

New Product Announcement

AP7583AQ AP7583Q

Low I_Q, 300mA, Automotive-Compliant LDOs with Power Good Support Off-Battery Point-of-Load Applications

The AP7583AQ series and AP7583Q series are 300mA LDOs with a low 3μ A quiescent current supporting 12V off-battery automotive applications.

Their wide 3V to 42V input range, coupled with low-dropout voltage and low quiescent current, enables them to support coldcranking in permanently connected-tobattery applications. These include microcontrollers and CAN transceivers in standby systems.

The AP7583Q series has an enable input, while the AP7583AQ series adds a powergood output to indicate the status of the output voltage. The EN input and PG output can be used for power sequencing control.

The devices are available in an adjustable output as well as 3.3V-fixed and 5V-fixed output voltage versions.

The AP7583Q series and AP7583AQ series are available in the wettable flank W-DFN2020-6 (SWP) (Type A1), while the AP7583AQ is also available in the MSOP-8EP and TO252-4 (Type C).

Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.

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The DIODES Advantage

The AP7583Q/AQ series are 42V input voltage, low dropout, low I_{Q} , 300mA LDO for automotive battery-connected applications.

- Wide 3V to 42V Input Voltage Range Supports whole 12V battery operating range including load dumps and cold-cranking
- Ultra-Low 3µA Quiescent Current Suitable for powering "always-on" components
- Low-Dropout Voltage 320mV @ I_{out} = 300mA Maintains a stable output even during low-voltage transients
- AP7583AQ Series has a Power Good Output with Internal Pull-Up Resistor

Provides fault reporting and facilitates power sequencing

- High-Power-Density MSOP-8EP and W-DFN2020-6 (SWP) (Type A1) Packages
 - Supports high-power-density automotive PCBs

Applications

Automotive point-of-load regulation in:

- MCUs and CAN/LIN transceivers
- EV and HEV battery management systems
- Body control modules
- Exterior lighting
- Instrument clusters
 - diodes.com -



Typical Application

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AP7583AQ AP7583Q



Automotive-Compliant Wide V_{IN} LDO Portfolio

Part Number	V _{IN}	V _{OUT}	Ι _{ουτ}	Max V _{DROP}	Ι _Q μΑ	Output Accuracy	Enable	Power Good	PSRR	Package	
	V	V	mA	mV		±%			dB		
<u>AP7375Q</u>	3.0 to 45	1.8, 3.0, 3.3, 5.0	300	580 @100mA	2.1	2	Yes	No	85 @1kHz	SOT89, SO-8EP, SOT25, U-DFN2020-6 (SWP) (Type UXC)	
<u>AP7387Q</u>	5 to 60	3.0, 3.3, 3.6, 5.0	150	500 @50mA	2	2	No	No	70 @1kHz	SOT89, U-DFN2020-6 / SWP (Type UXC)	
<u>AP7583AQ</u>	3.0 to	Adj, 3.3, 5.0	300	500 @300mA	3	1.5	Yes	Yes	70 @100Hz	MSOP-8EP, W-DFN2020-6 (SWP) (Type A1), TO252-4 (Type C)	
<u>AP7583Q</u>	42				2.5			No		W-DFN2020-6 (SWP) (Type A1)	

Ordering Information

	Compliance		Moisture	Packing	
Orderable Part Number	(Only Automotive Supports PPAP)	Package	Sensitivity	Quantity	Carrier
AP7583AQ-xxD4-13	<u>Automotive</u>	TO252-4 (Type C)	MSL-1	2,500	13" Tape & Reel
AP7583AQ-xxMP-13	<u>Automotive</u>	MSOP-8EP	MSL-1	2,500	13" Tape & Reel
AP7583AQ-xxFDZW-7	Automotive	W-DFN2020-6 (SWP) (Type A1)	MSL-1	3,000	7" Tape & Reel
AP7583Q-xxFDZW-7	Automotive	W-DFN2020-6 (SWP) (Type A1)	MSL-1	3,000	7" Tape & Reel