





## Absolute Maximum Ratings

Exceeding the Absolute Maximum ratings may damage the device.

Parameter	Rating
V <sub>IN</sub> , V <sub>OUT</sub> to GND	-0.3V to +28V
ENB, SS, FLTB, POVP to GND	-0.3V to +6V
Junction Temperature (T <sub>J</sub> )	+150°C
Storage Temperature (T <sub>S</sub> )	-65°C to +150°C
ESD Rating HBM All Pins	±4kV
ESD Rating HBM VIN and VOUT Pins	±8kV

## Recommend Operating Ratings

The device is not guaranteed to operate beyond the Maximum Operating Ratings.

Parameter	Rating
Supply Voltage V <sub>IN</sub>	3.4V to 22V
ENB, FLTB, SS	0V to 5.5V
POVP	0V to 3V
DC Switch Current (I <sub>SW</sub> )	0A to 5A
Ambient Temperature (T <sub>A</sub> )	-40°C to +85°C
Package Thermal Resistance 3x3 DFN-12 (θ <sub>JA</sub> )	50°C/W

## Electrical Characteristics

T<sub>A</sub> = 25°C, V<sub>IN</sub> = 20V, ENB = 0V, R<sub>OVP</sub> = 19.6kΩ, unless otherwise specified.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V <sub>VIN</sub>	Input Supply Voltage		3.4		22	V
V <sub>UVLO</sub>	Under-voltage Lockout Threshold	V <sub>IN</sub> rising	3.0		3.35	V
V <sub>UVLO_HYS</sub>	Under-voltage Lockout Hysteresis			300		mV
V <sub>OVLO</sub>	Overvoltage Lockout Threshold	0Ω ≤ R <sub>OVP</sub> ≤ 19.6kΩ, V <sub>IN</sub> rising, 1%	23.0	24.0	25.0	V
		R <sub>OVP</sub> = 75kΩ, V <sub>IN</sub> rising, 1%	16.8	17.4	18.0	
		R <sub>OVP</sub> = 137kΩ, V <sub>IN</sub> rising, 1%	10.0	10.4	10.8	
		R <sub>OVP</sub> = 301kΩ, V <sub>IN</sub> rising, 1%	5.5	5.8	6	
V <sub>OVLO_HYS</sub>	Overvoltage Lockout Hysteresis			350		mV
t <sub>DELAY_OVP</sub>	Switch Turn-off Delay upon Over-voltage	V <sub>VIN</sub> - V <sub>OLVO</sub> = 500mV		1		μs
I <sub>VIN_ON</sub>	Input Quiescent Current	I <sub>VOUT</sub> = 0		550		μA
I <sub>VIN_OFF</sub>	Input Shutdown Current	I <sub>VOUT</sub> = 0, ENB = 5V		18	35	μA
I <sub>VOUT_OFF</sub>	Output Leakage Current	V <sub>OUT</sub> = 20V, V <sub>IN</sub> = 0V, ENB = 5V		18	35	μA
R <sub>ON_20V</sub>	Switch ON-Resistance	I <sub>VOUT</sub> = 1A		20		mΩ
R <sub>ON_5V</sub>		V <sub>IN</sub> = 5V, I <sub>VOUT</sub> = 1A		21		mΩ
V <sub>ENB_H</sub>	ENB Pin Input High Threshold	ENB rising			1.4	V
V <sub>ENB_L</sub>	ENB Pin Input Low Threshold	ENB falling	0.6			V
I <sub>ENB_BIAS</sub>	ENB Pin Input Pull-down Current	ENB = 1.8 V			10	μA
V <sub>FLTB_LO</sub>	FLTB Pin Pull-down Voltage	FLTB sinking 3mA			0.3	V
V <sub>TRCB</sub>	TRCB Threshold	V <sub>OUT</sub> - V <sub>IN</sub>		26		mV
t <sub>TRCB</sub>	TRCB Delay Time	V <sub>OUT</sub> - V <sub>IN</sub> = V <sub>TRCB</sub> + 500mV		500		ns
t <sub>D_ON</sub>	Turn-On Delay Time ENB to V <sub>OUT</sub> (10%)	From ENB falling edge to V <sub>OUT</sub> reaching 10% of V <sub>IN</sub> . C <sub>OUT</sub> = 68μF, C <sub>SS</sub> = 5.6nF		21		ms
t <sub>ON</sub>	Turn-On Rise Time	V <sub>OUT</sub> from 10% to 90% C <sub>OUT</sub> = 68μF, C <sub>SS</sub> = 5.6nF		2		ms























