Low power consumption, Low ESR Cap. Compatible GLD0529 Series

General Description

GLD0529 series are highly precise, low power consumption, high voltage, positive voltage regulators manufactured using CMOS and laser trimming technologies .The series provides large currents with a significantly small dropout voltage.

The series is compatible with low ESR ceramic capacitors .The current limiter's foldback circuit also operates as a short protect for the output current limiter and the output pin.

Features

- Maximum Output Current: 250mA (V_{IN}=4.3V,V_{OUT}=3.3V)
- Highly Accuracy: ±2%
- Dropout Voltage: 300mV@ I_{OUT} =100mA
- Input Voltage Range: up to 6.0V
- Low Power Consumption: 8uA（TYP.）
- Excellent Input Stability
- Be available to regulator and reference voltage

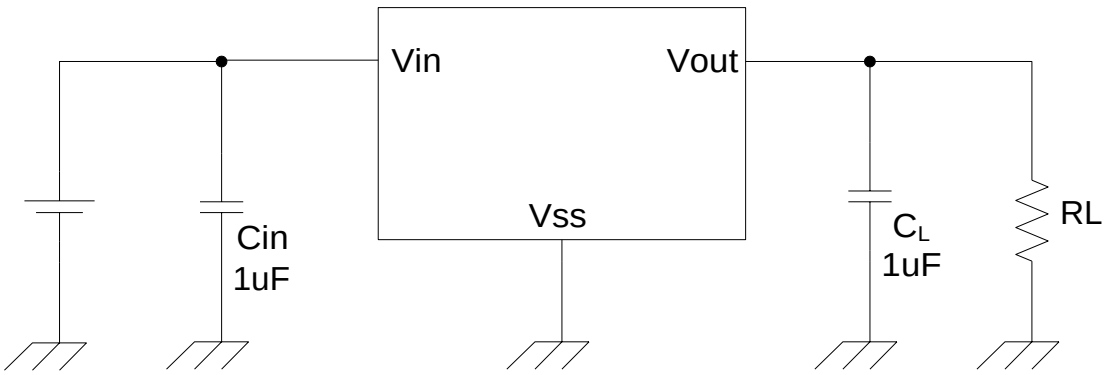
Typical Application

- Mobile phones
- communication equipment
- Portable games
- Cameras, Video systems
- Reference voltage sources
- Battery powered equipment

Package

- 3-pin SOT23

Typical Application Circuit

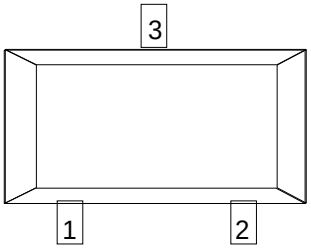


Selection Guide

product series	Output voltage	Package
GLD052918S2	1.8V	SOT23
GLD052928S2	2.8V	SOT23
GLD052930S2	3.0V	SOT23
GLD052933S2	3.3V	SOT23

NOTE: If you need other voltage and package, please contact our sales staff。

Pin Configuration

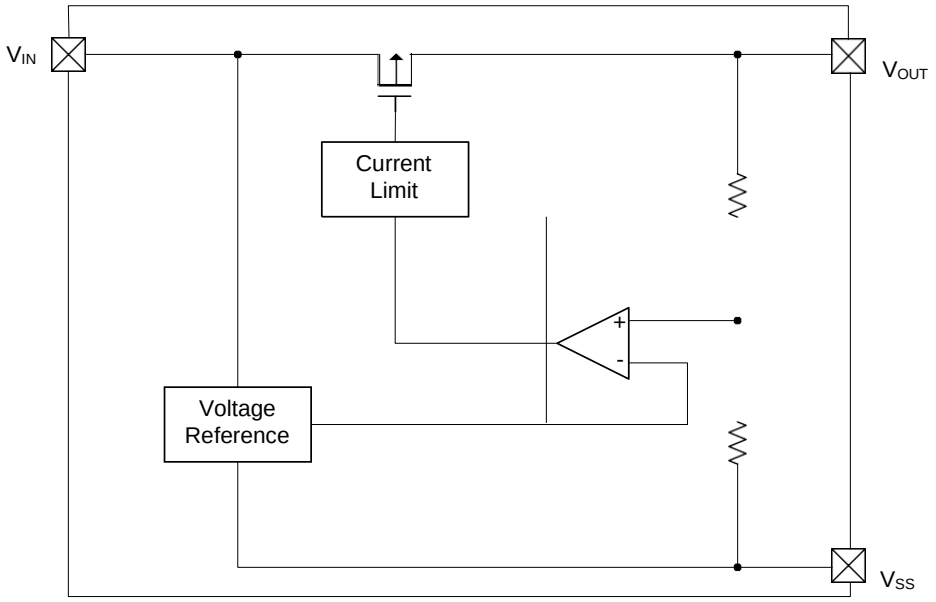


SOT23

Pin Assignment

Pin	Name	Function
SOT23		
1	Vss	Ground
2	Vout	Output
3	Vin	Input

Block Diagram



Absolute Maximum Ratings

Parameter		Symbol	Description	Units
Input Voltage		V_{IN}	6.5	V
Output Current		I_{out}	300	mA
Output Voltage		V_{out}	Vss-0.3 ~ Vout+0.3	V
Thermal resistance(Junction to air)	SOT23	θ_{JA}	330	℃/W
Continuous Total Power Dissipation	SOT23	Pd	300	mW
Operating Ambient Temperature		T_{Opr}	-25 ~ +85	℃
Storage Temperature		T_{stg}	-55 ~ +150	℃

Electrical Characteristics

GLD052918 (VIN=Vout+1V,Cin=Cout=1uF,Ta=25^{O}C Unless otherwise stated)

Parameter	Symbol	Condition	Mix	Typ	Max	Unit
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=10mA, V_{IN}=Vout+1V	X 0.98	V_{OUT}(T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Maximum Output Current	I_{OUT} (max)	V_{IN}=Vout+1V		120		mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V, 1mA≤I_{OUT}≤80mA		12	27	mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =20mA		240	400	mV
	V_{dif2}	I_{OUT} =50mA		480	600	mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		7	15	μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =10mA Vout+1V ≤V_{IN}≤5V		0.1	0.2	%/V

Power Supply Ripple Rejection Ratio	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =10mA,f=1kHz		45	47	dB
Short Circuit Current	I_{short}	Vin=Vout(T)+1.5V Vout=Vss		25	50	mA
Over Current Protection	I_{limit}			400		mA

GLD052928 (VIN=Vout+1V,Cin=Cout=1uF,Ta=25°C Unless otherwise stated)

Parameter	Symbol	Condition	Mix	Typ	Max	Unit
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=10mA, V_{IN}=Vout+1V	X 0.98	V_{OUT}(T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Maximum Output Current	I_{OUT} (max)	V_{IN}=Vout+1V		250		mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V 1mA≤I_{OUT}≤100mA		14	28	mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =80mA		200	300	mV
	V_{dif2}	I_{OUT} =200mA		480	600	mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		8	15	μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =10mA Vout+1V ≤V_{IN}≤6V		0.03	0.2	%/V
Power Supply Ripple Rejection Ratio	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =10mA,f=1kHz		50	52	dB
Short Circuit Current	I_{short}	Vin=Vout(T)+1.5V Vout=Vss		30	60	mA
Over Current Protection	I_{limit}			500		mA

GLD052930 (VIN=Vout+1V,Cin=Cout=1uF,Ta=25°C Unless otherwise stated)

Parameter	Symbol	Condition	Mix	Typ	Max	Unit
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=10mA, V_{IN}=Vout+1V	X 0.98	V_{OUT}(T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Maximum Output Current	I_{OUT} (max)	V_{IN}=Vout+1V		250		mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V 1mA≤I_{OUT}≤100mA		14	28	mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =80mA		200	300	mV
	V_{dif2}	I_{OUT} =200mA		480	600	mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		8	15	μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =10mA Vout+1V ≤V_{IN}≤6V		0.03	0.2	%/V
Power Supply Ripple Rejection Ratio	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =10mA,f=1kHz		50	52	dB

Short Circuit Current	I_{short}	Vin=Vout(T)+1.5V,Vout=Vss		30	60	mA
Over Current Protection	I_{limit}			500		mA

GLD052933 (VIN=Vout+1V,Cin=Cout=1uF,Ta=25^{O}C Unless otherwise stated)

Parameter	Symbol	Condition	Mix	Typ	Max	Unit
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=10mA, V_{IN}=Vout+1V	X 0.98	V_{OUT}(T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Maximum Output Current	I_{OUT} (max)	V_{IN}=Vout+1V		250		mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V 1mA≤I_{OUT}≤100mA		14	28	mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =80mA		200	300	mV
	V_{dif2}	I_{OUT} =200mA		480	600	mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		9	15	μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =10mA Vout+1V ≤V_{IN}≤6V		0.03	0.2	%/V
Power Supply Ripple Rejection Ratio	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =10mA,f=1kHz		50	52	dB
Short Circuit Current	I_{short}	Vin=Vout(T)+1.5V Vout=Vss		30	60	mA
Over Current Protection	I_{limit}			500		mA

Note :

1. V_{OUT} (T) ： Specified Output Voltage

2.V_{OUT} (E) ： Effective Output Voltage (Ie. The output voltage when “V_{OUT} (T)+1.0V”is provided at the Vin pin while maintaining a certain Iout value.)

3.V_{dif} ： V_{IN1} –V_{OUT} (E)’

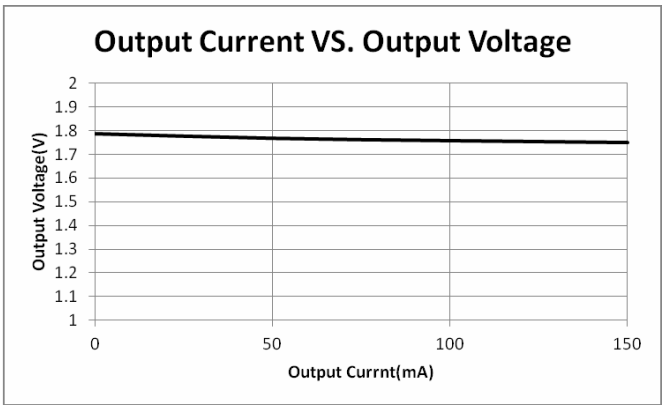
V_{IN1} ： The input voltage when V_{OUT}(E)’ appears as input voltage is gradually decreased.

V_{OUT} (E)’=A voltage equal to 98% of the output voltage whenever an amply stabilized Iout {V_{OUT} (T)+1.0V} is input.

Type Characteristics

（1） Output Current VS. Output Voltage（VIN=Vout+1, Ta = 25 °C）

GLD052918S2



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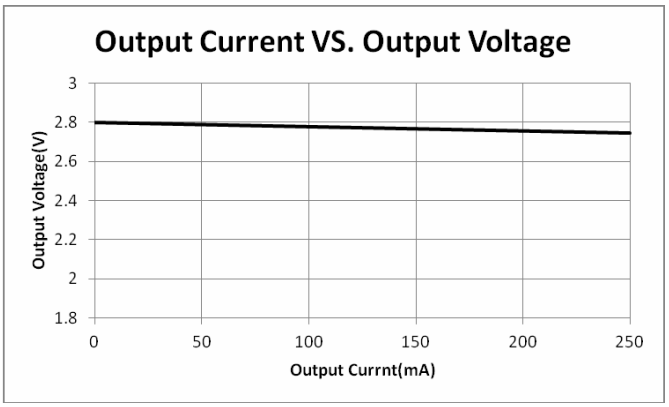

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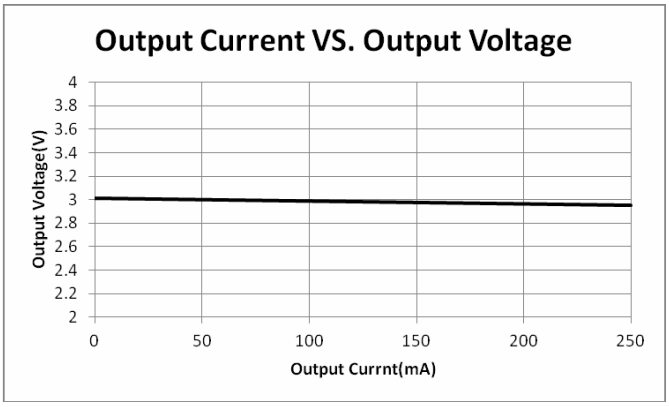

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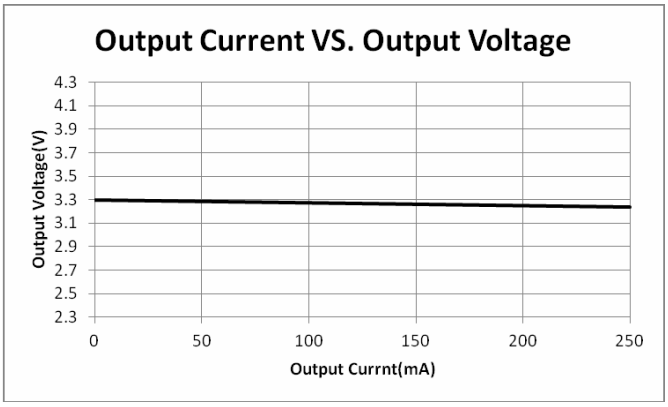

（2）Input Voltage VS. Output Voltage（Ta = 25 °C）

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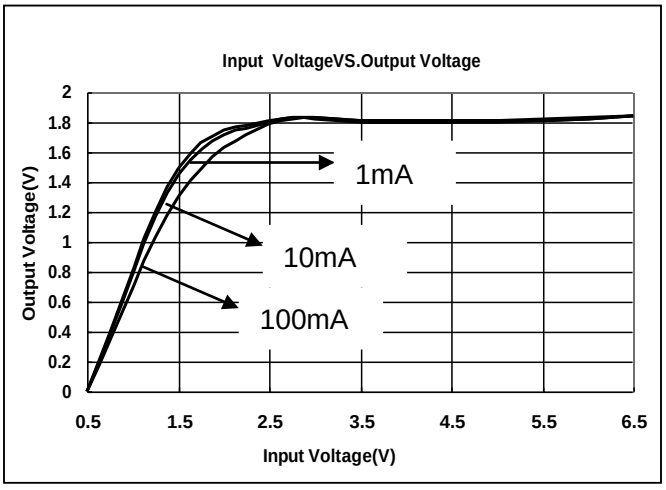

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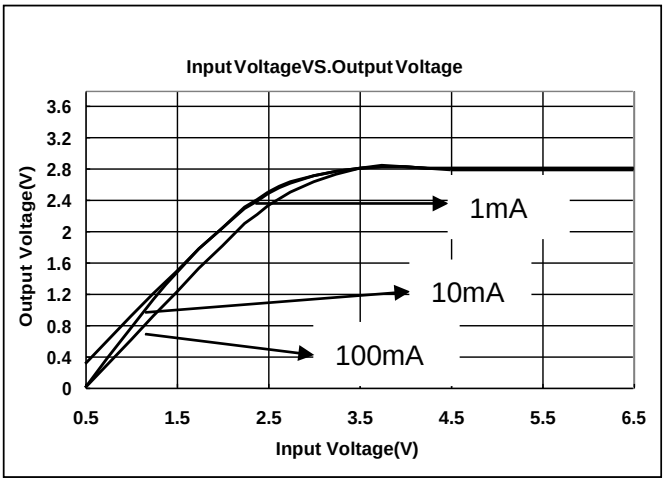

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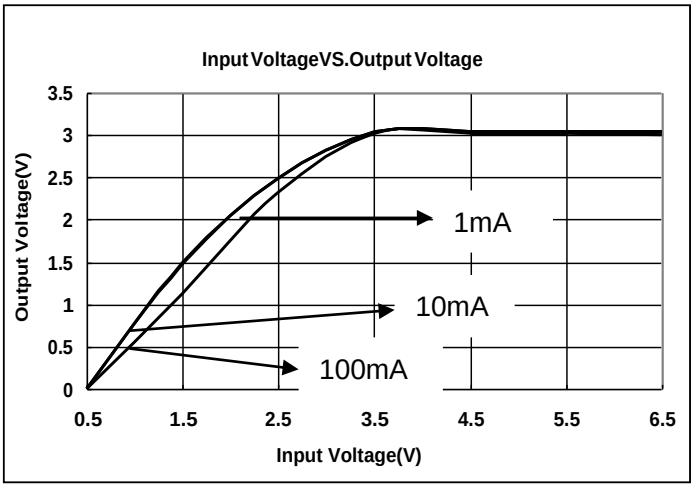

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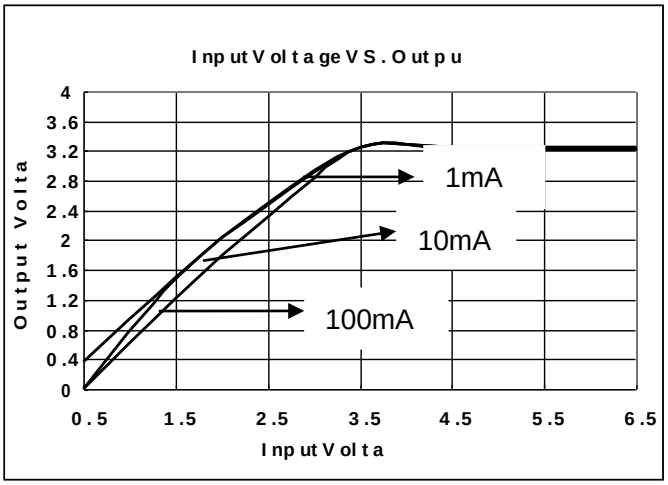

（3）Output Current VS. Dropout Voltage（VIN=Vout+1V,Ta = 25 °C）

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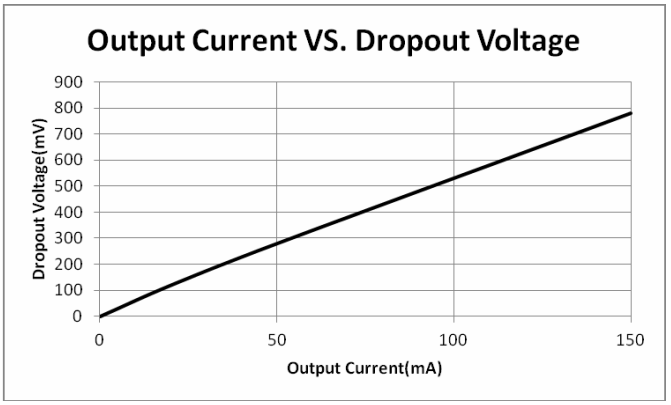

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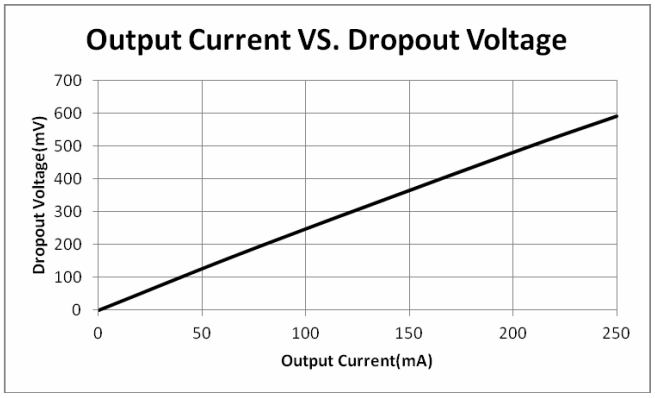

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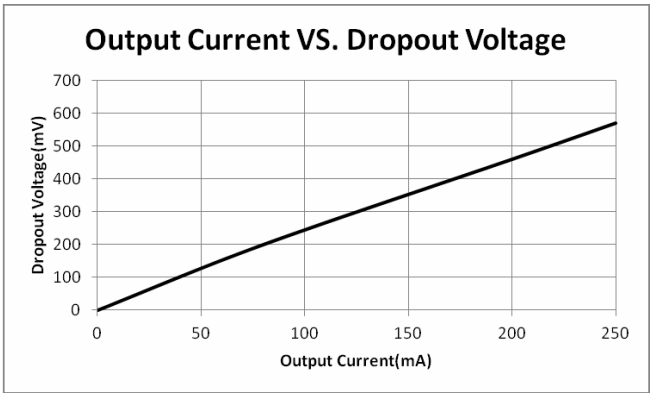

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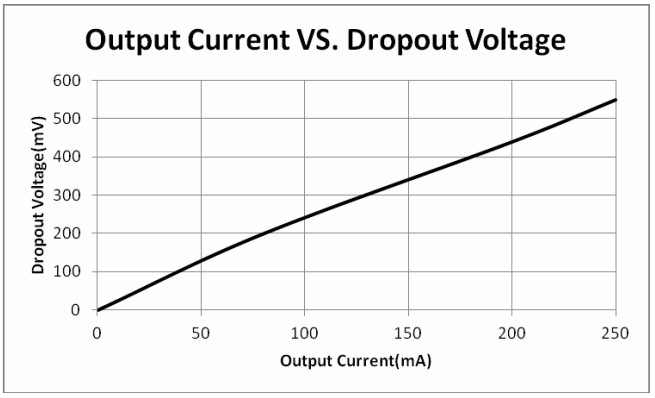

（4）Input Voltage VS. Supply Current（Ta = 25 °C）

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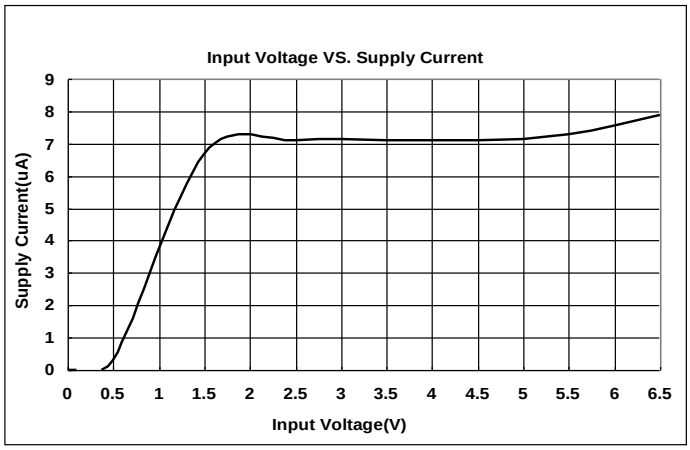

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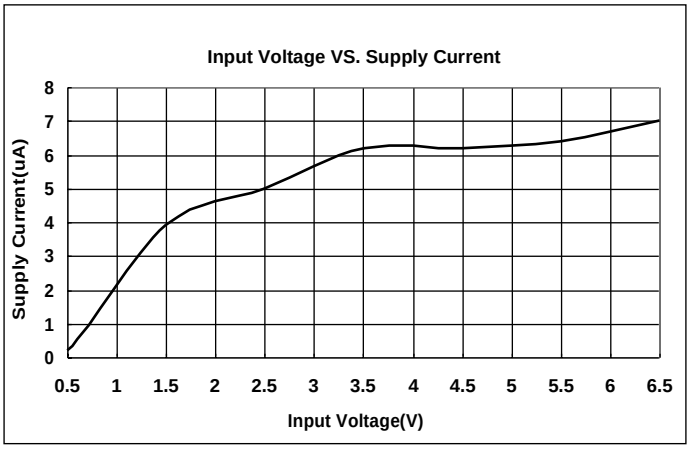

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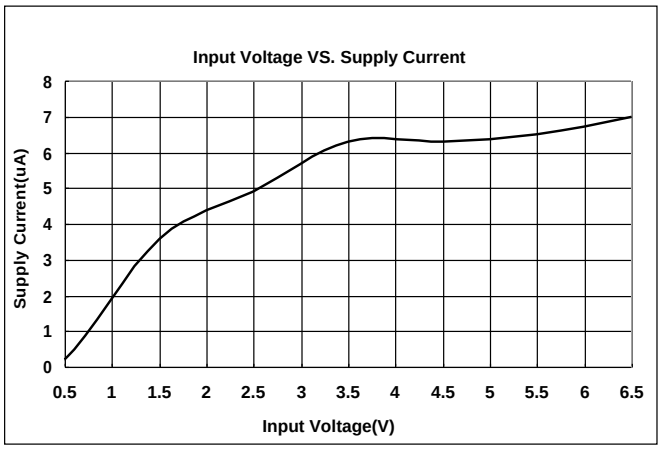

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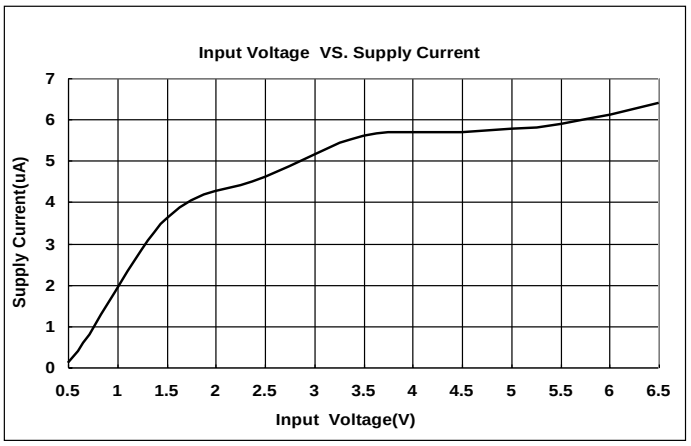
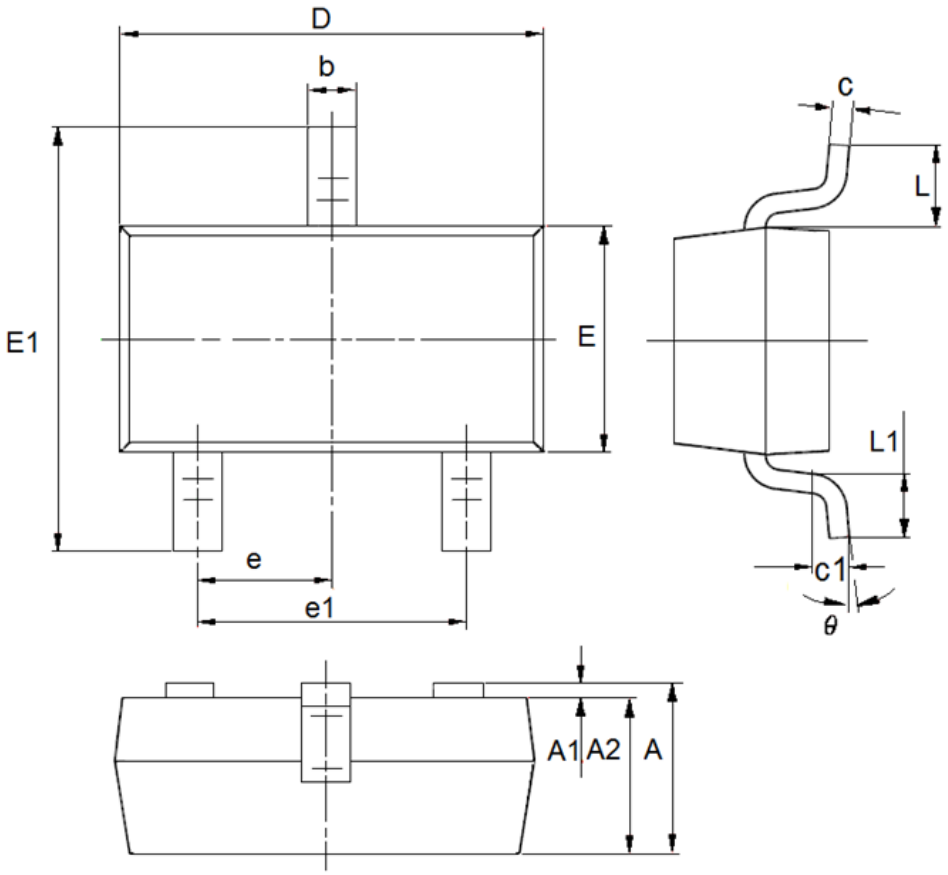


Packaging Information

SOT23



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.9	1.15	0.0354	0.0453
A1	0	0.14	0.0000	0.0055
A2	0.9	1.05	0.0354	0.0413
b	0.28	0.52	0.0110	0.0205
c	0.07	0.23	0.0028	0.0091
D	2.8	3.0	0.1102	0.1181
e1	1.8	2.0	0.0709	0.0787
E	1.2	1.4	0.0472	0.0551
E1	2.2	2.6	0.0866	0.1024
e	0.95(TYP)		0.0374(TYP)	
L	0.55(TYP)		0.0217(TYP)	
L1	0.25	0.55	0.0098	0.0217
θ	0	8°	0.0000	8°
c1	0.25(TYP)		0.0098(TYP)	

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