

Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Output Voltage Set-point	All	$V_{O, set}$	-1.5		+1.5	% $V_{O, set}$
Output Voltage (Over all operating input voltage, resistive load, and temperature conditions until end of life)	All	$V_{O, set}$	-2.5	—	+2.5	% $V_{O, set}$
Adjustment Range (selected by an external resistor) (Some output voltages may not be possible depending on the input voltage – see Feature Descriptions Section)	All	V_O	0.69		5.5	Vdc
Output Regulation (for $V_O \geq 2.5Vdc$)						
Line ($V_{IN}=V_{IN, min}$ to $V_{IN, max}$)	All			—	+0.4	% $V_{O, set}$
Load ($I_O=I_{O, min}$ to $I_{O, max}$)	All			—	10	mV
Output Regulation (for $V_O < 2.5Vdc$)						
Line ($V_{IN}=V_{IN, min}$ to $V_{IN, max}$)	All			—	10	mV
Load ($I_O=I_{O, min}$ to $I_{O, max}$)	All			—	5	mV
Temperature ($T_{ref}=T_{A, min}$ to $T_{A, max}$)	All			—	0.5	% $V_{O, set}$
Remote Sense Range	All				0.5	Vdc
Output Ripple and Noise on nominal output ($V_{IN}=V_{IN, nom}$ and $I_O=I_{O, min}$ to $I_{O, max}$ $C_o = 0.1\mu F // 10\mu F$ ceramic capacitors)						
Peak-to-Peak (5Hz to 20MHz bandwidth)	All		—	30	80	mV _{pk-pk}
RMS				14	28	mV _{rms}
External Capacitance ¹						
Without the Tunable Loop™						
ESR $\geq 1\text{ m}\Omega$	All	$C_{O, max}$	0	—	200	μF
With the Tunable Loop™						
ESR $\geq 0.15\text{ m}\Omega$	All	$C_{O, max}$	0	—	1000	μF
ESR $\geq 10\text{ m}\Omega$	All	$C_{O, max}$	0	—	10000	μF
Output Current	All	I_O	0		20	Adc
Output Current Limit Inception (Hiccup Mode)	All	$I_{O, lim}$		120		% $I_{O, max}$
Output Short-Circuit Current ($V_O \leq 250mV$) (Hiccup Mode)	All	$I_{O, s/c}$		2.6		Adc
Efficiency ($V_{IN}= 10Vdc$) $V_{IN}= 12Vdc$, $T_A=25^\circ C$ $I_O=I_{O, max}$, $V_O= V_{O, set}$	$V_{O, set} = 0.69Vdc$	η		72.1		%
	$V_{O, set} = 1.2Vdc$	η		81.3		%
	$V_{O, set} = 1.8Vdc$	η		85.7		%
	$V_{O, set} = 2.5Vdc$	η		88.0		%
	$V_{O, set} = 3.3Vdc$	η		89.7		%
	$V_{O, set} = 5.0Vdc$	η		91.8		%

¹ External capacitors may require using the new Tunable Loop™ feature to ensure that the module is stable as well as getting the best transient response. See the Tunable Loop™ section for details.

Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Switching Frequency	All	f_{sw}	—	550	—	kHz
Frequency Synchronization						
Synchronization Frequency Range			520		600	kHz
High-Level Input Voltage	All	V_{IH}	2.5			V
Low-Level Input Voltage	All	V_{IL}			0.8	V
Input Current, SYNC	$V_{SYNC}=2.5V$	I_{SYNC}			1	mA
Minimum Pulse Width, SYNC	All	t_{SYNC}	250			ns
Minimum Setup/Hold Time, SYNC ²	All	t_{SYNC_SH}	250			ns
Dynamic Load Response						
(dIo/dt=10A/μs; $V_{IN} = V_{IN, nom}$; $V_{out} = 1.5V$, $T_A=25^{\circ}C$)						
Load Change from Io= 50% to 100% of Io,max; Co = 0						
Peak Deviation	All	V_{pk}		380		mV
Settling Time (Vo<10% peak deviation)	All	t_s		30		μs
Load Change from Io= 100% to 50% of Io,max: Co = 0						
Peak Deviation	All	V_{pk}		300		mV
Settling Time (Vo<10% peak deviation)	All	t_s		30		μs

² To meet set up time requirements for the synchronization circuit, the logic low width of the pulse must be greater than 100 ns wide.

General Specifications

Parameter	Min	Typ	Max	Unit
Calculated MTBF ($I_o=0.8I_{o, max}$, $V_o=5V$, $T_A=40^{\circ}C$) Telecordia Method Issue 2, Method I Case 3		14,262,200		Hours
Weight	—	6.05 (0.213)	—	g (oz.)