

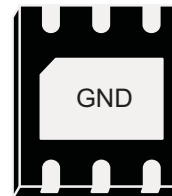
300mA, Low noise, High PSRR, Dual Output LDO

Descriptions

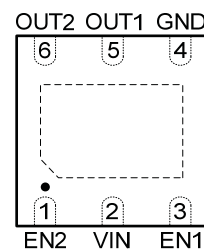
The WL2703D series are dual output low dropout linear regulators and optimized to provide a high performance solution for battery power system to deliver low quiescent current. The WL2703D series are designed for portable equipments applications to deliver ultra low output noise and high PSRR. The devices offer a new level of cost effective performance in cellular phones, laptop and notebook computers, and other portable devices.

The WL2703D series are designed to make use of low cost ceramic capacitors which ensure the stability of the output current, and enhance the efficiency in order to prolong the battery life of those portable devices.

The WL2703D regulators are available in DFN1820 packages with Pb-free and Halogen-free.



DFN1820-6L



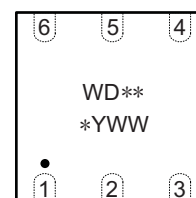
Pin Configuration (Top View)

Features

- Input voltage : 2.5V ~ 5.5V
- Output voltage : 1.2V ~ 3.3V
: (upon request)
- Maximum output current : 300mA
: (Limited by P_D)
- PSRR : 70dB @ 1KHz
- Output noise : 100uV
- Quiescent current : 120µA
- Shut-down current : < 0.1µA
- Dropout voltage : 120mV @ 200mA
- Recommend capacitor : 1uF
- Over temperature protection

Applications

- MP3/MP4 Players
- Cellphones, radiophone, digital cameras
- Bluetooth, wireless handsets
- Others portable electronics device



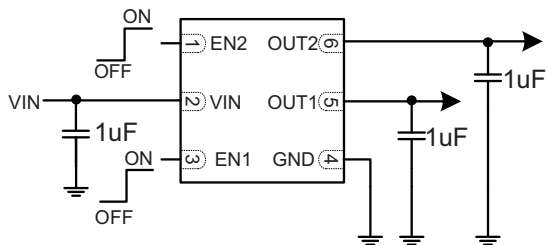
For detail marking information, please see page 10.

Marking

Order Information

For detail order information, please see page 10.

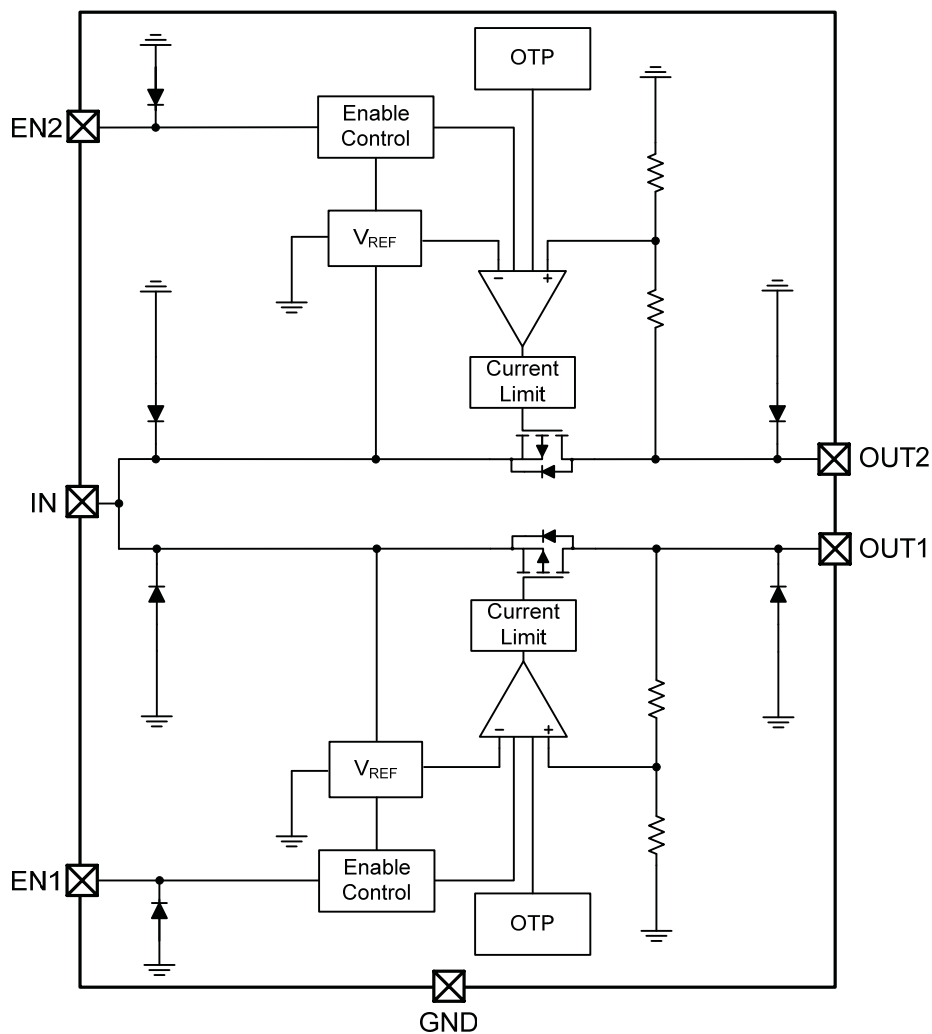
Typical Application



Pin Description

PIN	Symbol	Description
1	EN2	LDO2 Enable (Active High)
2	VIN	Power Supply
3	EN1	LDO1 Enable (Active high)
4	GND	Ground
5	OUT1	LDO1 Output
6	OUT2	LDO2 Output

Block Diagram



Absolute Maximum Ratings

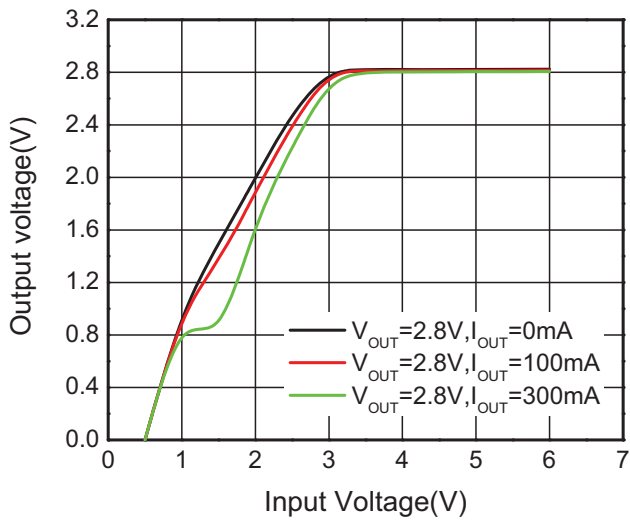
Parameter	Symbol	Value	Unit
Power Dissipation	P_D	300	mW
Input Voltage Range	V_{IN}	-0.3 ~ 6.0	V
Enable Voltage Range	V_{EN}	-0.3 ~ V_{IN}	V
Output Voltage Range	V_{OUT}	-0.3 ~ V_{IN}	V
Lead Temperature	T_L	260	°C
Operating Temperature	T_{OPR}	-40~85	°C
Storage Temperature	T_{STG}	-55 ~ 150	°C
Junction Temperature	T_J	150	°C

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

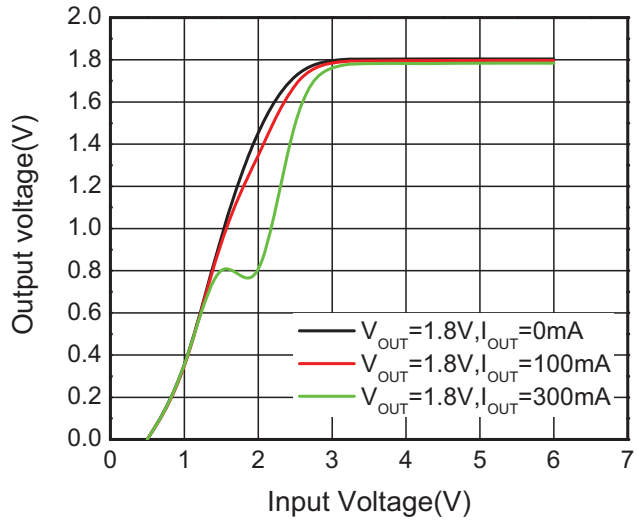
Electronics Characteristics ($V_{IN} = V_{EN} = V_{OUT} + 1V$ or 2.5V, $C_{IN} = C_{OUT} = 1\mu F$, $T_A = 25^\circ C$, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input Voltage	V_{IN}		2.5		5.5	V
Output Voltage	V_{OUT}	$I_{OUT} = 1mA$	Ref to Page 10			V
Output Accuracy	ΔV_{OUT}	$I_{OUT} = 1mA$		2		%
Output Current	I_{OUT}	$V_{IN} = V_{EN} = V_{OUT} + 1V$ or 2.5V	300			mA
Current Limit	I_{LIM}		400			mA
Dropout Voltage	V_{DROP}	$V_{OUT} = V_{OUT} * 0.98$, $I_{OUT} = 200mA$		120	200	mV
		$V_{OUT} = V_{OUT} * 0.98$, $I_{OUT} = 300mA$		190	300	mV
Line Regulation	ΔV_{LINE}	$V_{OUT} + 1V \leq V_{IN} \leq 5.5V$, $I_{OUT} = 1mA$			5	mV
Load Regulation	ΔV_{LOAD}	$V_{IN} = V_{OUT} + 1V$, $I_{OUT} = 1 \sim 300mA$			30	mV
Quiescent Current (single LDO)	I_Q	$V_{IN} = V_{EN} = V_{OUT} + 1V$ or 2.5V , $I_{OUT} = 0mA$		120	155	μA
Shutdown Current	I_{SHDN}	$V_{EN} = 0V$		0.1	1.0	μA
Power Supply Rejection Rate	PSRR	$F = 1KHz$, $I_{OUT} = 30mA$, 0.5Vp-p		70		dB
EN logic high voltage	V_{ENH}	Start up	1.2			V
EN logic low voltage	V_{ENL}	Shutdown			0.4	V
EN Input Current	I_{EN}	$V_{EN} = 0$ to 5.5V			0.8	μA
Output Noise Voltage	e_{NO}	10Hz to 100KHz, $I_{OUT} = 200mA$, $C_{OUT} = 1\mu F$		100		μV_{RMS}
Thermal Shutdown Temperature	T_{SD}			150		°C
Thermal Shutdown Hysteresis	ΔT_{SD}			30		°C

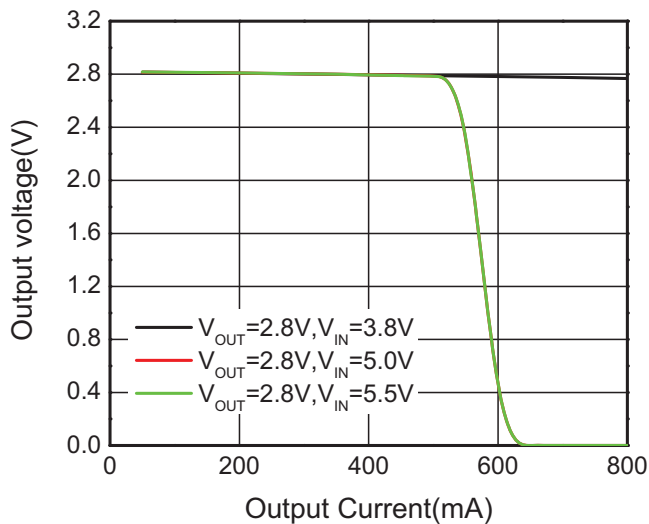
Typical Characteristics ($V_{IN} = V_{EN} = V_{OUT} + 1V$ or $2.5V$, $C_{IN} = C_{OUT} = 1\mu F$, $T_A = 25^\circ C$, unless otherwise noted)



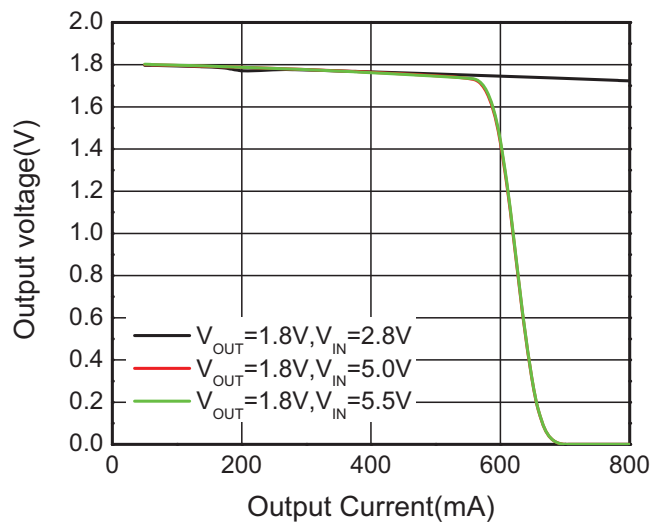
Output Voltage vs. Input Voltage



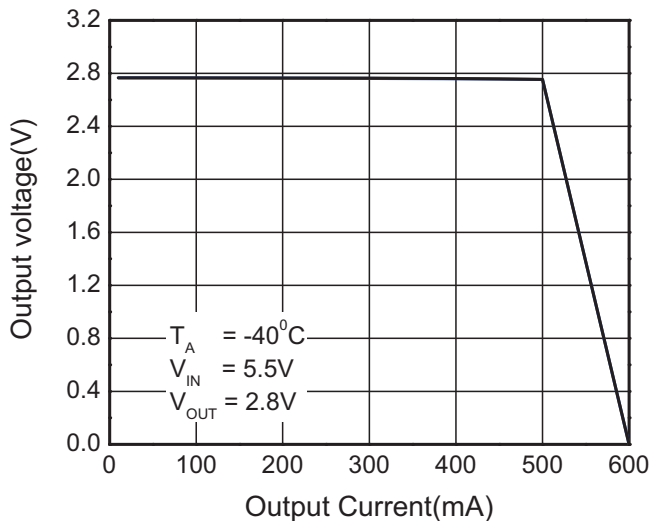
Output Voltage vs. Input Voltage



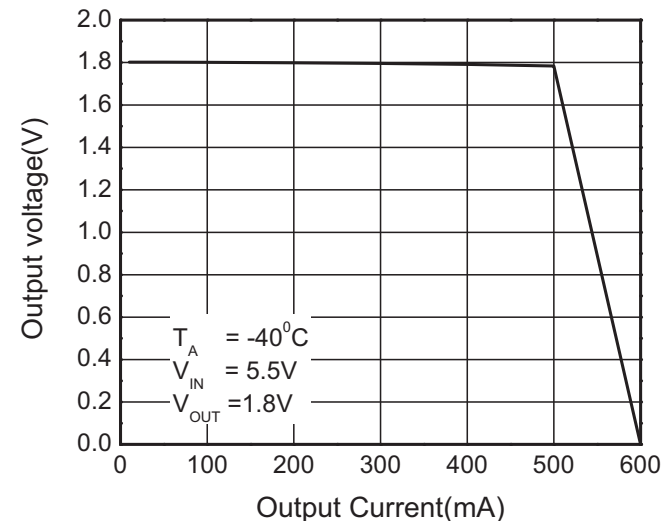
Output Voltage vs. Output Current



Output Voltage vs. Output Current

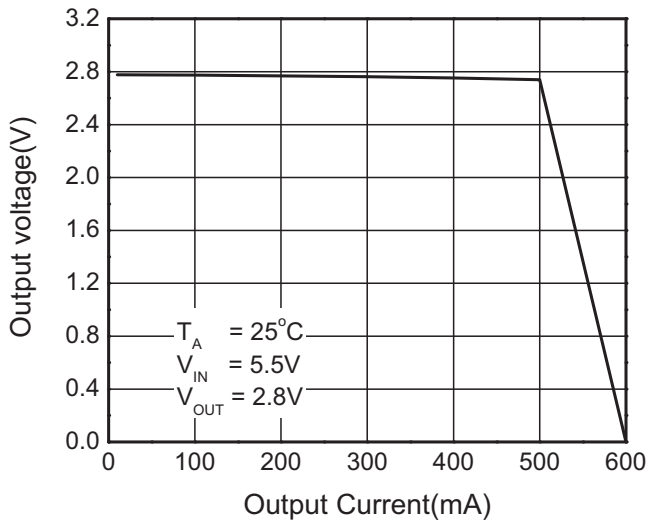


Output Voltage vs. Output Current

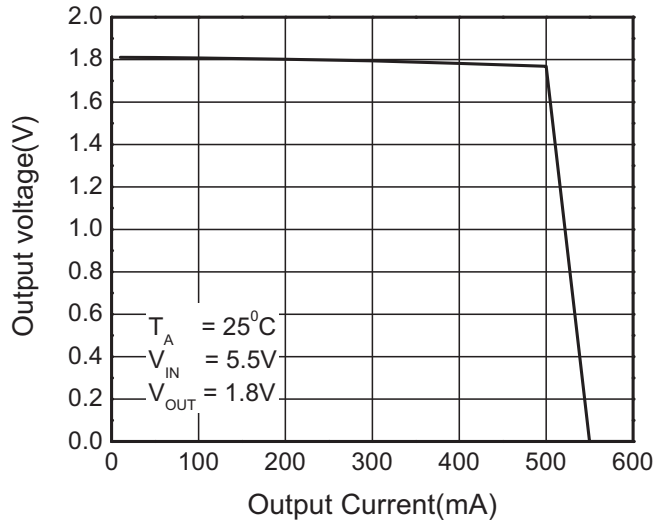


Output Voltage vs. Output Current

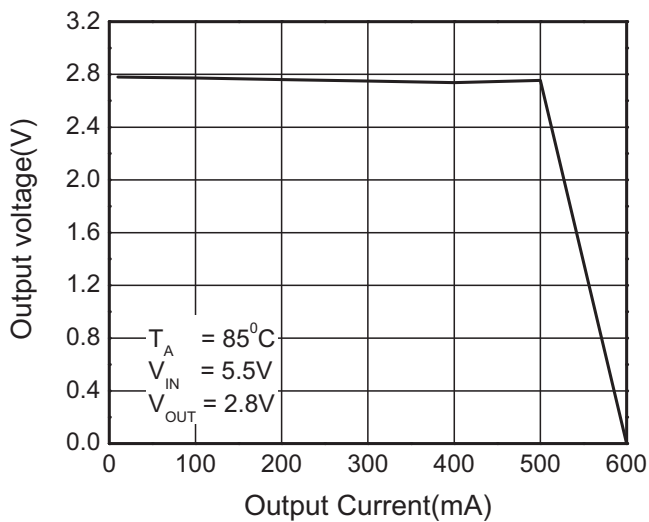
WL2703D



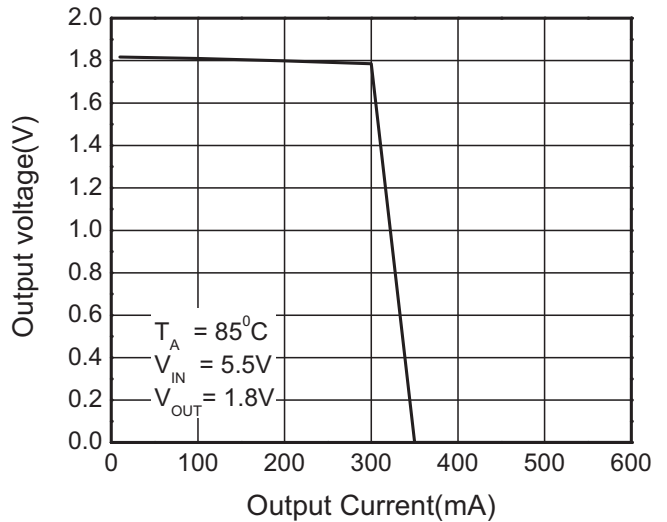
Output Voltage vs. Output Current



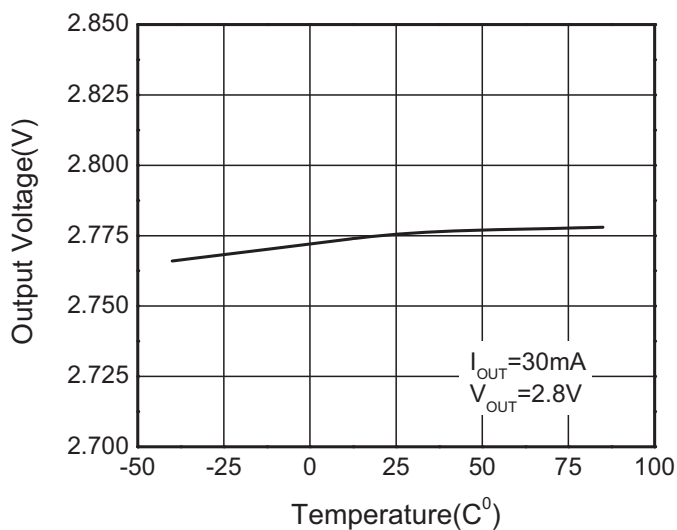
Output Voltage vs. Output Current



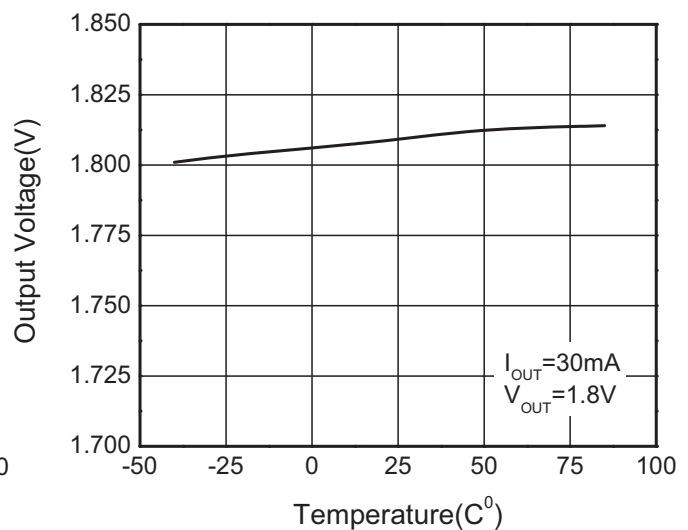
Output Voltage vs. Output Current



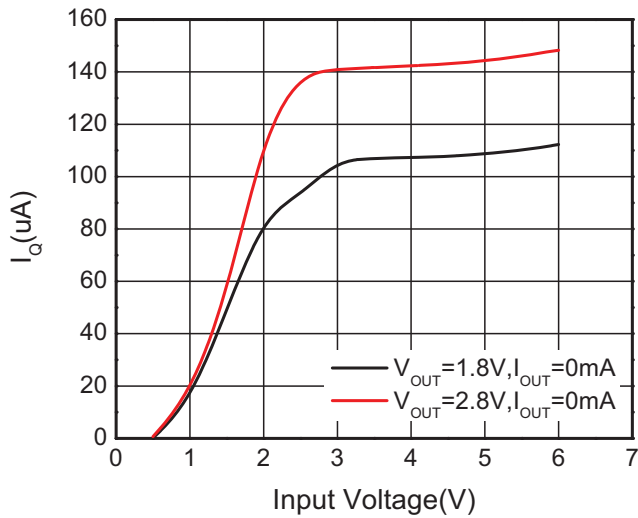
Output Voltage vs. Output Current



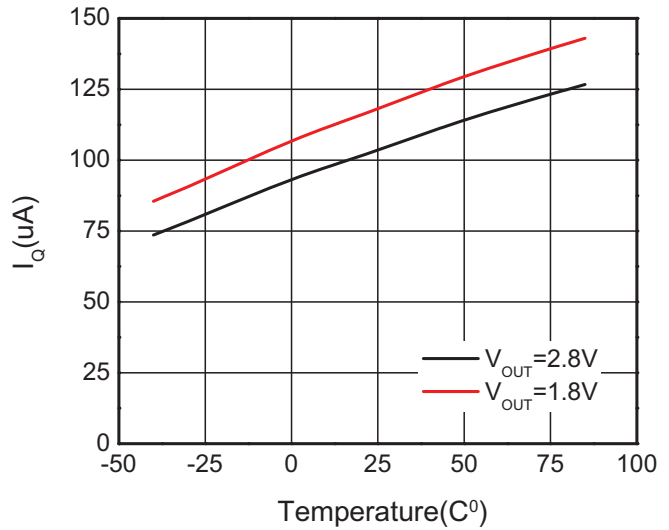
Output Voltage vs. Ambient Temperature



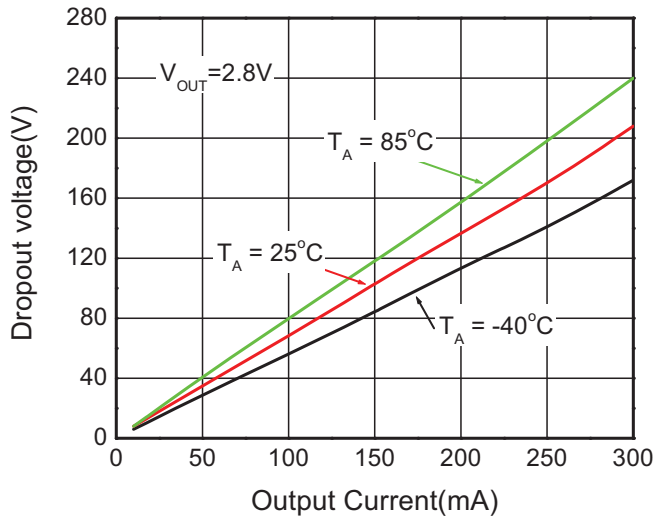
Output Voltage vs. Ambient Temperature



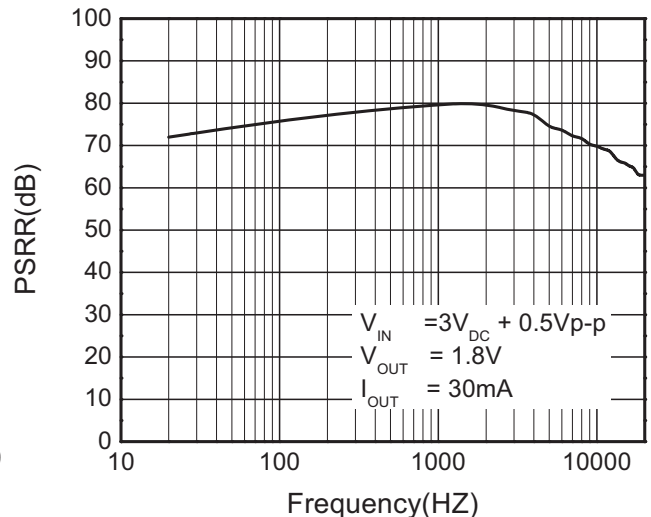
Quiescent Current vs. Input Voltage



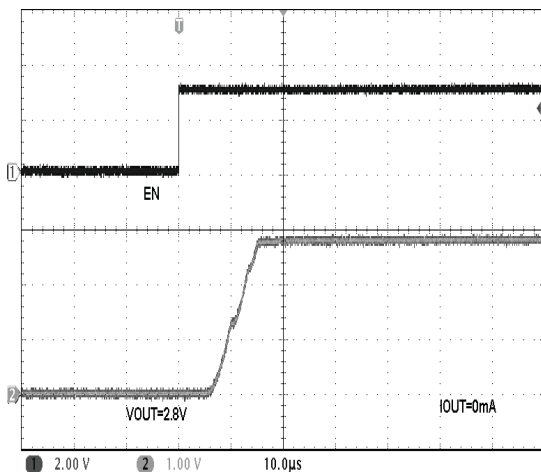
Quiescent Current vs. Ambient Temperature



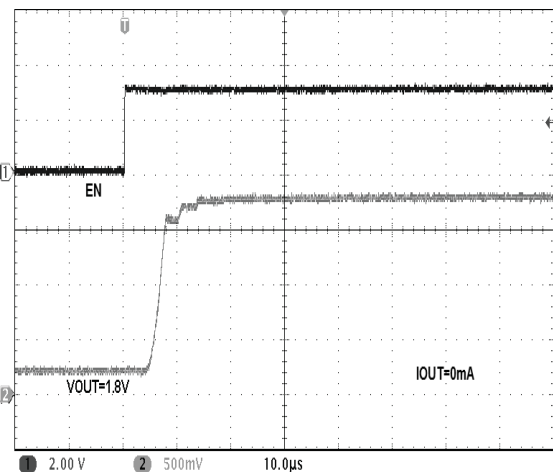
Dropout Voltage vs. Output Current



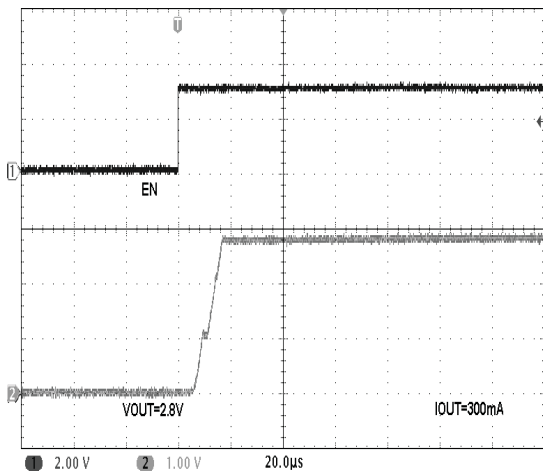
PSRR vs. Frequency



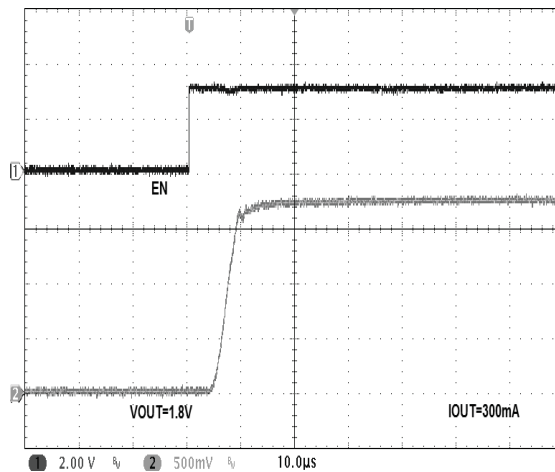
Turn ON Speed with EN



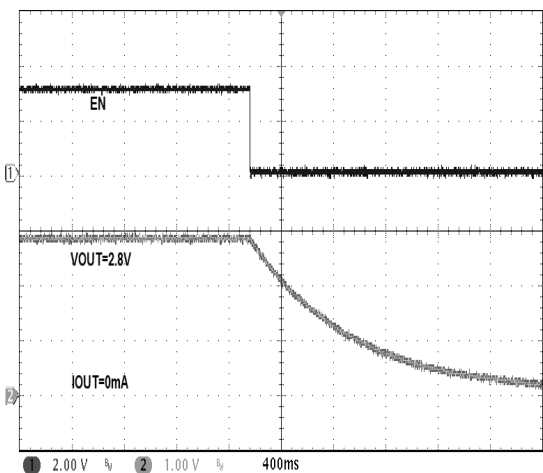
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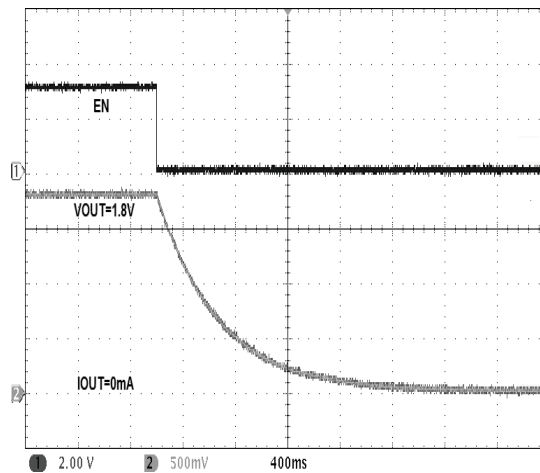
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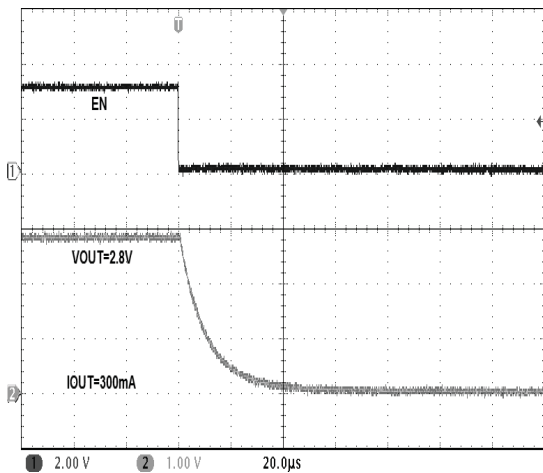
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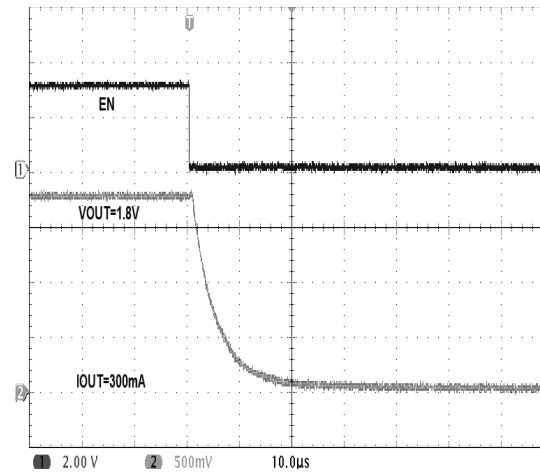
Turn OFF Speed with EN



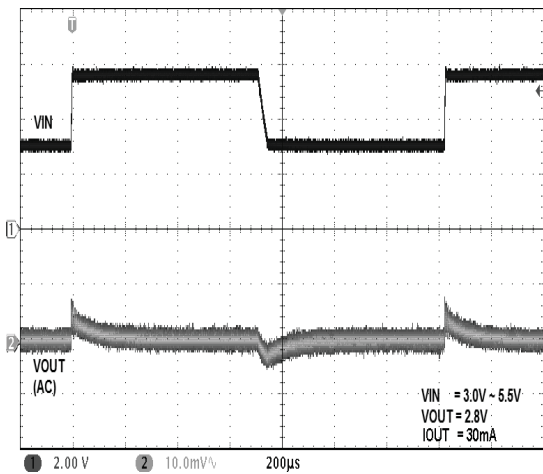
Turn OFF Speed with EN



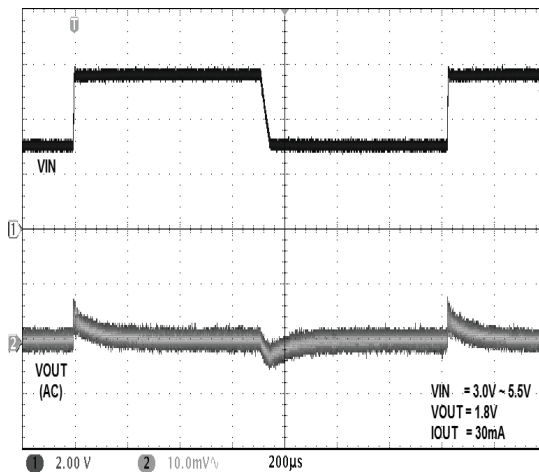
Turn OFF Speed with EN



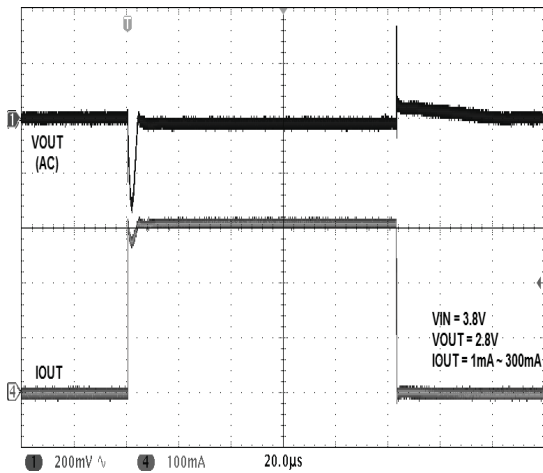
Turn OFF Speed with EN



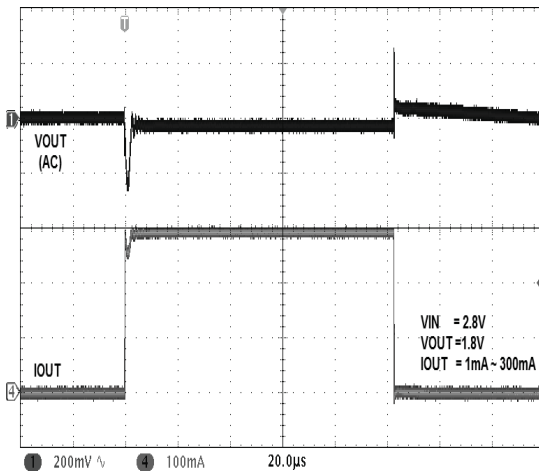
Input Transient Response



Input Transient Response



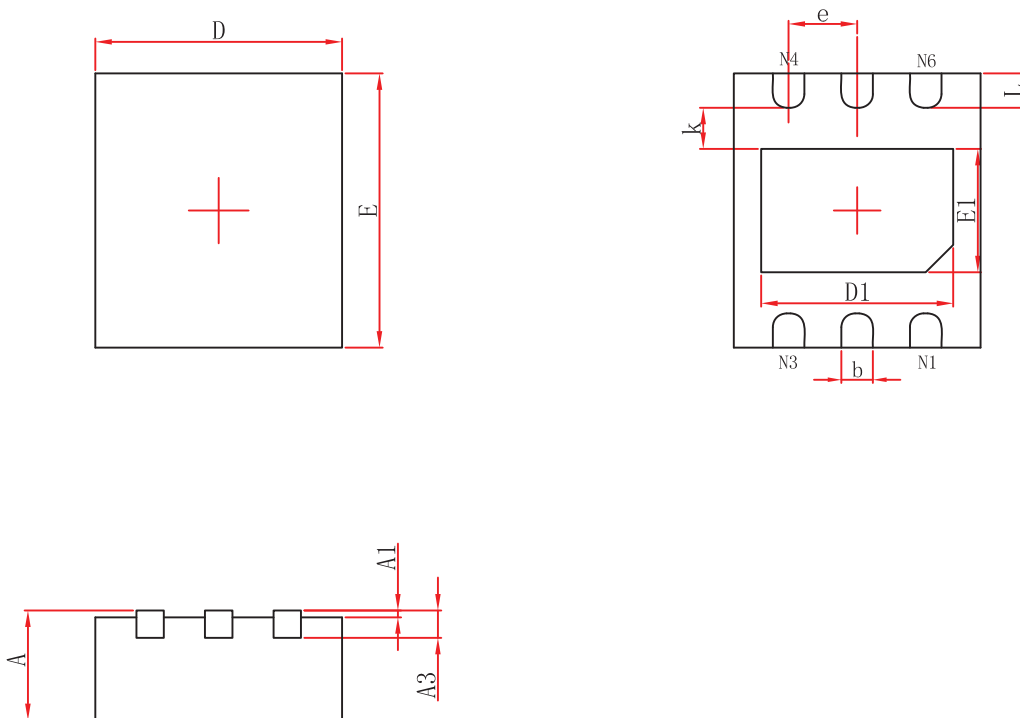
Load Transient Response



Load Transient Response

Package outline dimensions

DFN1820-6L



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.450	0.500	0.550
A1	0.000	-	0.050
A3	0.150 Ref.		
D	1.724	1.800	1.876
E	1.924	2.000	2.076
D1	1.300	1.400	1.500
E1	0.800	0.900	1.000
k	0.200 Min.		
b	0.180	0.230	0.280
e	0.500 Typ.		
L	0.174	0.250	0.326



Order Information

Ordering No.	Output Voltage(V)		Package	Marking	Shipping
	OUT1	OUT2			
WL2703D01-6/TR	1.8	2.8	DFN1820-6L	WD01 AYWW	3000/Tape&Reel

Remark:

1. Marking:

Y = Year

WW = Week