

Three-terminal positive voltage regulator

FEATURES:

※ Maximum output current

IOM: 1A

※ Output voltage

VO: 24V

※ Continuous total dissipation

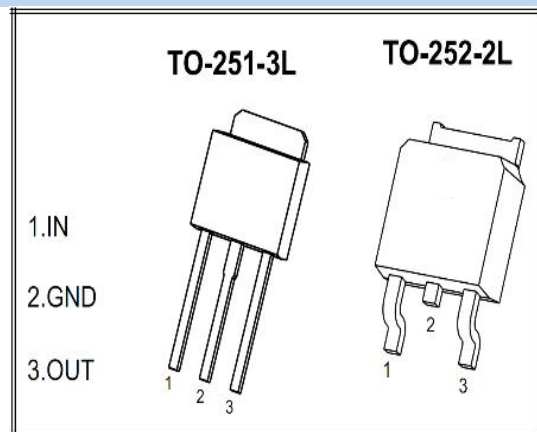
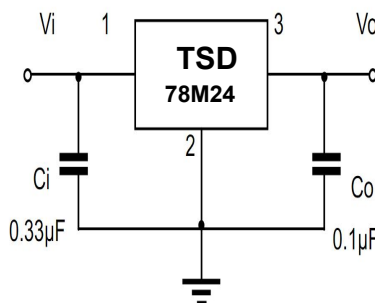
PD: 1.25W

MARKING:

TSD 78M24 TSDD / U ****

TSD→logo (D→252) / (U→251) ****→Date

TYPICAL APPLICATION:



Absolute Maximum ratings (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	Vi	40	V
Thermal Resistance From Junction to air	RθJA	80	°C/W
Operating Junction Temperature Range	TOPR	-25~+125	°C
Storage Temperature Range	TSTG	-55~+150	°C

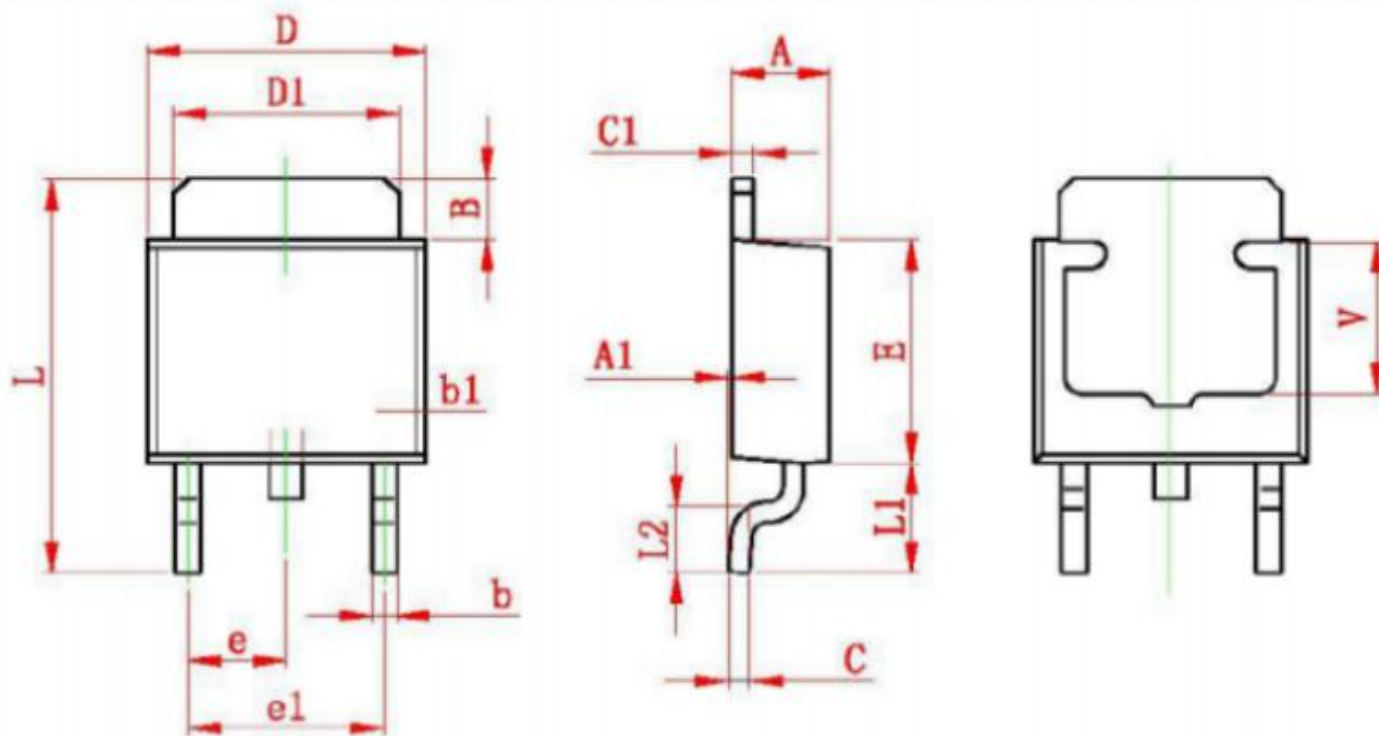
Electrical Characteristics At Specified Virtual Junction Temperature (Vi=33V, Io=350mA, Ci=0.33μF, Co=0.1μF. Unless Otherwise Specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	VO	25°C	23.04	24	24.96	V
		27.5V≤Vi≤38V, Io=5mA-350mA	-25~+125	22.8	25.2	V
Load Regulation	ΔVO	Io=5mA-0.5A, Vi=33V	25°C	45	480	mV
		Io=5mA-200mA, Vi=33V	25°C	30	240	mV
Line Regulation	ΔVO	27.5V≤Vi≤38V, Io=200mA	25°C	25	100	mV
		28V≤Vi≤38V, Io=200mA	25°C	20	50	mV
Quiescent Current	Iq	25°C		4.8	6	mA
Quiescent Current Change	ΔIq	27.5V≤Vi≤38V, Io=200mA	-25~+125		0.8	mA
	ΔIq	5mA≤Io≤350mA, Vi=33V	-25~+125		0.5	mA
Output Noise Voltage	VN	10Hz≤f≤100KHz	25°C	170	200	μV/Vo
Ripple Rejection	Rr	27.5V≤Vi≤38V, f=120Hz, Io=300mA	-25~+125	55	80	dB
Dropout Voltage	Vd	Io=350mA	25°C	2	2.5	V
Short Circuit Current	Isc	Vi=33V	25°C	300		mA
Peak Current	IPK		25°C	0.7		A

Note :

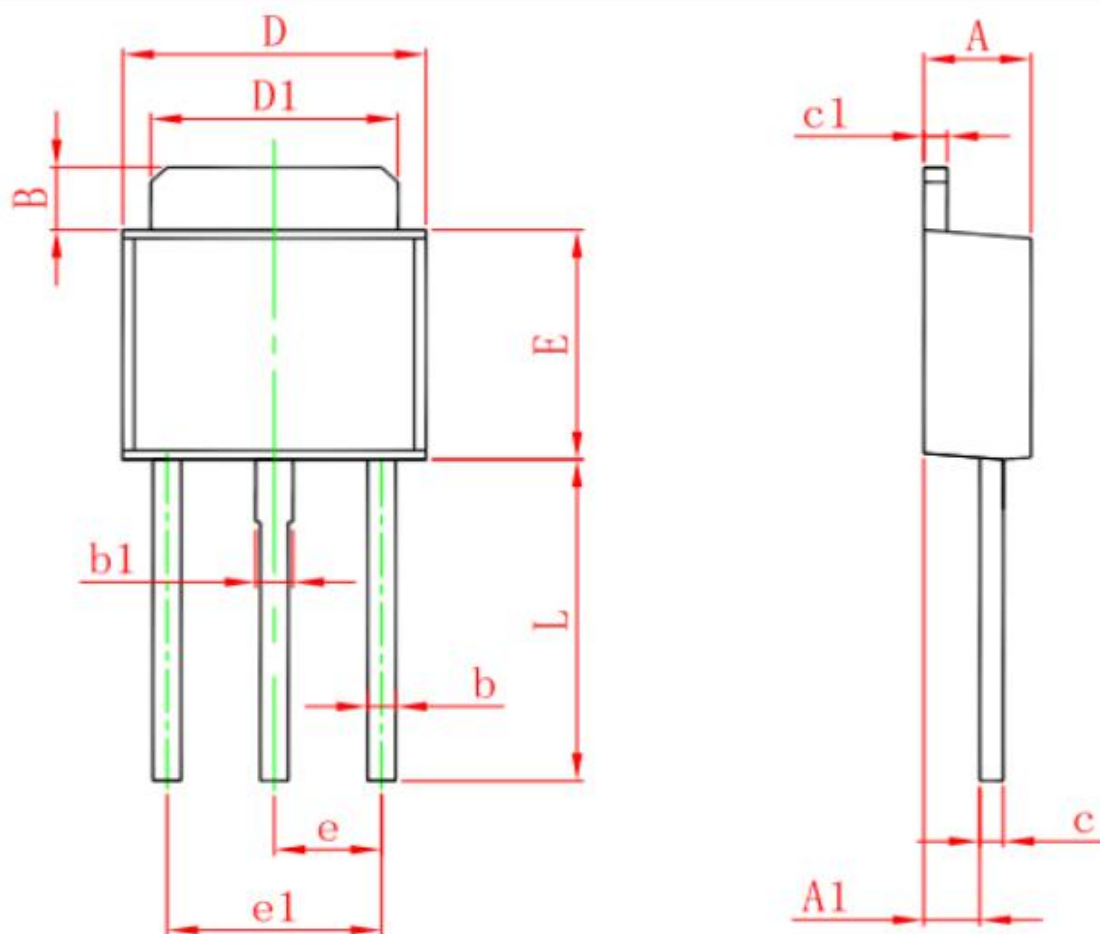
Bypass Capacitors are Recommended For Optimum Stability and Transient Response and Should be located as Close as Possible to the Regulators

Package Dimensions:



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	

Package Dimensions:



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
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	7.500	7.900	0.295	0.311