

6 Specifications

6.1 Absolute Maximum Ratings

Over recommended operating range (unless otherwise noted)⁽¹⁾

		MIN	MAX	UNIT
V_{SUP}	Supply voltage range (ISO/DIS 17987)	-0.3	42	V
V_{BAT}	Battery sense input	-24	42	V
V_{LIN}	LIN Bus input voltage (ISO/DIS 17987)	-58	58	V
V_{CC50}	Regulated 5 V Output Supply	-0.3	6	V
V_{CC33}	Regulated 3.3 V Output Supply	-0.3	4.5	V
V_{WAKE}	WAKE pin input voltage range	-0.3	42	V
V_{HSS}	High side switch pin output voltage range	-0.3	42 and $V_O \leq V_{SUP} + 0.3$	V
V_{INH}	Inhibit pin output voltage range	-0.3	42 and $V_O \leq V_{SUP} + 0.3$	V
V_{LIMP}	LIMP pin output voltage range	-0.3	42 and $V_O \leq V_{SUP} + 0.3$	V
V_{nRST}	Reset output voltage	-0.3	$V_{CC} + 0.3$	V
V_{LOGIC_INPUT}	Logic input voltage	-0.3	6	V
V_{LOGIC_OUTPUT}	Logic output voltage	-0.3	6	V
I_O	Digital pin output current		8	mA
$I_{O(nRST)}$	Reset output current	-5	5	mA
T_J	Junction temperature	-40	160	°C
Storage temperature, T_{stg}	Storage temperature range	-65	165	°C

- (1) Operation outside the Absolute Maximum Ratings may cause permanent device damage. Absolute Maximum Ratings do not imply functional operation of the device at these or any other conditions beyond those listed under Recommended Operating Conditions. If used outside the Recommended Operating Conditions but within the Absolute Maximum Ratings, the device may not be fully functional, and this may affect device reliability, functionality, performance, and shorten the device lifetime.

6.2 ESD Ratings

			VALUE	UNIT
$V_{(ESD)}$	Electrostatic discharge	Human body model (HBM) classification level H2: V_{BAT} , V_{SUP} , LIN, and WAKE with respect to ground	±10000	V
		Human body model (HBM) classification level 3A: all other pins, per AEC Q100-002 ⁽¹⁾	±4000	
		Charged device model (CDM) classification level C5, per AEC Q100-011	±750	

- (1) AEC Q100-002 indicates that HBM stressing shall be in accordance with the ANSI/ESDA/JEDEC JS-001 specification.

6.3 ESD Ratings, IEC Specification

			VALUE	UNIT
$V_{(ESD)}$	Electrostatic discharge per IEC 62228-2 ⁽¹⁾	Contact discharge (V_{SUP} , WAKE, HSS, LIMP, LIN)	±8000	V
		Indirect ESD discharge (LIN)	±14000	
$V_{(ESD)}$	Powered electrostatic discharge SAE J2962-1 ⁽³⁾	Contact discharge	±8000	V
		Air discharge	±25000	
Transient	ISO 7637-2 and IEC 62215-3 Transients according to IBEE LIN EMC test spec ⁽²⁾	Pulse 1	-100	V
		Pulse 2a	75	
		Pulse 3a	-150	
		Pulse 3b	100	