Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Output Voltage Set-point (V_{IN}=$V_{IN,min}$, I_O=$I_{O,max}$, T_{ref}=25°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	ATH	V_O	0.8		3.63	Vdc
	ATS	V_O	0.8		5.5	Vdc
Output Regulation						
Line (V_{IN}=$V_{IN,min}$ to $V_{IN,max}$)	All				0.1	% $V_{O,set}$
Load (I_O=$I_{O,min}$ to $I_{O,max}$)	All				0.4	% $V_{O,set}$
Temperature (T_{ref}=$T_{A,min}$ to $T_{A,max}$)	All			0.5	1	% $V_{O,set}$
Output Ripple and Noise on nominal output (V_{IN}=$V_{IN,nom}$ and I_O=$I_{O,min}$ to $I_{O,max}$ C_{OUT} = 0.01µF // 0.1µF // 10µF ceramic capacitors)						
Peak-to-Peak (5Hz to 20MHz bandwidth)	V_o ≤ 2.5V				50	mV_{pk-pk}
Peak-to-Peak (5Hz to 20MHz bandwidth)	2.5V < V_o ≤ 3.63V				75	mV_{pk-pk}
Peak-to-Peak (5Hz to 20MHz bandwidth)	V_o > 3.63V				100	mV_{pk-pk}
External Capacitance						
ESR ≥ 1 mΩ	All	$C_{O,max}$	0		2,000	µF
ESR ≥ 10 mΩ	All	$C_{O,max}$	0		10,000	µF
Output Current (V_{IN} = 5Vdc/12Vdc)	ATH025/ATS025	I_o	0		25	Adc
Output Current (V_{IN} = 5Vdc)	ATH030	I_o	0		30	Adc
Output Current Limit Inception (Hiccup Mode)	All	$I_{O,lim}$		120		% I_{omax}
Output Short-Circuit Current (V_O≤250mV) (Hiccup Mode)	All	$I_{O,s/c}$		20		% I_{omax}
Efficiency	$V_{O,set}$ = 0.8dc	η		82.0		%
V_{IN}=12Vdc, T_A=25°C	$V_{O,set}$ = 1.2Vdc	η		84.0		%
I_O=25A, V_O= $V_{O,set}$	$V_{O,set}$ = 1.5Vdc	η		88.0		%
	$V_{O,set}$ = 1.8Vdc	η		89.5		%
	$V_{O,set}$ = 2.5Vdc	η		91.0		%
	$V_{O,set}$ = 3.3Vdc	η		92.5		%
	$V_{O,set}$ = 5.0Vdc	η		94.0		%
Efficiency	$V_{O,set}$ = 0.8dc	η		84.0		%
V_{IN}=5Vdc, T_A=25°C	$V_{O,set}$ = 1.2Vdc	η		88.5		%
I_O=30A, V_O= $V_{O,set}$	$V_{O,set}$ = 1.5Vdc	η		90.0		%
	$V_{O,set}$ = 1.8Vdc	η		91.0		%
	$V_{O,set}$ = 2.5Vdc	η		93.0		%
	$V_{O,set}$ = 3.3Vdc	η		95.0		%
Switching Frequency, Fixed	All	f_{sw}	—	300	—	kHz

Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Dynamic Load Response						
(dI_O/dt=5A/µs; $V_{IN}=V_{IN,\ nom}$; V_O=3.3V; T_A=25°C;) Load Change from Io= 0% to 50% of $I_{O,max}$; No external output capacitors						
Peak Deviation	ATS	V_{pk}	—	350	—	mV
Settling Time (V_O<10% peak deviation)	ATS	t_s	—	20	—	µs
(dI_O/dt=5A/µs; $V_{IN}=V_{IN,\ nom}$; V_O=3.3V; T_A=25°C;) Load Change from I_O= 50% to 0%of $I_{O,\ max}$: No external output capacitors						
Peak Deviation	ATS	V_{pk}	—	350	—	mV
Settling Time (V_O<10% peak deviation)	ATS	t_s	—	20	—	µs
(dI_O/dt=5A/µs; $V_{IN}=V_{IN,\ nom}$; V_O=3.3V; T_A=25°C;) Load Change from Io= 0% to 50% of $I_{O,max}$; No external output capacitors						
Peak Deviation	ATH	V_{pk}	—	320	—	mV
Settling Time (V_O<10% peak deviation)	ATH	t_s	—	20	—	µs
(dI_O/dt=5A/µs; $V_{IN}=V_{IN,\ nom}$; V_O=3.3V; T_A=25°C) Load Change from I_O= 50% to 0%of $I_{O,\ max}$: No external output capacitors						
Peak Deviation	ATH	V_{pk}	—	250	—	mV
Settling Time (V_O<10% peak deviation)	ATH	t_s	—	20	—	µs

General Specifications

Parameter	Min	Typ	Max	Unit
Calculated MTBF ($V_{IN}=V_{IN,\ nom}$, $I_O=0.8I_{O,\ max}$, T_A=40°C) Telecordia SR 332 Issue 1: Method 1, case 3		3,016,040		Hours
Weight	—	7.4	—	g