

Absolute Maximum Ratings

Exceeding the Absolute Maximum Ratings may damage the device.

Parameter	Rating
V _{OUT} to GND	-0.3V to +28V
V _{IN} , EN, ILIM, FON, FLT _B to GND	0V to +6V
Junction Temperature (T _J)	+150°C
Storage Temperature (T _S)	-65°C to +150°C
ESD Rating HBM/CDM	±4kV / ±1kV

Recommended Operating Ratings

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

Parameter	Rating
V _{IN} to GND	3.4V to 5.5V
FON, EN, FLT _B to GND	0V to 5.5V
Switch Current (I _{SW})	0A to 3.5A
ILIM	0V to 2V
Ambient Temperature (T _A)	-40°C to +85°C
Package Thermal Resistance	84°C/W

Electrical Characteristics

T_A = 25°C, V_{IN} = 5V, V_{EN} = 5V, V_{FON} = 0V unless otherwise specified.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
General						
V _{IN}	Input Supply Voltage	AOZ1356LI-01 and -02	3.4		5.5	V
		AOZ1356LI-05 and -06	3.6		5.3	V
V _{UVLO_R}	Under-voltage Lockout Threshold	V _{IN} rising AOZ1356LI-01 and -02	3	3.25	3.35	V
		V _{IN} rising AOZ1356LI-05 and -06	3.2	3.45	3.55	V
V _{UVLO_HYS}	Under-voltage Lockout Hysteresis	V _{IN} falling		150		mV
I _{IN_ON}	Input Quiescent Current	I _{OUT} = 0A, FON = 0V, V _{EN} = 5V		125		µA
I _{IN_FON}	FON Standby Current	FON = 5V, V _{EN} = 0V		135		mA
I _{IN_OFF}	Input Shutdown Current	EN = 0V, FON = 0V		6	10	µA
R _{ON}	Switch On Resistance	I _{OUT} = 1A		34		m
V _{EN_H}	Enable Input Logic High Threshold	EN rising	1.4			V
V _{EN_L}	Enable Input Logic Low Threshold	EN falling			0.4	V
I _{EN_BIAS}	Enable Input Bias Current	EN = 1.8V		1	1.5	µA
V _{FON_H}	Fast-On Logic High Threshold	FON rising	1.4			V
V _{FON_L}	Fast-On Logic Low Threshold	FON falling			0.4	V
I _{FON_BIAS}	Fast-On Input Bias Current	V _{FON} = 1.8V		1.5	4.0	µA
V _{FLT_B_LO}	FLT _B Pull-down Voltage	I _{SINK} = 3mA			0.3	V
Over-Voltage Protection						
V _{OVLO_R}	Over-voltage Lockout Threshold	V _{IN} rising AOZ1356LI-01 and -02	5.6	5.8	6	V
		V _{IN} rising AOZ1356LI-05 and -06	5.75	5.9		
V _{OVLO_F}						
V _{OVLO_HYS}	Over-voltage Lockout Hysteresis			250		mV
V _{OUT_OVLO}	Output Over-Voltage Lockout Threshold	AOZ1356LI-05 and -06	5.3		5.5	V
T _{DELAY_OVP}	OVP Turn-Off Delay			2		µs

