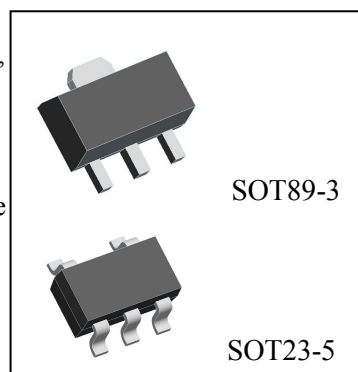


General Description

The D7855 series is a high accuracy, high input voltage low quiescent current, high speed, and low dropout Linear regulator with high ripple rejection. The device is manufactured with Bi-CMOS process.

The D7855 offers over-current limit and over temperature protection to ensure the device working in well conditions.

The D7855 regulators are available in standard SOT89-3 and SOT23-5 packages.



Features

- Supply Voltage : 4.75V~40V
- Output Range : 1.8V~10V
- Output Accuracy : $\pm 2\%$
- Output Current : 250mA (Up to 500mA Typ.)
- PSRR : 50dB @ 100Hz
- Dropout Voltage : 850mV @ $I_{OUT}=250mA$
- Quiescent Current : $6\mu A @ V_{IN}=7V$ (Typ.)
- Recommend Capacitor : 10 μF

Package Information

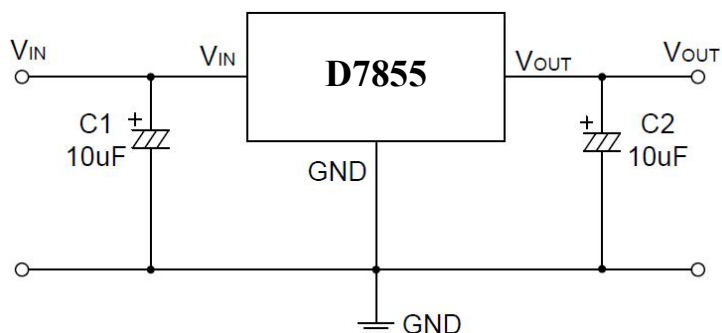
Part NO.	Package Description	Package Marking	Package Option
D7855-3.3(L)	SOT89-3	D7855 33 XXXX	1000/Reel
D7855-3.3	SOT23-5	D7855 33 XXX	3000/Reel
D7855-3.6(L)	SOT89-3	D7855 36 XXXX	1000/Reel
D7855-3.6	SOT23-5	D7855 36 XXX	3000/Reel
D7855-5.0(L)	SOT89-3	D7855 50 XXXX	1000/Reel
D7855-5.0	SOT23-5	D7855 50 XXX	3000/Reel

CHMC:Trademark

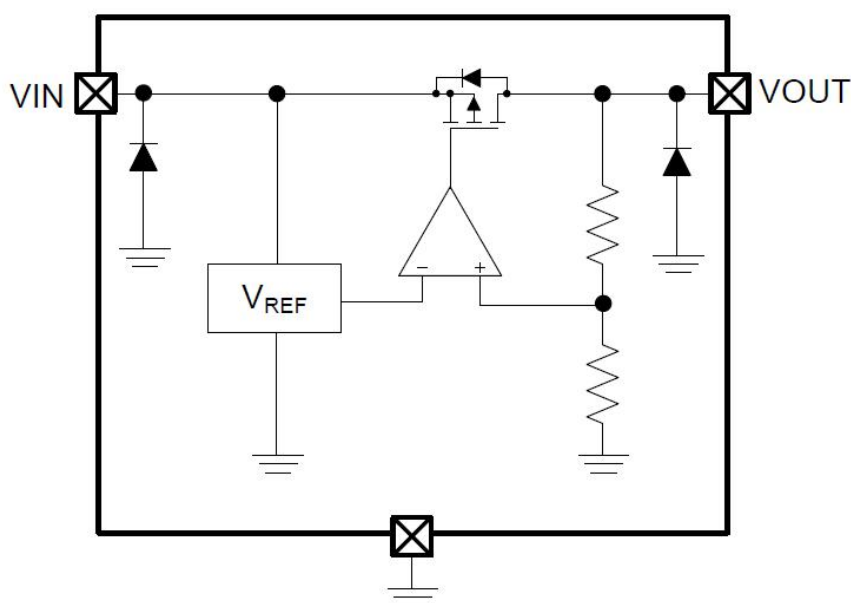
D7855-3.3/D7855-3.6/D7855-5.0:Part NO.

XXXX/XXX:Lot NO.

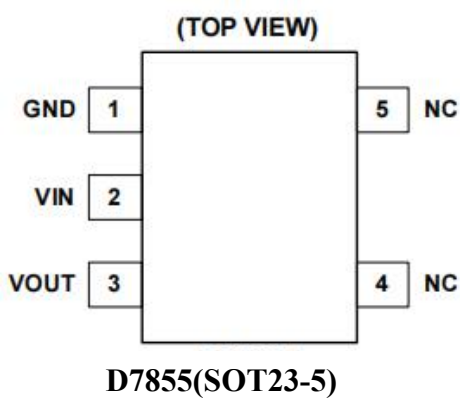
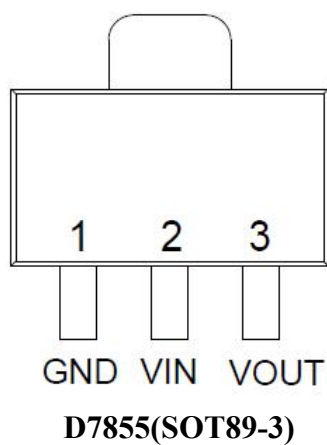
Typical Application



Functional Block Diagram



Pin Configuration



Pin Description**SOT89-3:**

Pin Number	Pin Name	Function Description
1	GND	Ground
2	V _{IN}	Voltage Input
3	V _{OUT}	Voltage Output

SOT23-5:

Pin Number	Pin Name	Function Description
1	GND	Ground
2	V _{IN}	Voltage Input
3	V _{OUT}	Voltage Output
4	NC	No internal connection
5	NC	No internal connection

Absolute Maximum Ratings (Ta=25°C)

Parameter Name	Rating	Unit
Power Dissipation	Internal limited	mW
V _{IN} Range	-0.3~45	V
V _{OUT} Range	-0.3~10	V
Lead Temperature Range	260	°C
Storage Temperature Range	-55~150	°C
Operating Junction Temperature Range	125	°C
ESD MM	400	V
ESD HBM	4K	V

Recommended Operating Conditions (Ta=25°C)

Parameter Name		Rating	Unit
Operating Supply Voltage		4.75~40	V
Operating Temperature Range		-40~85	°C
Thermal Resistance(On PCB),R _{θJA}	SOT89-3	100	°C/W
	SOT23-5	250	
Power Dissipation	SOT89-3	1000	mW
	SOT23-5	250	

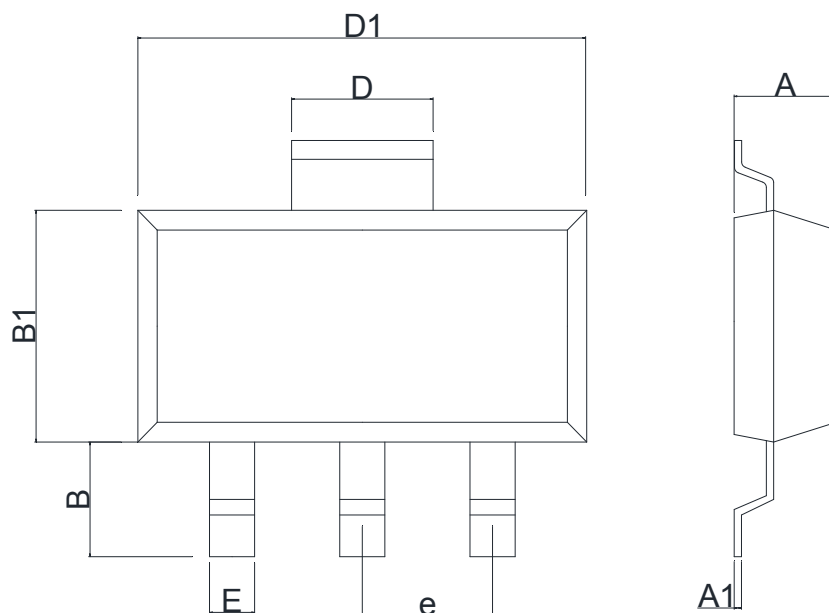
Electrical Characteristics (Ta=25°C, V_{IN}=12V, C_{IN}=C_{OUT}=10uF, unless otherwise noted)

Parameter Name	Symbol	Test Conditions		Min	Typ	Max	Unit
Input Range	V _{IN}	I _{OUT} =10mA		4.75		40	V
Output Voltage	V _{OUT}	V _{IN} =12V, I _{OUT} =10mA		3.234	3.300	3.366	V
				3.528	3.600	3.672	
				4.9	5.0	5.1	
Maximum Output Current	I _{OUT_PK}	V _{IN} =12V, R _L =1Ω			500		mA
Quiescent Current	I _Q	V _{IN} =7V, No load			6	8	μA
		V _{IN} =24V, No load			7.5	10	
		V _{IN} =40V, No load			10	15	
Dropout Voltage	V _{DROP}	I _{OUT} =1mA			2	12	mV
		I _{OUT} =100mA			300	400	
		I _{OUT} =250mA			850	1200	
Line Regulation	LNR	V _I =7~24V, V _{OUT} =5V, I _{OUT} =1mA			0.02		% / V
		V _{IN} =7~45V, V _{OUT} =5V, I _{OUT} =1mA			0.1		
Load Regulation	LDR	V _{IN} =12V, I _{OUT} =1~100mA			0.6		%
		V _{IN} =7V, I _{OUT} =1~250mA			2.0		
Output Noise	e _{NO}	I _{OUT} =10mA		-100		100	μV
Ripple Rejection	PSRR	V _{IN} =10V V _{PP} =0.5V I _{OUT} =1mA	f=100Hz		50		dB
			f=1KHz		40		
			f=10KHz		30		
Thermal Protection	T _{SD}	V _{IN} =12V, I _{OUT} =1mA			155		°C
Thermal Protection Hys	T _{SD_HYS}	V _{IN} =12V, I _{OUT} =1mA			30		°C
Temperature Coefficient	ΔV _O /ΔT	V _{IN} =12V, I _{OUT} =1mA			±0.4		mV/°C

Outline Dimensions

SOT89-3

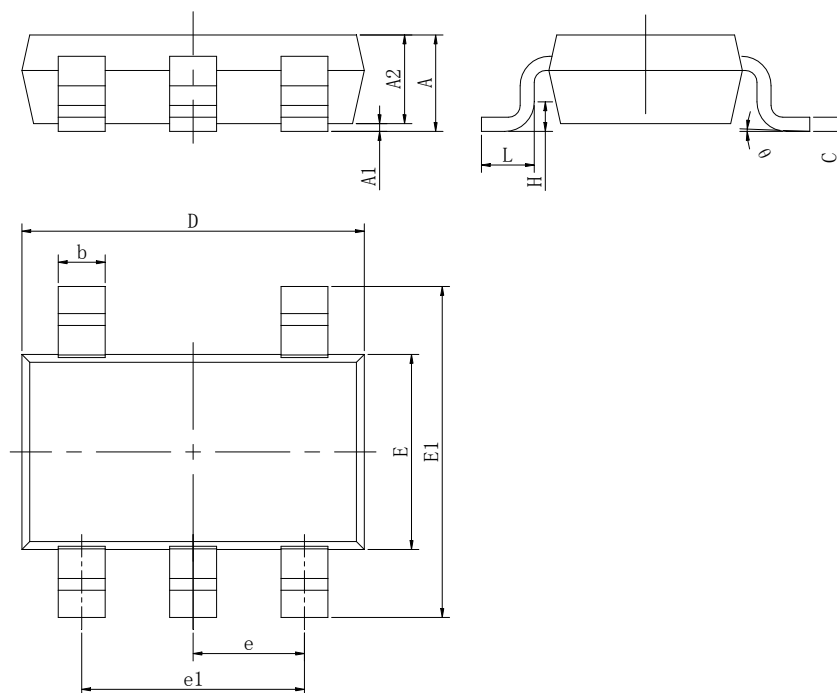
Unit:mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.450	1.550	0.057	0.061
A1	0.390	0.410	0.015	0.016
B	0.950	1.050	0.037	0.041
B1	2.350	2.550	0.092	0.100
E	0.350	0.450	0.013	0.017
D1	4.400	4.600	0.173	0.181
D	1.550 REF		0.061 REF	
e	1.500 (BSC)		0.059 (BSC)	

SOT23-5

Unit: mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.130	0.000	0.005
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
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.95 (BSC)		0.037(BSC)	
e1	1.90 (BSC)		0.075(BSC)	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Statement

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