Peak Current	I_{PK}	T_J=+25°C			1.6		A

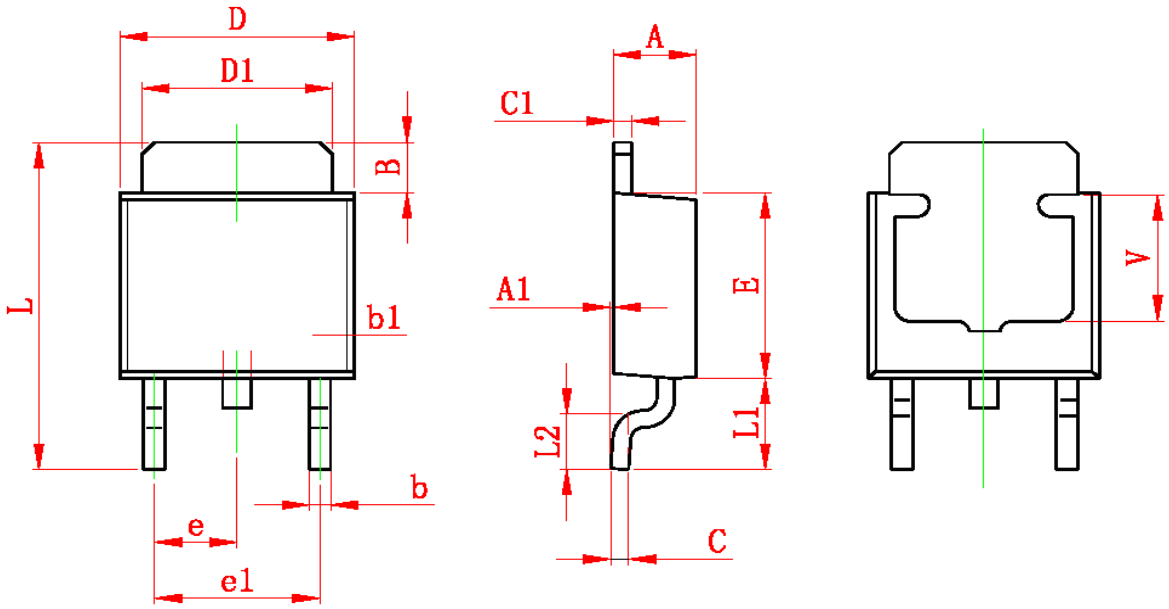
APPLICATION CIRCUIT



*Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

OUTLINE DRAWING

TO-252 **Unit:mm**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP		0.091 TYP	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390
L1	2.550	2.900	0.100	0.114
L2	1.400	1.780	0.055	0.070
V	3.80 REF		0.150 REF	