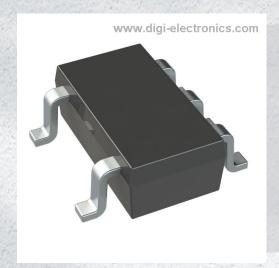


# AP7365-28WG-7 Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number AP7365-28WG-7-DG

Manufacturer Diodes Incorporated

Manufacturer Product Number AP7365-28WG-7

Description IC REG LINEAR 2.8V 600MA SOT25

Detailed Description Linear Voltage Regulator IC Positive Fixed 1 Output

600mA SOT-25



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.



# **Purchase and inquiry**

Manufacturer Product Number:	Manufacturer:
AP7365-28WG-7	Diodes Incorporated
Series:	Product Status:
	Active
Output Configuration:	Output Type:
Positive	Fixed
Number of Regulators:	Voltage - Input (Max):
1	6V
Voltage - Output (Min/Fixed):	Voltage - Output (Max):
2.8V	
Voltage Dropout (Max):	Current - Output:
0.4V @ 600mA	600mA
Current - Quiescent (Iq):	PSRR:
80 μΑ	65dB (1kHz)
Control Features:	Protection Features:
Enable	Over Current, Over Temperature
Operating Temperature:	Mounting Type:
-40°C ~ 85°C	Surface Mount
Package / Case:	Supplier Device Package:
SC-74A, SOT-753	SOT-25
Base Product Number:	
ΔΡ7365	

# **Environmental & Export classification**

8542.39.0001

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	



# NOT RECOMMENDED FOR NEW DESIGN USE AP7366



AP7365

# 600mA, LOW QUIESCENT CURRENT FAST TRANSIENT LOW DROPOUT LINEAR REGULATOR

## **Description**

The AP7365 is a 600mA, adjustable and fixed output voltage, low dropout linear regulator. This device includes pass element, error amplifier, band-gap, current limit and thermal shutdown circuitry. The device is turned on when EN pin is set to logic high level.

The characteristics of low dropout voltage and low quiescent current make it suitable for low power applications such as battery powered devices. The typical quiescent current is approximately 35µA. Built-in current-limit and thermal-shutdown functions prevent IC from damage in fault conditions.

This device is available with adjustable output from 0.8V to 5.0V, and fixed version with 0.8V, 1.0V, 1.2V, 1.5V, 1.8V, 2.0V, 2.5V, 2.8V, 3.0V, 3.3V and 3.9V outputs. Please contact your local sales office for other voltage options.

The AP7365 is available in SOT25, SOT89, SOT223, and U-DFN2020-6 packages.

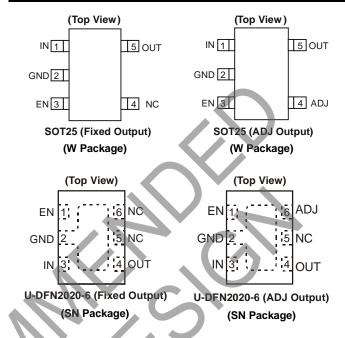
#### **Features**

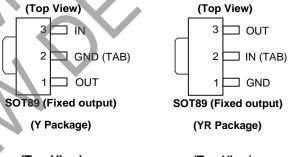
- 600mA Low Dropout Regulator with EN
- Very Low I<sub>Q</sub>: 35μA
- Wide Input Voltage Range: 2V to 6V
- Wide Adjustable Output: 0.8V to 5.0V
- Fixed Output Options: 0.8V to 3.9V (0.1V Step Size Possible)
- High PSRR: 65dB at 1kHz
- Fast Start-Up Time: 200µs
- Stable with Low ESR, 1µF Ceramic Output Capacitor
- Excellent Load/Line Transient Response
- Low Dropout: 300mV at 600mA
- Current Limit and Short Circuit Protection
- Thermal Shutdown Protection
- Ambient Temperature Range: -40°C to +85°C
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. <a href="https://www.diodes.com/quality/product-definitions/">https://www.diodes.com/quality/product-definitions/</a>

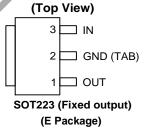
### Applications

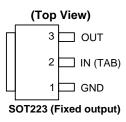
- Servers and Notebook Computers
- Low and Medium Power Applications
- FPGA and DSP Core or I/O Power
- Consumer Electronics

## Pin Assignments

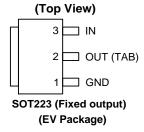








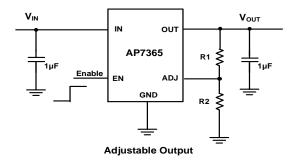
(ER Package)

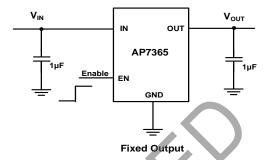


Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

# **Typical Applications Circuit**



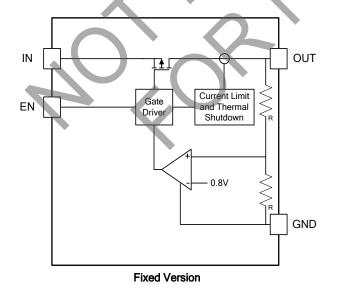


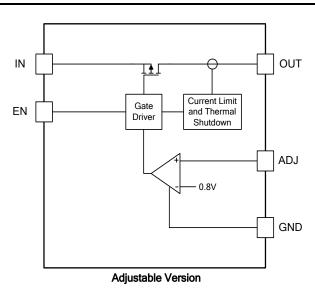
$$V_{OUT} = V_{REF}\!\!\left(1\!+\!\frac{R_1}{R_2}\right) \text{ where } R_2 \leq 80 \text{K}\Omega$$

# **Pin Descriptions**

				Pin Numl	per			
Pin Name	SOT25 (Fixed)		U-DFN2020-6 (Fixed)	U-DFN2020-6 (ADJ)	SOT223	SOT89 (YR Package) SOT223 (ER Package)	(EV Package)	Functions
IN	1	1	3	3	3	2	3	Voltage Input Pin. Bypass to ground through at least 1µF MLCC capacitor
GND	2	2	2	2	2	1	1	Ground
EN	3	3	1	1	_	-	_	Enable Input, Active High
ADJ	_	4	1	6		-		Output Feedback Pin
NC	4	-	5, 6	5		7	_	No Connection
OUT	5	5	4	4	1	3	2	Voltage Output Pin. Bypass to ground through 1µF MLCC capacitor

# **Functional Block Diagram**







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

Symbol	Parameter	Ratings	Unit
ESD HBM	Human Body Model ESD Protection	2000	V
ESD MM	Machine Model ESD Protection	200	V
Vin	Input Voltage	6.5	V
_	OUT, EN Voltage	V <sub>IN</sub> +0.3	V
_	Continuous Load Current per Channel	Internal Limited	
T <sub>ST</sub>	Storage Temperature Range	-65 to +150	ů
TJ	Maximum Junction Temperature	+150	°C

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

Symbol	Parameter	Min	Max	Unit
Vin	Input Voltage	2	6	V
Гоит	Output Current (Note 4)	0	600	mA
T <sub>A</sub>	Operating Ambient Temperature	-40	+85	°C

Note: 4. The device maintains a stable, regulated output voltage without a load current.

# Electrical Characteristics (@T<sub>A</sub> = +25°C, V<sub>IN</sub> = V<sub>OUT</sub> +1V, C<sub>OUT</sub> = 1μF, C<sub>IN</sub> = 1μF, V<sub>EN</sub> = 2V, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min	Тур	Max	Unit
$V_{REF}$	ADJ Reference Voltage (Adjustable Version)	I <sub>OUT</sub> = 0mA		0.8		V
ladj	ADJ Leakage (Adjustable Version)		_	0.1	1.0	μΑ
Vouт	Output Voltage Accuracy	T <sub>A</sub> = -40°C to +85°C, l <sub>OUT</sub> = 10% of l <sub>OUT-Max</sub>	-2	1	+2	%
ΔVout /ΔV <sub>IN</sub> /V	Line Regulation	$V_{IN} = (V_{OUT} + 1V)$ to $V_{IN-Max}$ , $V_{EN} = V_{IN}$ , $I_{OUT} = 1mA$	_	0.02	0.20	%/V
ΔVουτ/Vουτ	Load Regulation	Vin = (Vout +1V) to Vin-Max, lout = 1mA to 600mA	-1.0	l	+1.0	%
\/	Dropout Voltage (Note 5)	Vout < 2.5V, Iout = 600mA	_	370	600	mV
VDROPOUT	Diopout voltage (Note 5)	$V_{OUT} \ge 2.5V$ , $I_{OUT} = 600$ mA	_	300	400	IIIV
Iq	Input Quiescent Current	VEN = VIN, IOUT = 0mA	_	35	80	μΑ
Ishdn	Input Shutdown Current	VEN = 0V, IOUT = 0mA	_	0.1	1.0	μΑ
I <sub>LEAK</sub>	Input Leakage Current	V <sub>EN</sub> = 0V, OUT grounded	_	0.1	1.0	μΑ
ts⊤	Start-Up Time	V <sub>EN</sub> = 0V to 2.0V in 1µs, I <sub>OUT</sub> = 600mA	_	200	1	μs
PSRR	PSRR (Note 6)	$V_{IN} = [V_{OUT} + 1V] V_{DC} + 0.5V_{ppAC},$ $f = 1kHz, I_{OUT} = 50mA$	_	65		dB
ISHORT	Short-Circuit Current	VIN = VIN-Min to VIN-Max, VOUT < 0.2V (fixed version) or 25% of VOUT (ADJ version)		240	ı	mA
ILIMIT	Current limit	VIN = VIN-Min to VIN-Max, VOUT/ROUT = 2.5A	0.8	1.4	1	А
VIL	EN Input Logic Low Voltage	VIN = VIN-Min to VIN-Max	_		0.4	V
ViH	EN Input Logic High Voltage	VIN = VIN-Min to VIN-Max	1.4	_	_	V
IEN	EN Input Current	V <sub>IN</sub> = 0V or V <sub>IN-Max</sub>	-1	_	+1	μA
TSHDN	Thermal Shutdown Threshold	_	_	+145	1	°C
Thys	Thermal Shutdown Hysteresis	_	_	+15	_	°C

Notes: 5. Dropout voltage is the voltage difference between the input and the output at which the output voltage drops 2% below its nominal value. This parameter only applies to input voltages above minimum  $V_{IN} = 2.0V$ .

<sup>6.</sup> At  $V_{\text{IN}}$  < 2.3V, the PSRR performance may be reduced.

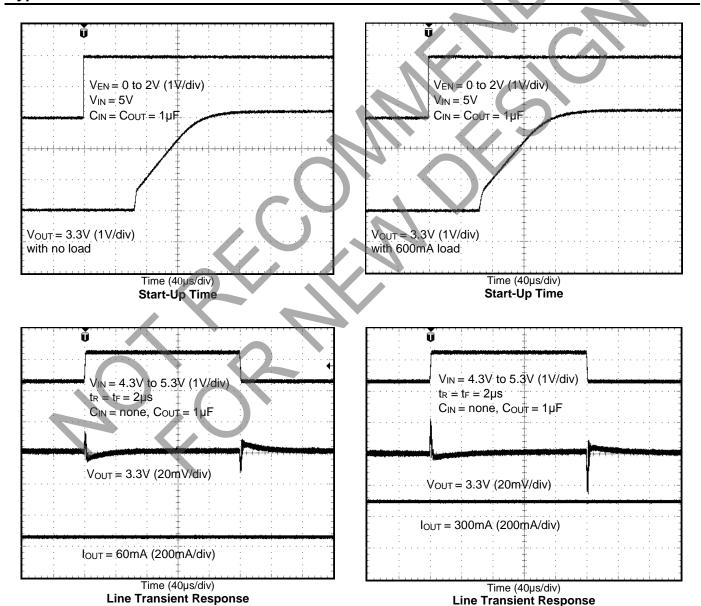


# **Electrical Characteristics** (continued) (@TA = +25°C, VIN = VOUT +1V, COUT = $1\mu$ F, CIN = $1\mu$ F, VEN = 2V, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min	Тур	Max	Unit
	SOT25 (Note 7)	_	169	_		
0	Thermal Desistance Junction to Ambient	U-DFN2020-6 (Note 7)	_	132	_	°C/W
θJA	θ <sub>JA</sub> Thermal Resistance Junction-to-Ambient	SOT89 (Note 7)	_	133	_	· C/VV
		SOT223 (Note 7)	_	142	_	
	θ <sub>JC</sub> Thermal Resistance Junction-to-Case	SOT25 (Note 7)	_	31	-	
0		U-DFN2020-6 (Note 7)	_	48	_	°C/W
A)C II		SOT89 (Note 7)	_	30	-	C/VV
		SOT223 (Note 7)	-/	39	_	

Note:

## Typical Performance Characteristics

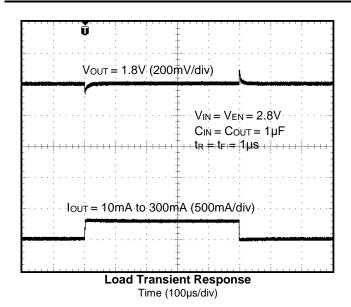


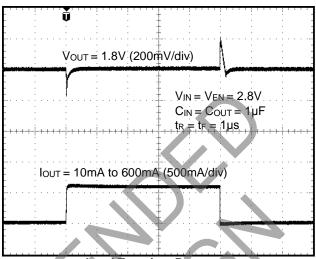
<sup>7.</sup> Test condition for all packages: Device mounted on FR-4 substrate PC board, 1oz copper, with minimum recommended pad layout.

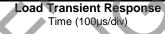


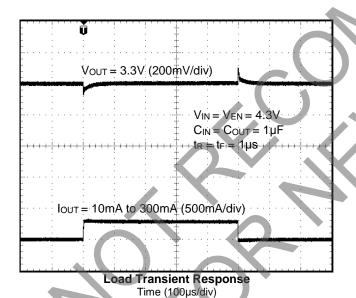


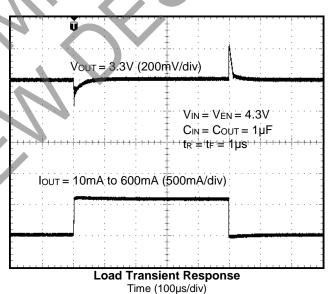
# **Typical Performance Characteristics** (continued)







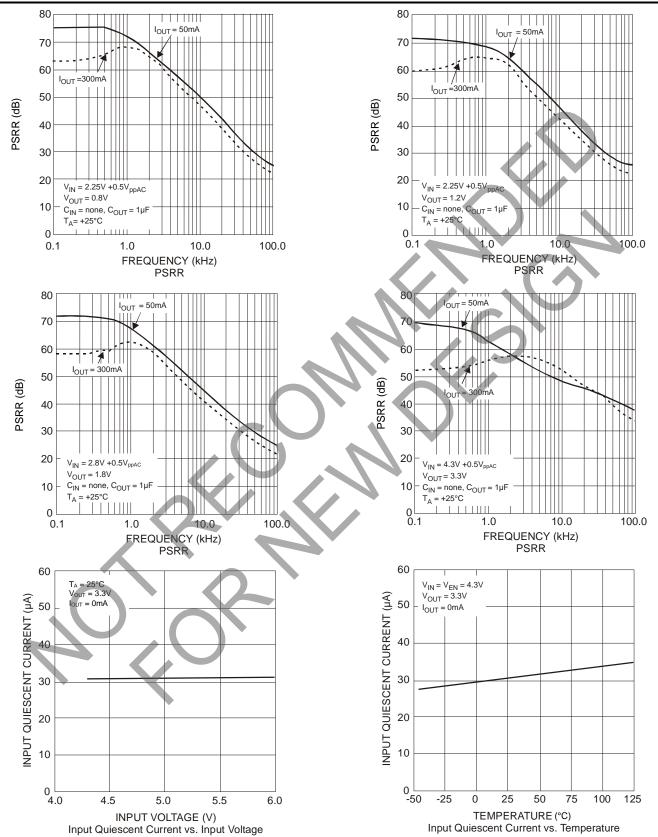








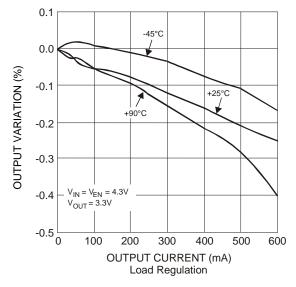
# **Typical Performance Characteristics** (continued)

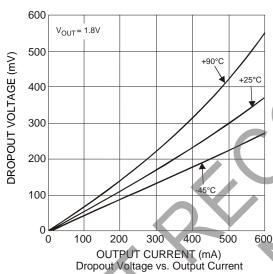


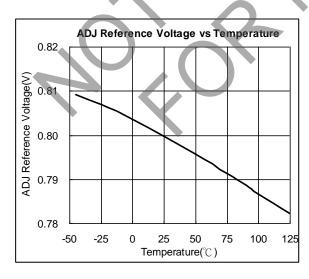


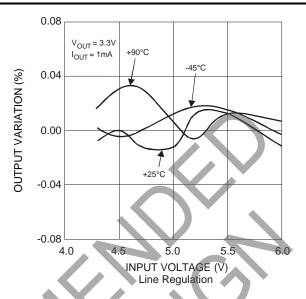


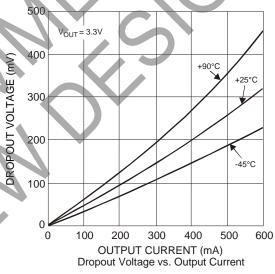
# **Typical Performance Characteristics** (continued)

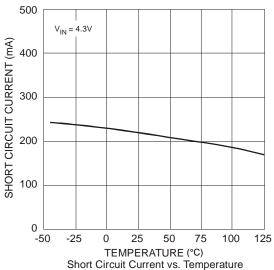






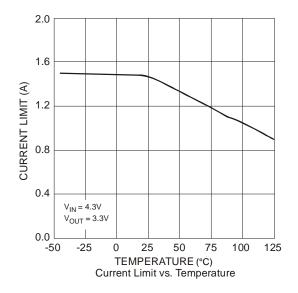








## **Typical Performance Characteristics** (continued)



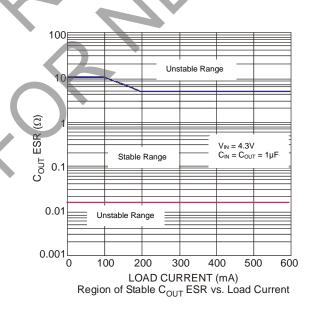


#### **Input Capacitor**

A 1µF ceramic capacitor is recommended between IN and GND pins to decouple input power supply glitch and noise. The amount of the capacitance may be increased without limit. This input capacitor must be located as close as possible to the device to assure input stability and reduce noise. For PCB layout, a wide copper trace is required for both IN and GND pins. A lower ESR capacitor type allows the use of less capacitance, while higher ESR type requires more capacitance.

#### **Output Capacitor**

The output capacitor is required to stabilize and improve the transient response of the LDO. The AP7365 is stable with very small ceramic output capacitors. Using a ceramic capacitor value that is at least  $1\mu F$  with ESR >  $15m\Omega$  on the output ensures stability. Higher capacitance values help to improve line and load transient response. The output capacitance may be increased to keep low undershoot and overshoot. Output capacitor must be placed as close as possible to OUT and GND pins.

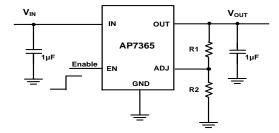




## **Application Information** (continued)

#### **Adjustable Operation**

The AP7365 provides output voltage from 0.8V to 5.0V through external resistor divider as shown below.



The output voltage is calculated by:

$$V_{OUT} = V_{REF} \!\! \left( 1 \! + \! \frac{R_1}{R_2} \right)$$

Where  $V_{REF} = 0.8V$  (the internal reference voltage)

Rearranging the equation will give the following that is used for adjusting the output to a particular voltage:

$$R_1 = R_2 \left( \frac{V_{OUT}}{V_{REF}} - 1 \right)$$

To maintain the stability of the internal reference voltage,  $R_2$  needs to be kept smaller than  $80k\Omega$ .

#### No Load Stability

Other than external resistor divider, no minimum load is required to keep the device stable. The device will remain stable and regulated in no load condition.

### **ON/OFF Input Operation**

The AP7365 is turned on by setting the EN pin high, and is turned off by pulling it low. If this feature is not used, the EN pin should be tied to IN pin to keep the regulator output on at all time. To ensure proper operation, the signal source used to drive the EN pin must be able to swing above and below the specified turn-on/off voltage thresholds listed in the Electrical Characteristics section under V<sub>IL</sub> and V<sub>IH</sub>.

#### **Current Limit Protection**

When output current at OUT pin is higher than current limit threshold, the current limit protection will be triggered and clamp the output current to approximately 1.4A to prevent overcurrent and to protect the regulator from damage due to overheating.

#### **Short Circuit Protection**

When OUT pin is short-circuit to GND, short circuit protection will be triggered and clamp the output current to approximately 240mA. This feature protects the regulator from overcurrent and damage due to overheating.

#### **Thermal Shutdown Protection**

Thermal protection disables the output when the junction temperature rises to approximately +145°C, allowing the device to cool down. When the junction temperature reduces to approximately +130°C, the output circuitry is enabled again. Depending on power dissipation, thermal resistance and ambient temperature, the thermal protection circuit may cycle on and off. This cycling limits the heat dissipation of the regulator, protecting it from damage due to overheating.

#### **Ultra Fast Start-Up**

After enabled, the AP7365 is able to provide full power in as little as hundreds of microseconds, typically 200µs, without sacrificing low ground current. This feature will help load circuitry move in and out of standby mode in real time, eventually extend battery life for mobile phones and other portable devices.



## **Application Information** (continued)

#### **Fast Transient Response**

Fast transient response LDO can extend battery life. TDMA-based cell phone protocols such as Global System for Mobile Communications (GSM) have a transmit/receive duty factor of only 12.5%, enabling power savings by putting much of the baseband circuitry into standby mode in between transmit cycles. In baseband circuits, the load often transitions virtually instantaneously from 100µA to 100mA. To meet this load requirement, the LDO must react very quickly without a large voltage drop or overshoot — a requirement that cannot be met with conventional, general-purpose LDO.

The AP7365's fast transient response from 0 to 600mA provides stable voltage supply for fast DSP and GSM chipset with fast changing load.

#### Low Quiescent Current

The AP7365, consuming only around 35μA for all input ranges, provides great power saving in portable and low power applications.

#### Wide Output Range

The AP7365, with a wide output range of 0.8V to 5.0V, provides a versatile LDO solution for many portable applications.

#### **Power Dissipation**

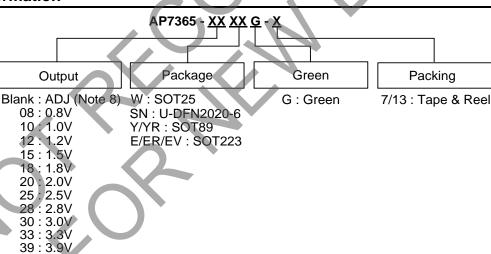
The device power dissipation and proper sizing of the thermal plane connected to the thermal pad is critical to avoid thermal shutdown and ensure reliable operation. Power dissipation of the device depends on input voltage and load conditions and can be calculated by:

PD = (VIN - VOUT) X IOUT

The maximum power dissipation, handled by the device, depends on the maximum junction to ambient thermal resistance, maximum ambient temperature, and maximum device junction temperature, which can be calculated by the equation in the following:

$$P_D(MAX@T_A) = \frac{(+145^{\circ}C - T_A)}{R_{\theta JA}}$$

# **Ordering Information**



Part Number	Package Code	Packaging	7"/13" Ta	pe and Reel
Fait Nullibei	Package Code	Packaging	Quantity	Part Number Suffix
AP7365-XXWG-7	W	SOT25	3,000/Tape & Reel	-7
AP7365-XXSNG-7	SN	U-DFN2020-6	3,000/Tape & Reel	-7
AP7365-XXYG-13	Υ	SOT89	2,500/Tape & Reel	-13
AP7365-XXYRG-13	YR	SOT89	2,500/Tape & Reel	-13
AP7365-XXEG-13	E	SOT223	2,500/Tape & Reel	-13
AP7365-XXERG-13	ER	SOT223	2,500/Tape & Reel	-13
AP7365-XXEVG-13	EV	SOT223	2,500/Tape & Reel	-13

Note: 8. Adjustable version is only available in SOT25 and U-DFN2020-6 packages.



# **Marking Information**

### (1) SOT25

(Top View)

XXYWX

2

XX: Identification code

Y: Year 0~9

 $\overline{\underline{W}}$ : Week : A~Z : 1~26 week;

a~z: 27~52 week; z represents 52 and 53 week

 $\underline{X}$ : A~Z: Green

Part Number	Package	Identification Code
AP7365-WG-7	SOT25	VA
AP7365-08WG-7	SOT25	VB
AP7365-10WG-7	SOT25	VC
AP7365-12WG-7	SOT25	VD
AP7365-15WG-7	SOT25	VE
AP7365-18WG-7	SOT25	VF
AP7365-20WG-7	SOT25	VG
AP7365-25WG-7	SOT25	VH
AP7365-28WG-7	SOT25	VJ
AP7365-30WG-7	SOT25	VK
AP7365-33WG-7	SOT25	VM
AP7365-39WG-7	SOT25	VN

### (2) U-DFN2020-6

# (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: Green

Part Number	Package	Identification Code
AP7365-SNG-7	U-DFN2020-6	VA
AP7365-08SNG-7	U-DFN2020-6	VB
AP7365-10SNG-7	U-DFN2020-6	VC
AP7365-12SNG-7	U-DFN2020-6	VD
AP7365-15SNG-7	U-DFN2020-6	VE
AP7365-18SNG-7	U-DFN2020-6	VF
AP7365-20SNG-7	U-DFN2020-6	VG
AP7365-25SNG-7	U-DFN2020-6	VH
AP7365-28SNG-7	U-DFN2020-6	VJ
AP7365-30SNG-7	U-DFN2020-6	VK
AP7365-33SNG-7	U-DFN2020-6	VM
AP7365-39SNG-7	U-DFN2020-6	VN



## Marking Information (continued)

#### (3) SOT89

(Top View)

<u>X X</u> Y W X

1 2 3

XX: Identification code

<u>Y</u>: Year : 0~9

W: Week: A~Z: 1~26 week; a~z: 27~52 week; z represents 52 and 53 week

 $\underline{X}$ : Internal code A~Z : Green

Part Number	Package	Identification Code
AP7365-08YG-13	SOT89	VB
AP7365-10YG-13	SOT89	VC
AP7365-12YG-13	SOT89	VD
AP7365-15YG-13	SOT89	VE
AP7365-18YG-13	SOT89	VF
AP7365-20YG-13	SOT89	VG
AP7365-25YG-13	SOT89	VH
AP7365-28YG-13	SOT89	VJ
AP7365-30YG-13	SOT89	VK
AP7365-33YG-13	SOT89	VM
AP7365-39YG-13	SOT89	VN
AP7365-08YRG-13	SOT89	TB
AP7365-10YRG-13	SOT89	TC
AP7365-12YRG-13	SOT89	đ
AP7365-15YRG-13	SOT89	TE
AP7365-18YRG-13	SOT89	TF
AP7365-20YRG-13	SOT89	TG
AP7365-25YRG-13	SOT89	TH
AP7365-28YRG-13	SOT89	TJ
AP7365-30YRG-13	SOT89	TK
AP7365-33YRG-13	SOT89	TM
AP7365-39YRG-13	SOT89	TN

### (4) SOT223 (E Package)

(Top View) Logo ← OH YWX Part Number ◆ 6 5-<u>VV</u> 65-<u>VV</u>:08 for 0.8V 10 for 1.0V 12 for 1.2V

15 for 1.5V 18 for 1.8V 20 for 2.0V 25 for 2.5V 28 for 2.8V 30 for 3.0V 33 for 3.3V 39 for 3.9V Y: Year: 0~9

<u>W</u>: Week: A~Z: 1~26 week; a~z: 27~52 week;

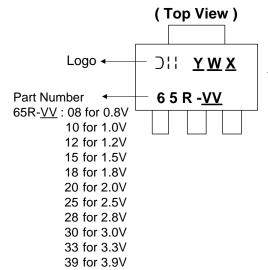
z repersents 52 and 53 week

X: Internal code A~Z: Green



### Marking Information (continued)

### (5) SOT223 (ER Package)



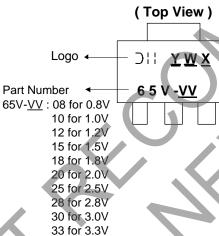
Y: Year: 0~9

<u>W</u>: Week: A~Z: 1~26 week; a~z: 27~52 week;

z repersents 52 and 53 week  $\underline{X}$ : Internal code

A~Z: Green

### (6) SOT223 (EV Package)



39 for 3.9V

Y: Year: 0~9 <u>W</u>: Week: A~Z: 1~26 week; a~z: 27~52 week; z repersents 52 and 53 week <u>X</u>: Internal code

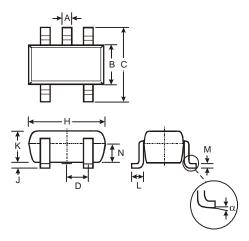
A-Z: Green



# **Package Outline Dimensions**

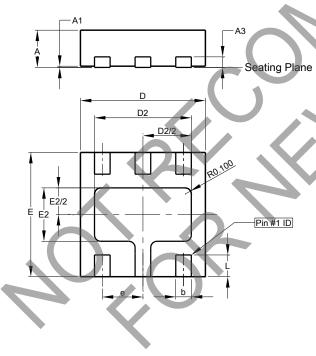
Please see http://www.diodes.com/package-outlines.html for the latest version.

### (1) Package Type: SOT25



	SOT	<sup>-</sup> 25	
Dim	Min	Max	Тур
Α	0.35	0.50	0.38
В	1.50	1.70	1.60
C	2.70	3.00	2.80
D	_	-	0.95
Н	2.90	3.10	3.00
7	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 D	imensi	ons in	mm

### (2) Package Type: U-DFN2020-6



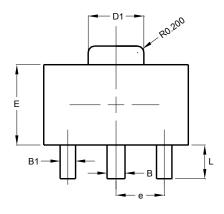
U-DFN2020-6			
Dim	Min	Max	Тур
Α	0.57	0.63	0.60
A1	0	0.05	0.03
А3	-	-	0.15
b	0.20	0.30	0.25
D	1.95	2.075	2.00
D2	1.45	1.65	1.55
е	-	-	0.65
Е	1.95	2.075	2.00
E2	0.76	0.96	0.86
L	0.30	0.40	0.35
All Dimensions in mm			

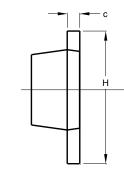


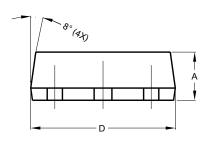
# Package Outline Dimensions (continued)

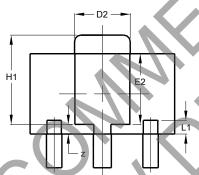
Please see http://www.diodes.com/package-outlines.html for the latest version.

### (3) Package Type: SOT89



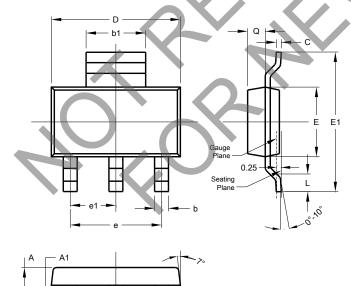






SOT89			
Dim	Min	Max	Тур
Α	1.40	1.60	1.50
В	0.50	0.62	0.56
B1	0.42	0.54	0.48
O	0.35	0.43	0.38
9	4.40	4.60	4.50
D	1.62	1.83	1.733
D2	1.61	1.81	1.71
E	2.40	2.60	2.50
E2	2.05	2.35	2.20
е	-		1.50
H	3.95	4.25	4.10
H1	2.63	2.93	2.78
Г	0.90	1.20	1.05
L1 \	0.327	0.527	0.427
Z	0.20	0.40	0.30
All Dimensions in mm			

### (4) Package Type: SOT223



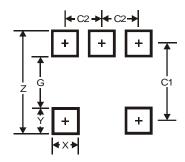
SOT223			
Dim	Min	Max	Тур
Α	1.55	1.65	1.60
A1	0.010	0.15	0.05
b	0.60	0.80	0.70
b1	2.90	3.10	3.00
С	0.20	0.30	0.25
D	6.45	6.55	6.50
E	3.45	3.55	3.50
E1	6.90	7.10	7.00
е	-	-	4.60
e1	-	-	2.30
L	0.85	1.05	0.95
Q	0.84	0.94	0.89
All Dimensions in mm			





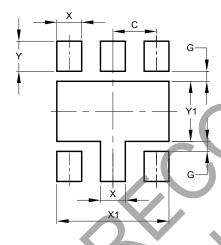
# **Suggested Pad Layout**

### (1) Package Type: SOT25



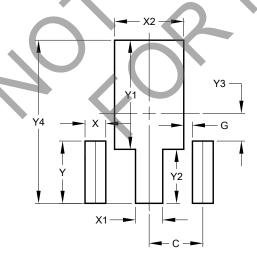
Dimensions	Value (in mm)
Z	3.20
G	1.60
Х	0.55
Y	0.80
C1	2.40
C2	0.95

### (2) Package Type: U-DFN2020-6



Dimensions	Value (in mm)
C	0.65
G	0.15
Х	0.37
X1	1.67
Y	0.45
Y1	0.90

### (3) Package Type: SOT89



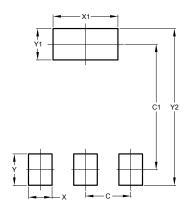
Dimensions	Value
Dilliensions	(in mm)
С	1.500
G	0.244
Х	0.580
X1	0.760
X2	1.933
Υ	1.730
Y1	3.030
Y2	1.500
Y3	0.770
Y4	4.530



# Suggested Pad Layout (continued)

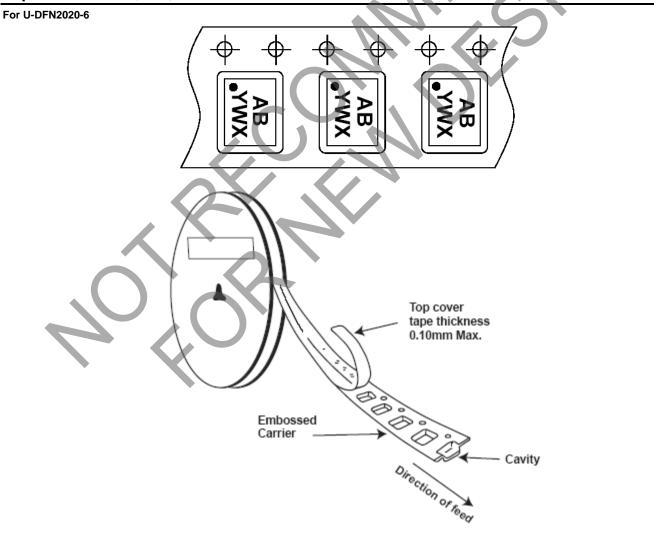
Please see http://www.diodes.com/package-outlines.html for the latest version.

### (4) Package Type: SOT223



Dimensions	Value (in mm)
С	2.30
C1	6.40
Х	1.20
X1	3.30
Υ	1.60
Y1	1.60
Y2	8.00

# **Tape Orientation** (Note 9)



Note: 9. The taping orientation of the other package type can be found on our website at https://www.diodes.com/assets/Packaging-Support-Docs/ap02007.pdf



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