ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_J = 25°C. V_{PWR} = V_{IN_SNS} = 12V, V_{DD33}, V_{DD25} and REF pins floating, unless otherwise indicated. (Notes 2, 3)

SYMBOL	PARAMETER	CONDITIONS			MIN	TYP	MAX	UNITS
t_{UPDATE_ADC}	Update Time	Odd Numbered Channels in Current Sense Mode (Note 7)				160		ms
C_{IN_ADC}	Input Sampling Capacitance					1		pF
f_{IN_ADC}	Input Sampling Frequency					62.5		kHz
I_{IN_ADC}	Input Leakage Current	V_{IN_ADC} = 0V, 0V ≤ $V_{COMMONMODE}$ ≤ 6V, Current Sense Mode		●			±0.5	µA
	Differential Input Current	V_{IN_ADC} = 0.17V, Current Sense Mode		●		80	250	nA
		V_{IN_ADC} = 6V, Voltage Sense Mode		●		10	15	µA
DAC Output Characteristics								
N_V_{DACP}	Resolution					10		Bits
V_{FS_VDACP}	Full-Scale Output Voltage (Programmable)	DAC Code = 0x3FF, DAC Polarity = 1	Buffer Gain Setting_0	●	~~1.32~~	1.38	1.44	V
			Buffer Gain Setting_1	●	~~2.53~~	2.65	2.77	V
INL_V_{DACP}	Integral Nonlinearity	(Note 8)		●			±2	LSB
DNL_V_{DACP}	Differential Nonlinearity	(Note 8)		●			±2.4	LSB
V_{OS_VDACP}	Offset Voltage	(Note 8)		●			±10	mV
V_{DACP}	Load Regulation (V_{DACPn} – V_{DACMn})	V_{DACPn} = 2.65V, I_{VDACPn} Sourcing = 2mA				100		ppm/mA
		V_{DACPn} = 0.1V, I_{VDACPn} Sinking = 2mA				100		ppm/mA
	PSRR (V_{DACPn} – V_{DACMn})	DC: 3.13V ≤ V_{DD33} ≤ 3.47V, V_{PWR} = V_{DD33}				60		dB
		100mV Step in 20ns with 50pF Load				40		dB
	DC CMRR (V_{DACPn} – V_{DACMn})	–0.1V ≤ V_{DACMn} ≤ 0.1V				60		dB
	Leakage Current	V_{DACPn} Hi-Z, 0V ≤ V_{DACPn} ≤ 6V		●			±100	nA
	Short-Circuit Current Low	V_{DACPn} Shorted to GND		●	–10		–4	mA
	Short-Circuit Current High	V_{DACPn} Shorted to V_{DD33}		●	4		10	mA
C_{OUT}	Output Capacitance	V_{DACPn} Hi-Z				10		pF
t_{S_VDACP}	DAC Output Update Rate	Fast Servo Mode				500		µs
DAC Soft-Connect Comparator Characteristics								
V_{OS_CMP}	Offset Voltage	V_{DACPn} = 0.2V		●		±1	±18	mV
		V_{DACPn} = 1.3V		●		±2	±26	mV
		V_{DACPn} = 2.65V		●		±3	±52	mV
Voltage Supervisor Characteristics								
V_{IN_VS}	Input Voltage Range (Programmable)	V_{IN_VS} = ($V_{SENSEPn}$ – $V_{SENSEMn}$)	Low Resolution Mode	●	0		6	V
			High Resolution Mode	●	0		3.8	V
		Single-Ended Voltage: $V_{SENSEMn}$		●	–0.1		0.1	V
N_VS	Voltage Sensing Resolution	0V to 3.8V Range: High Resolution Mode				4		mV/LSB
		0V to 6V Range: Low Resolution Mode				8		mV/LSB
TUE_VS	Total Unadjusted Error	2V ≤ V_{IN_VS} ≤ 6V, Low Resolution Mode		●			±1.25	% of Reading
		1.5V < V_{IN_VS} ≤ 3.8V, High Resolution Mode		●			±1.0	% of Reading
		0.8V ≤ V_{IN_VS} ≤ 1.5V, High Resolution Mode		●			±1.5	% of Reading
t_{S_VS}	Update Period					12.21		µs

1.29

2.48