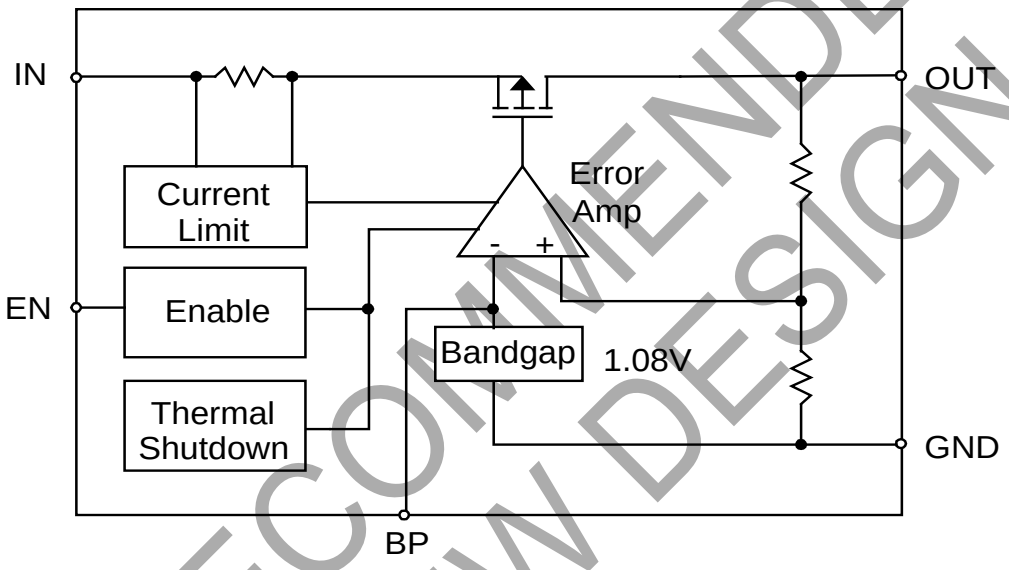
Pin Descriptions

Pin Name	Description
IN	Input Voltage
GND	Ground
EN	Enable Pin
BP	Band-Gap
OUT	Output Voltage

Functional Block Diagram



Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter		Rating	Unit
V_{CC}	Input Voltage		+6	V
T_{OP}	Operating Junction Temperature Range		-40 to +125	°C
T_{ST}	Storage Temperature Range		-65 to +150	°C
P_D	Power Dissipation, P_D @ T_A = 25°C	SOT25	250	mW

Recommended Operating Conditions (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Min	Max	Unit
V_{IN}	Input Voltage	2.7	5.5	V
I_{OUT}	Output Current	0	300	mA
T_A	Operating Ambient Temperature	-40	85	°C

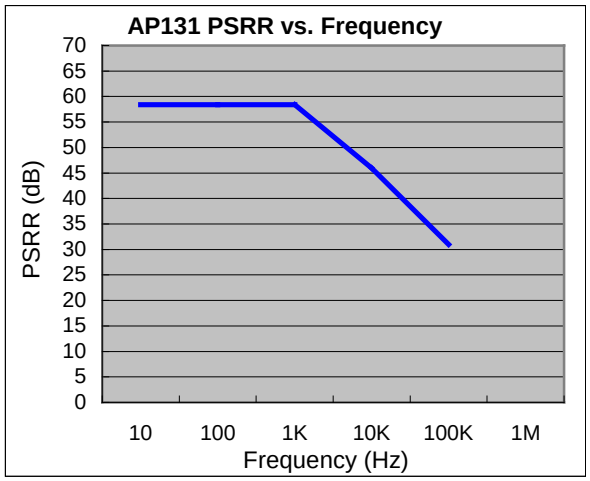
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

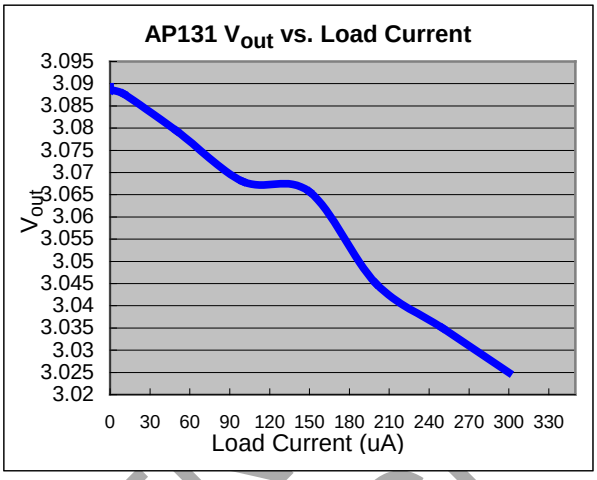
T_A = 25ºC, C_{IN} = 1µF, C_{OUT} = 10µF, unless otherwise specified.

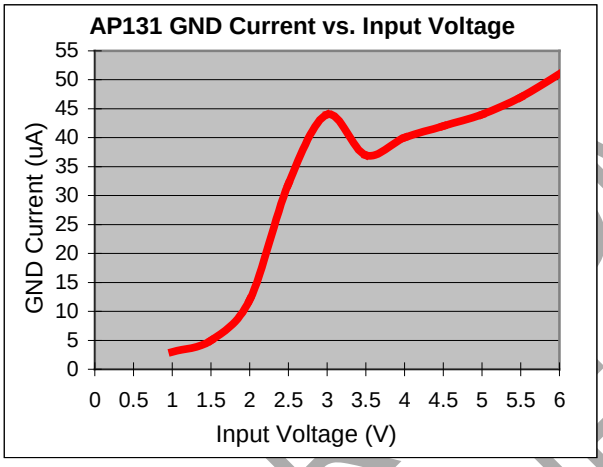
Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{DROP}	Dropout Voltage (Note 4)	I_L = 300mA	—	400	500	mV
I_{LIMIT}	Current Limit (Note 5)	V_{IN} = 5V, V_{OUT} = 0V	350	450	—	mA
I_{short}	Short Circuit Current	V_{OUT} < 1.05V	—	150	300	mA
ΔV_{LINE}	Line Regulation	I_{OUT} = 1mA, V_{IN} =(V_{OUT} +1V) to 5.5V	—	0.1	0.3	%/V
ΔV_{LOAD}	Load Regulation (Note 6)	I_L = 1~300mA, V_{IN} = 5V	—	30	35	mV
ΔV_{OUT}	Output Voltage Accuracy	I_L = 1mA, V_{IN} = 5V	-2	—	+2	%
	Output Voltage Temperature Coefficient (Note 7)	—	—	50	150	PPM/°C
PSRR	Ripple Rejection	F = 100Hz, C_{IN} = 1µF, C_O = 10µF, I_L = 100mA	—	60	—	dB
I_{SB}	Standby Current	I_L = 0mA, V_{IN} = 5V, EN = 0V	—	—	5	µA
I_Q	Quiescent Current	I_L = 0mA, V_{IN} = 5V, EN = 5V	—	50	100	µA
I_{EN}	Enable Pin Current	—	—	—	< 0.1	µA
V_{ENON}	Enable Pin Voltage	Output ON	1.5	—	V_{IN}	V
V_{ENOFF}		Output OFF	0	—	0.8	V
T_{DELAY}	Enable Delay Time	C_{BP} = 0.1µF, C_{OUT} = 1µF, I_{OUT} = 30mA	—	8	—	µS
Θ_{JA}	Thermal Resistance Junction-to-Ambient	SOT25 (Note 8)	—	163	—	°C/W
Θ_{JC}	Thermal Resistance Junction-to-Case	SOT25 (Note 8)	—	53	—	°C/W

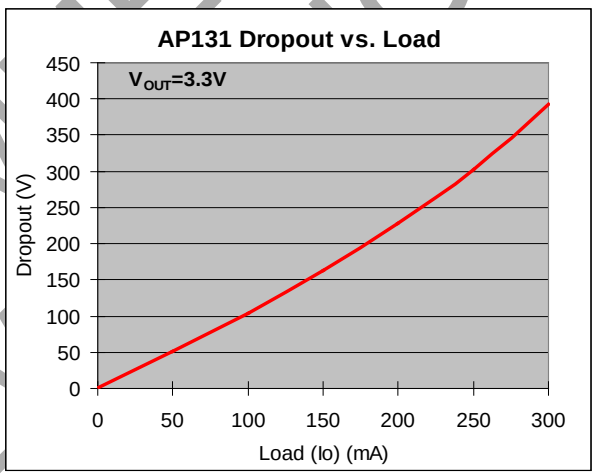
Notes:
4. Dropout voltage is defined as the input to output differential voltage. Dropout is measured at constant junction temperature by using pulsed ON time, and the criterion is V_{OUT} inside target value ±2%. This test is skipped at the condition of V_{IN}<3V.
5. Current limit is measured at constant junction temperature by using pulsed testing with a low ON time.
6. Regulation is measured at constant junction temperature by using pulsed testing with a low ON time.
7. Guaranteed by design.
8. Test conditions for SOT25: Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Typical Characteristics









Ordering Information

AP131 - XX W X - 7

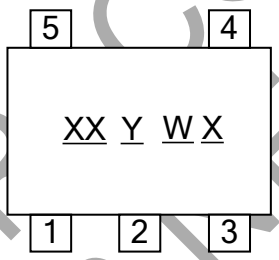
Output Voltage	Package	Lead Free	Packing
15:1.5V 18:1.8V 20:2.0V 25:2.5V 28:2.8V 29:2.9V 30:3.0V 33:3.3V 35:3.5V	W : SOT25	L : Lead Free G : Green	7 : Tape & Reel

Device	Package Code	Packaging (Note 2)	7" Tape and Reel	
			Quantity	Part Number Suffix
AP131-XXWL-7	W	SOT25	3000/Tape & Reel	-7
AP131-XXWG-7	W	SOT25	3000/Tape & Reel	-7

Marking Information

(1) SOT25

(Top View)



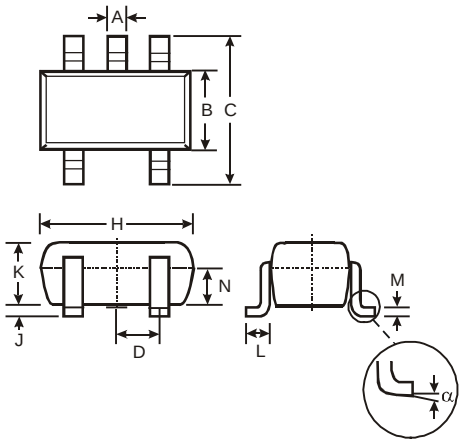
XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents 52 and 53 week
X : a~z : Lead Free
A~Z : Green

Part Number	Package	Identification Code
AP131-15W	SOT25	DA
AP131-18W	SOT25	DD
AP131-20W	SOT25	DF
AP131-25W	SOT25	DK
AP131-28W	SOT25	DN
AP131-29W	SOT25	DO
AP131-30W	SOT25	DP
AP131-33W	SOT25	DS
AP131-35W	SOT25	DU

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT25

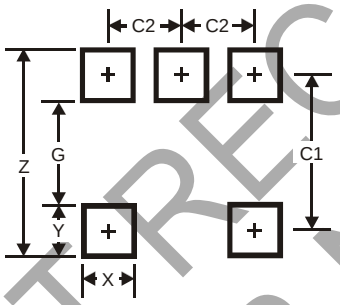


SOT25			
Dim	**Min**	**Max**	**Typ**
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	-	-	0.95
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
N	0.70	0.80	0.75
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT25



Dimensions	Value
Z	3.20
G	1.60
X	0.55
Y	0.80
C1	2.40
C2	0.95

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