



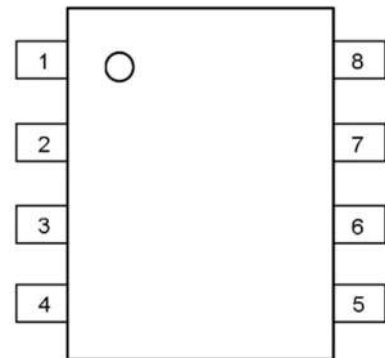


Absolute Maximum Ratings (at TA = 25°C)

Characteristics	Symbol	Rating	Unit
VCC to GND		-0.3 to 8	V
SW to GND		-0.7 to 110	V
VIN to GND		-0.3 to 32	V
Operating Junction Temperature		-40 to 150	°C
Storage Junction Temperature		-55 to 150	°C
Thermal Resistance from Junction to case	θ_{JC}	80	°C/W
Thermal Resistance from Junction to ambient	θ_{JA}	160	°C/W

Pin Function And Descriptions

PIN	NAME	Description
1,2	GND	Ground
3	VCC	Output of internal LDO, it provides bias voltage for the internal circuit and MOSFET driver. Connect this pin to a capacitor
4	VIN	Input of internal LDO
5.6.7.8	SW	Drain of internal N-MOS



Order information

Order Information	Top Marking
<p>NDP7912 K C</p> <p>Pin NO. C:8 Package K: SOP Product Number</p>	<p>Y: Year (9=2019, 0=2020...A=2029...) WW: Weekly (01-53) D/X : Internal ID Code</p>



Electrical Characteristics

T_J = 25°C. VCC = 6.2V, unless otherwise noted

Characteristics	Symbol	Conditions	Min	Typ	Max	Units
Input Voltage	V _{IN}		5.0	-	30	V
VCC UVLO OFF	VCC _{UVLO_OFF}			3		V
VCC UVLO Voltage ON	VCC _{UVLO_ON}			2.6		V
VCC UVLO Hysteresis				0.2		V
VCC output voltage	V _{PLR}	SW >10V		6.2		V
VCC output voltage	V _{LDO}	V _{IN} > 10V		7		V
Quiescent Current	V _{IN} _{ICQ}	no switch	-	320	-	uA
Turn on Threshold	V _{TH_ON}			-170		mV
Driver Voltage Regulator	V _{reg}			-70		mV
Turn OFF Threshold	V _{TH_OFF}			-40		mV
Turn-off Total Delay	T _{off_delay}			12		nS
Minimum on time	T _{min}			700		nS
NMOS R _{DS(ON)}	R _{DS}			14		mΩ
Breakdown Voltage	BV _{DSS}		100			V
Thermal shutdown Temp	T _{SD}		-	150	-	°C
Thermal Shutdown Hysteresis	T _{SH}		-	30	-	°C



Blanking

The NDP7912KC control circuitry contains a blanking function. When it pulls the MOSFET OFF, it makes sure that the OFF state at least lasts for about $\sim 1.7\mu\text{s}$, so it is not recommended to set the synchronous period less than $1.6\mu\text{s}$ at CCM condition in flyback converter, otherwise shoot through may occur During normal operation.

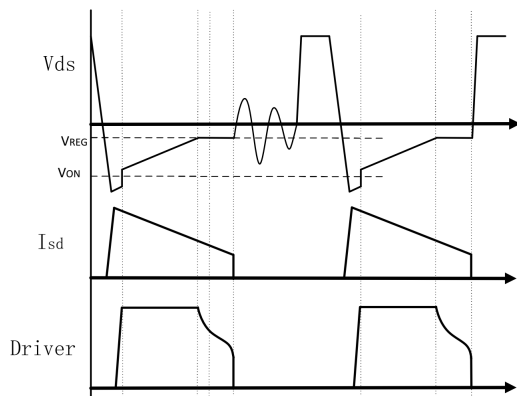


Figure 1 Operation in DCM mode

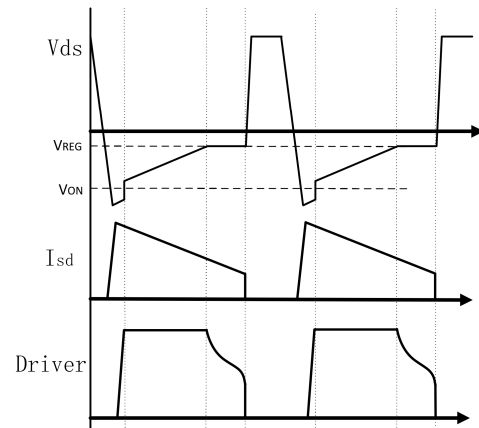
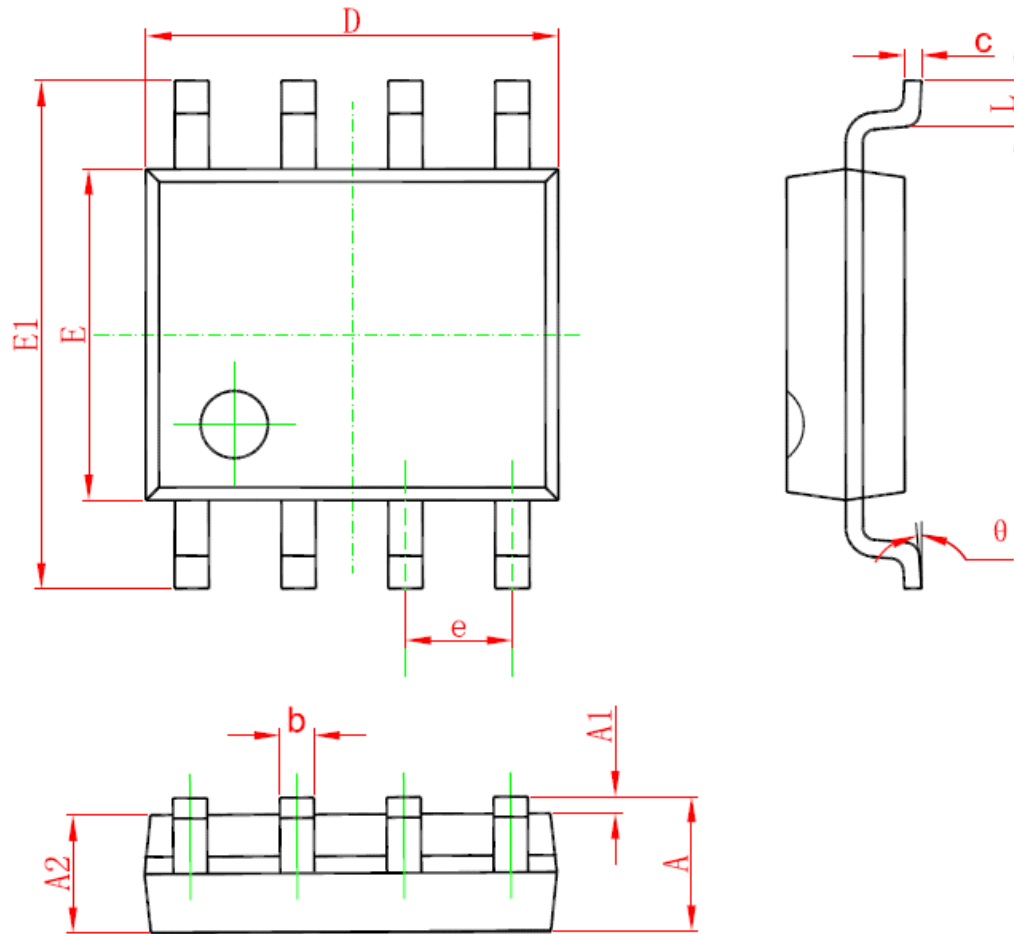


Figure 2 Operation in CCM mode



Package Description

8-Lead Standard Small Outline Package [SOP-8]



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.050	0.250	0.002	0.010
A2	1.250	1.650	0.049	0.065
b	0.310	0.510	0.012	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.150	0.185	0.203
E	3.800	4.000	0.15	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.05 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°