

### Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Output Voltage Set-point ( $V_{IN}=V_{IN,nom}$ , $I_O=I_{O,nom}$ , $T_{ref}=25^{\circ}C$ )	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	$V_{O, set}$	-3.0	—	+3.0	% $V_{O, set}$
Adjustment Range Selected by an external resistor	All		0.8		3.63	Vdc
Output Regulation Line ( $V_{IN}=V_{IN, min}$ to $V_{IN, max}$ ) Load ( $I_O=I_{O, min}$ to $I_{O, max}$ ) Temperature ( $T_{ref}=T_{A, min}$ to $T_{A, max}$ )	All All All		— — —	— — 0.5	10 10 1	mV mV % $V_{O, set}$
Output Ripple and Noise on nominal output ( $V_{IN}=V_{IN, nom}$ and $I_O=I_{O, min}$ to $I_{O, max}$ $C_{OUT} = 0.1\mu F // 47 \mu F$ ceramic capacitors) Peak-to-Peak (5Hz to 20MHz bandwidth)	All		—		50	mV <sub>pk-pk</sub>
External Capacitance <sup>1</sup> Without the Tunable Loop™ ESR $\geq 1$ m $\Omega$	All	$C_{O, max}$	0	—	200	$\mu F$
With the Tunable Loop™ ESR $\geq 0.15$ m $\Omega$ ESR $\geq 10$ m $\Omega$	All All	$C_{O, max}$ $C_{O, max}$	0 0	— —	1000 10000	$\mu F$ $\mu F$
Output Current ( $V_{IN} = 6$ to 14Vdc)	All	$I_o$	0		30	Adc
Output Current Limit Inception (Hiccup Mode)	All	$I_{O, lim}$		140		% $I_{Omax}$
Output Short-Circuit Current ( $V_O \leq 250mV$ ) ( Hiccup Mode )	All	$I_{O, s/c}$	—	3.5	—	Adc
Efficiency $V_{IN}=12Vdc$ , $T_A=25^{\circ}C$ $I_O=I_{O, max}$ , $V_O=V_{O, set}$	$V_{O, set} = 0.8dc$ $V_{O, set} = 1.2Vdc$ $V_{O, set} = 1.8Vdc$ $V_{O, set} = 2.5Vdc$ $V_{O, set} = 3.3Vdc$	$\eta$ $\eta$ $\eta$ $\eta$ $\eta$		83.0 87.1 90.1 91.8 92.9		% % % % %
Switching Frequency, Fixed	All	$f_{sw}$	—	300	—	kHz

### General Specifications

Parameter	Min	Typ	Max	Unit
Calculated MTBF ( $V_{IN}=12V$ , $V_O=2.5Vdc$ , $I_O=0.8I_{O, max}$ , $T_A=40^{\circ}C$ , 200LFM) Per Telcordia Issue 2 Method 1 Case 3		4,443,300		Hours
Weight	—	7.04 (0.248)	—	g (oz.)

## Feature Specifications

Unless otherwise indicated, specifications apply over all operating input voltage, resistive load, and temperature conditions. See Feature Descriptions for additional information.

Parameter	Device	Symbol	Min	Typ	Max	Unit
On/Off Signal Interface ( $V_{IN}=V_{IN, min}$ to $V_{IN, max}$ ; open collector or equivalent, Signal referenced to GND) Logic High (On/Off pin open – Module OFF) Input High Current Input High Voltage Logic Low (Module ON) Input Low Current Input Low Voltage	All All All All	$I_{IH}$ $V_{IH}$ $I_{IL}$ $V_{IL}$	25 3.0 — -0.3	— — — —	200 $V_{IN, max}$ 200 1.2	$\mu A$ V $\mu A$ V
Turn-On Delay and Rise Times ( $V_{IN}=V_{IN, nom}$ , $I_O=I_{O, max}$ , $V_O$ to within $\pm 1\%$ of steady state) Case 1: On/Off input is enabled and then input power is applied (delay from instant at which $V_{IN} = V_{IN, min}$ until $V_O = 10\%$ of $V_{O, set}$ ) Case 2: Input power is applied for at least one second and then the On/Off input is enabled (delay from instant at which Von/Off is enabled until $V_O = 10\%$ of $V_{O, set}$ ) Output voltage Rise time (time for $V_O$ to rise from 10% of $V_{O, set}$ to 90% of $V_{O, set}$ )	All All All	$T_{delay}$ $T_{delay}$ $T_{rise}$	— — 2	2.5 2.5 —	5 5 10	msec msec msec
Output voltage overshoot $I_O = I_{O, max}$ ; $V_{IN, min} - V_{IN, max}$ , $T_A = 25^\circ C$					3.0	% $V_{O, set}$
Remote Sense Range	All		—	—	0.5	V
Over temperature Protection (See Thermal Consideration section)	All	$T_{ref}$	—	125	—	$^\circ C$
Sequencing Slew rate capability ( $V_{IN, min}$ to $V_{IN, max}$ ; $I_{O, min}$ to $I_{O, max}$ $V_{SEQ} < V_O$ )	All	$dV_{SEQ}/dt$		—	2	V/msec
Sequencing Delay time (Delay from $V_{IN, min}$ to application of voltage on SEQ pin)	All	$T_{SEQ-delay}$	10			msec
Tracking Accuracy Power-up (2V/ms) Power-down (1V/ms) ( $V_{IN, min}$ to $V_{IN, max}$ ; $I_{O, min}$ - $I_{O, max}$ $V_{SEQ} < V_O$ )	All	$V_{SEQ} - V_O$ $V_{SEQ} - V_O$		100 200	200 400	mV mV
Input Undervoltage Lockout Turn-on Threshold Turn-off Threshold	All All			5.5 5.0		Vdc Vdc
Forced Load Share Accuracy	-P		—	10		% $I_O$
Number of units in Parallel	-P				5	