

Absolute Maximum Ratings

Exceeding the Absolute Maximum ratings may damage the device.

Parameter	Rating
VIN, VOUT to GND	-0.3V to +28V
ENB, SS, FLT B, POVP to GND	-0.3V to +6V
Junction Temperature (T _J)	+150°C
Storage Temperature (T _S)	-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 VIN	3.4V to 22V
ENB, FLT B, SS	0V to 5.5V
POVP	0V to 3V
DC Switch Current (I _{SW})	0A to 3.5A
Ambient Temperature (T _A)	-40°C to +85°C
Package Thermal Resistance 3x3 DFN-12 (Θ _{JA})	54°C/W

Electrical Characteristics

T_A = 25°C, VIN = 20V, ENB = 0V, R_{OV}P=19.6kΩ, unless otherwise specified.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{VIN}	Input Supply Voltage		3.4		22	V
V _{UVLO}	Under-voltage Lockout Threshold	VIN rising	3.0		3.35	V
V _{UVLO_HYS}	Under-voltage Lockout Hysteresis			300		mV
V _{OVLO}	Overvoltage Lockout Threshold	POVP = 0V, VIN rising	23.0	24.0	25.0	V
		POVP = OPEN, VIN rising	5.5	5.8	6	
V _{OVLO_HYS}	Overvoltage Lockout Hysteresis			300		mV
t _{DELAY_OVP}	Switch Turn-off Delay upon Over-voltage	V _{VIN} - V _{OLVO} = 500mV		1.5		μs
I _{VIN_ON}	Input Quiescent Current	I _{VOUT} = 0		550		μA
I _{VIN_OFF}	Input Shutdown Current	I _{VOUT} = 0, ENB= 5V		18	35	μA
I _{VOUT_OFF}	Output Leakage Current	VOUT = 20V, VIN = 0V, ENB=5V		18	35	μA
R _{ON_20V}	Switch ON-Resistance	I _{VOUT} = 1A		39		m
R _{ON_5V}		VIN= 5V, I _{VOUT} = 1A		41		m
V _{ENB_H}	ENB Pin Input High Threshold	ENB rising			1.4	V
V _{ENB_L}	ENB Pin Input Low Threshold	ENB falling	0.6			V
I _{ENB_BIAS}	ENB Pin Input Pull-down Current	ENB= 1.8 V			10	μA
V _{FLT B_LO}	FLT B Pin Pull-down Voltage	FLT B sinking 3mA			0.3	V
V _{TRCB}	TRCB Threshold	VOUT-VIN		26		mV
t _{TRCB}	TRCB Delay Time	VOUT-VIN= V _{TRCB} + 500mV		500		ns
t _{D_ON}	Turn-On Delay Time ENB to VOUT (10%)	From ENB falling edge to VOUT reaching 10% of VIN. C _{OUT} = 68μF, C _{SS} = 5.6nF		21		ms
t _{ON}	Turn-On Rise Time	VOUT from 10% to 90% C _{OUT} = 68μF, C _{SS} = 5.6nF		1.2		ms
t _{REC}	Auto restart interval	AOZ1373DI-01 only		64		ms
T _{SD}	Thermal Shutdown Threshold			140		°C
T _{SD_HYS}	Thermal Shutdown Hysteresis			30		°C

