DESCRIPTION

The LM317DCYR-JSM is an adjustable 3-terminal positive voltage regulator, designed to supply 1A of output current with voltage adjustable from 1.25V ~ 37V.

SOT-223

TO-220

TO-252

TO-263

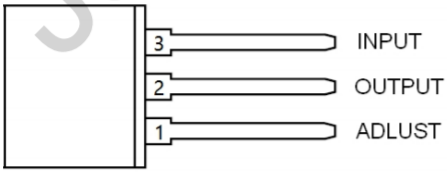
FEATURES

Typical 1% Output Voltage
Tolerance Output voltage adjustable from 1.25V ~37V
Output current in excess of 1A
Internal short circuit protection
Internal over temperature protection Output transistor safe area compensation

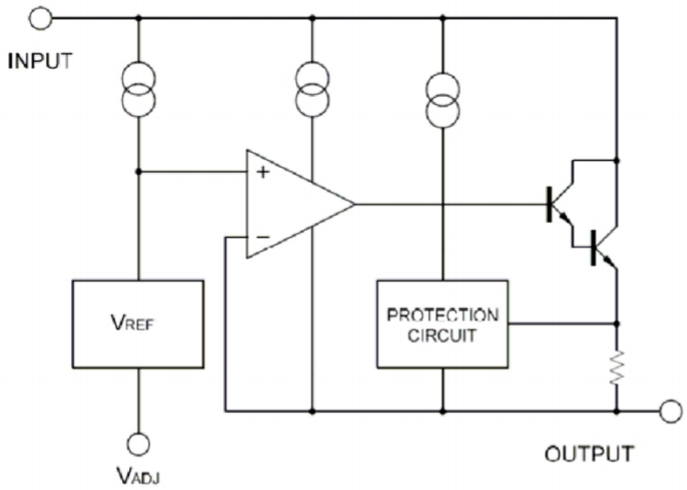
APPLICATIONS

PC Motherboard
LCD Monitor
Graphic Card
DVD Player
Network Interface Card/Switch
Telecom Equipment
Printer and other Peripheral Equipment

Pin Configuration (Top View)



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta=25° C) *

Characteristic	Symbol	Min.	Max.	Unit
Input - Output Voltage Difference	Vin-Vout		37	V
Power Dissipation	Pd	Internal limited		
Maximum junction temperature	T_J		150	℃
Storage temperature	T_S	-40	150	℃
Lead temperature (soldering, 10sec)	T_{LEAD}		260	℃
ESD (human body model)	ESD		4000	V

*: Absolute maximum ratings are stress ratings only and functional device operation is not implied. The device could be damaged beyond Absolute maximum ratings.

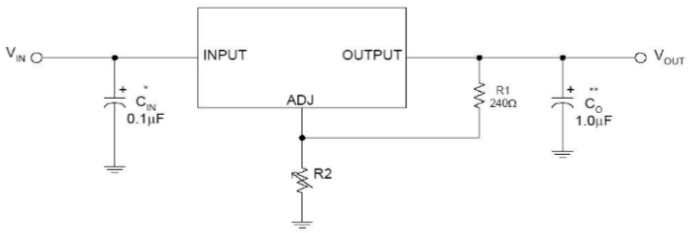
ELECTRICAL CHARACTERISTICS

(VIN-VOUT=5V, IOUT=10mA, Ta=25° C,unless otherwise specified.) *

Characersistics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Reference voltage	10mA≤ I_{OUT} ≤1A	VREF	1.20	1.25	1.30	V
	3V≤ (V_{IN} -V_{OUT}) ≤37V					
	PD≦ 20W					
Line regulation	3V≦ VIN-VOUT≦ 37V	SV		0.01	0.04	%/V
Load regulation	0mA≦ IOU_T≦ 1A	Si		0.2	0.4	%
Adjust pin current		Iadj		50	100	μA
Adjust pin current change	3V≦ VIN-VOUT≦ 37V,10mA ≦ IOUT ≦ 1A, PD ≦20W	Iadj		0.2	5.0	μA
Minimum load current	VIN-VOUT=37V	ILmin		3.5	10.0	mA
Ripple rejection	f=120Hz,COUT=1μF tantalum,	RR	60	75		dB
	(V_{IN} -V_{OUT})=3V,					
	I OUT=1A					
Temperature stability	TMIN TJ TMAX			0.7		%
RMS output noise (% of V O U T)	Ta=25℃ , 10Hz≤ f ≤10kHz	en		0.003		%
Thermal resistance,Junction to case	SOT223	θ_{JC}		23		℃/W
	TO252			12		
	TO220			5		
	TO263			5		
Thermal resistance,Junction to Ambient	SOT223	θ_{JA}		165		℃/W
	TO252			112		
	TO220			54		
	TO263			64		
Thermal shutdown hysteresis		Thys		25		℃/W

*: Maximum Power Dissipation is Package Type and Case Temperature dependent.

APPLICATION CIRCUIT



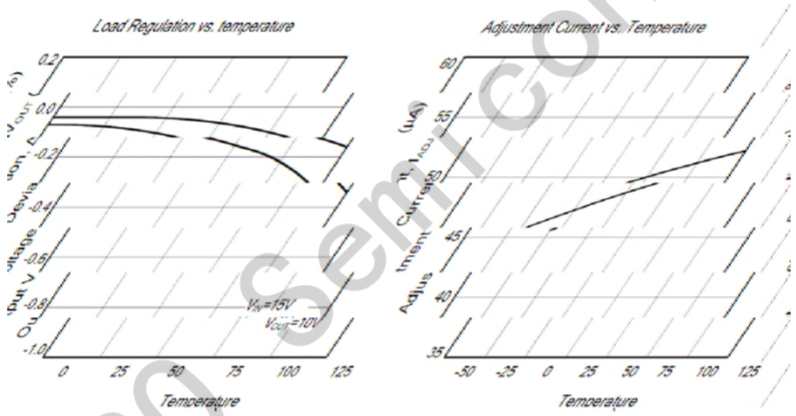
* = C_{IN} is required if the regulator is located near power supply filter.

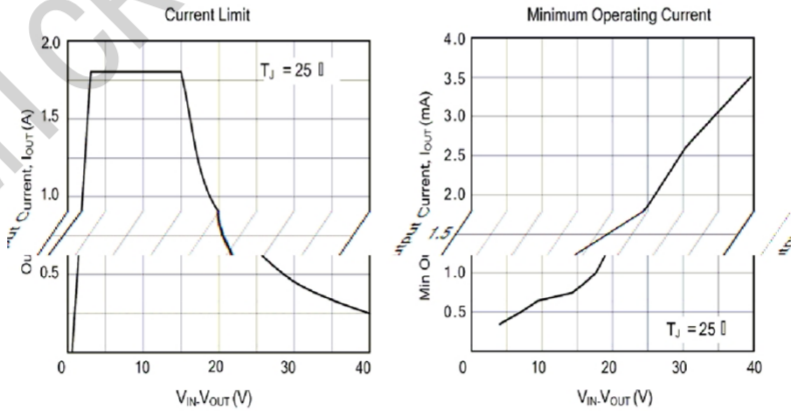
**= C_O is needed for stability and it improves transient response.

$$V_{OUT} = V_{REF} \times (1+R2/R1) + I_{ADJ} \times R2$$

Since I_{ADJ} is controlled to less than 100μA, the error associated with this term is negligible in most applications.

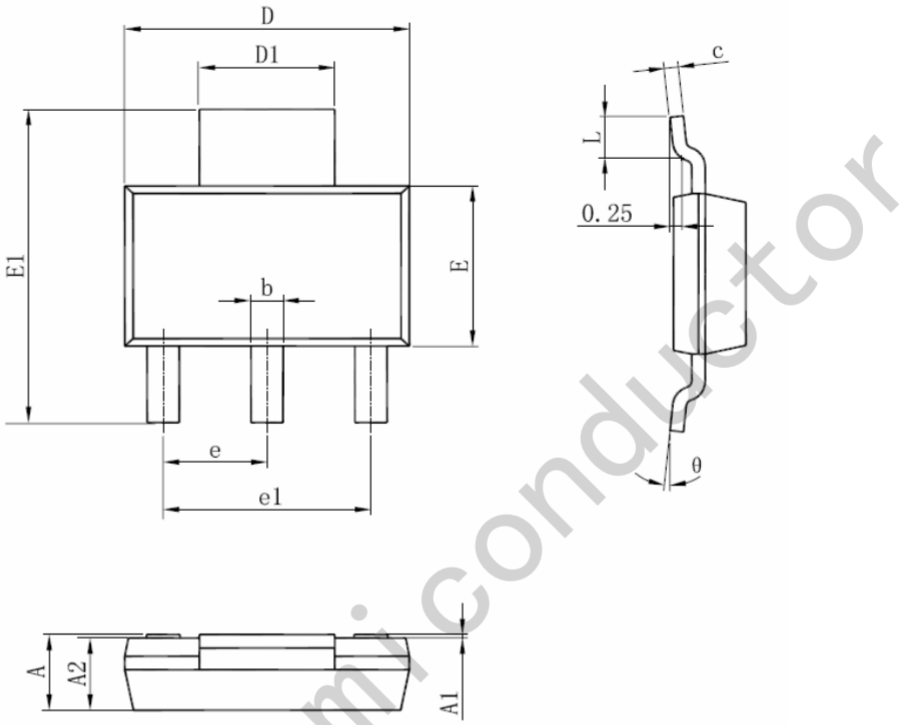
CHARACTERISTICS CURVES





Package Information

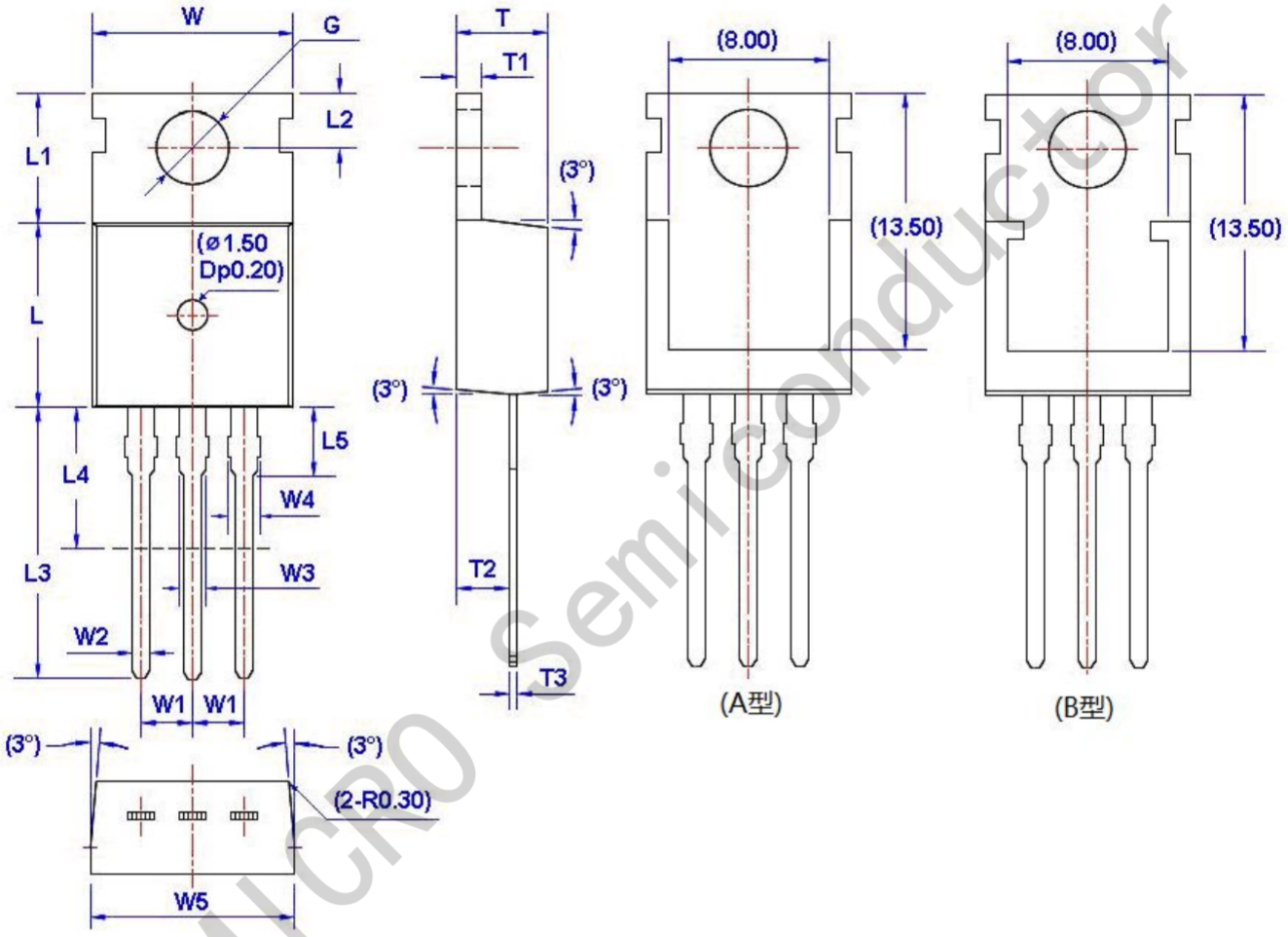
SOT-223



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°

Package Information

TO-220

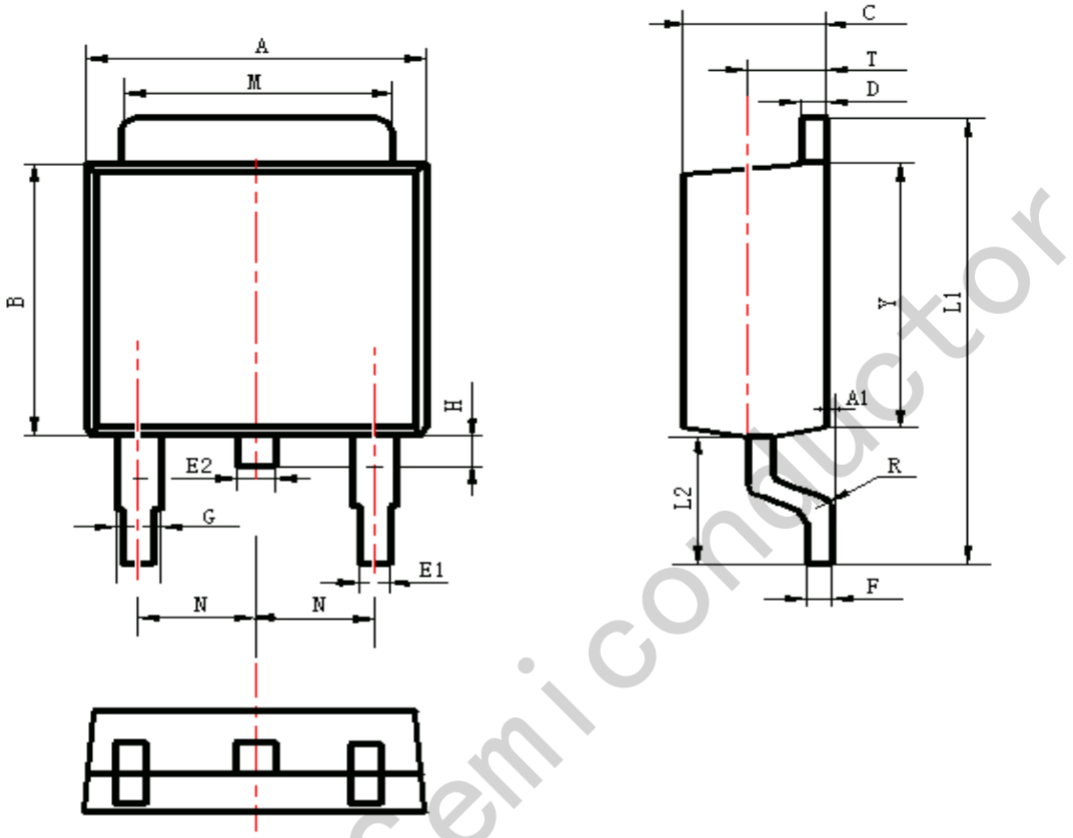


Unit: mm

Symbol	Size		Symbol	Size		Symbol	Size		Symbol	Size	
	Min	Max		Min	Max		Min	Max		Min	Max
W	9.66	10.28	W5	9.80	10.20	L4**	6.20	6.60	T3	0.45	0.60
W1	2.54（TYP）		L	9.00	9.40	L5	2.79	3.30	G(Φ)	3.50	3.70
W2	0.70	0.95	L1	6.40	6.80	T	4.30	4.70			
W3	1.17	1.37	L2	2.70	2.90	T1	1.15	1.40			
W4*	1.32	1.72	L3	12.70	14.27	T2	2.20	2.60			

Package Information

TO-252

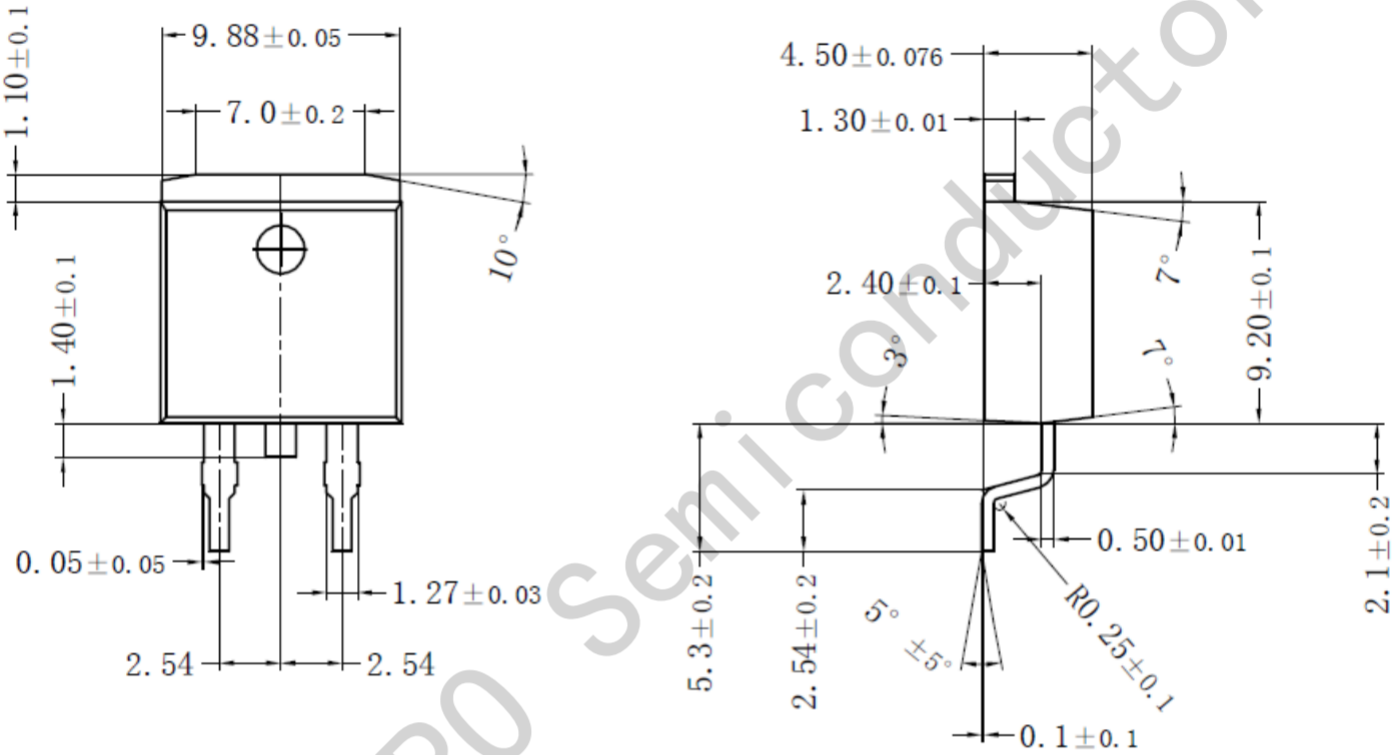


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	6.30	6.90	0.248	0.272
A1	0.00	0.16	0.000	0.006
B	5.70	6.30	0.224	0.248
C	2.10	2.50	0.083	0.098
D	0.30	0.70	0.012	0.028
E1	0.60	0.90	0.024	0.035
E2	0.70	1.00	0.028	0.039
F	0.30	0.60	0.012	0.024
G	0.70	1.20	0.028	0.047
L1	9.60	10.50	0.378	0.413
L2	2.70	3.10	0.106	0.122
H	0.40	1.00	0.016	0.039
M	5.10	5.50	0.201	0.217
N	2.09	2.49	0.082	0.098
R	0.30		0.012	
T	1.40	1.60	0.055	0.063
Y	5.10	6.30	0.201	0.248

Package Information

TO-263

Unit: mm



单击下面可查看定价，库存，交付和生命周期等信息

>>JSMSEMI(杰盛微)