

9-36V ProLynx™ 5A: Non-Isolated DC-DC Power Modules

9Vdc –36Vdc input; 3Vdc to 18Vdc output; 5A to 2.5A Scaled output current

9Vdc –24Vdc input; -3.3Vdc to -18Vdc output; 5A to 0.7A Scaled output current

Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Output Voltage Set-point	All	$V_{O, set}$	-2.0		+2.0	% $V_{O, set}$
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 (elected by an external resistor) (Some output voltages may not be possible depending on the input voltage – see Feature Descriptions Section)	All	V_o	3		18	Vdc
Output Regulation						
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			—	0.4	% $V_{O, set}$
Temperature ($T_{ref}=T_{A, min}$ to $T_{A, max}$)	All			—	0.4	% $V_{O, set}$
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)						
$V_{out}=3.3V$, $V_{in}=28V$						
Peak-to-Peak (5Hz to 20MHz bandwidth)	All			45		mV _{pk-pk}
RMS (5Hz to 20MHz bandwidth)	All			14		mV _{rms}
$V_{out}=18V$, $V_{in}=28V$						
Peak-to-Peak (5Hz to 20MHz bandwidth)	All			143		mV _{pk-pk}
RMS (5Hz to 20MHz bandwidth)	All			47		mV _{rms}
External Capacitance ¹						
Without the Tunable Loop™						
ESR $\geq 1\text{ m}\Omega$	All	$C_{O, max}$	0	—	47	μF
ESR $\geq 10\text{ m}\Omega$	All	$C_{O, max}$	0	—	100	μF
With the Tunable Loop™						
ESR $\geq 0.15\text{ m}\Omega$	All	$C_{O, max}$	0	—	100	μF
ESR $\geq 10\text{ m}\Omega$	All	$C_{O, max}$	0	—	2000*	μF
Output Current ($V_o=3V$)	All	I_o	0		5	A _{dc}
$V_o=5V$	All	I_o	0		4.7	A _{dc}
$V_o=12V$	All	I_o	0		3.5	A _{dc}
$V_o=18V$	All	I_o	0		2.5	A _{dc}
Output Current Limit Inception (Hiccup Mode)	All	$I_{o, lim}$		160		% $I_{o, max}$
Output Short-Circuit Current ($V_o \leq 250\text{mV}$) (Hiccup Mode)	All	$I_{o, s/c}$		2		A _{dc}
Efficiency ($I_o=I_{o, max}$, $V_o=V_{O, set}$)						
$V_{IN}=12\text{Vdc}$, $T_A=25^\circ\text{C}$	$V_{O, set}=3.3\text{Vdc}$	η		91.0		%
$V_{IN}=12\text{Vdc}$, $T_A=25^\circ\text{C}$	$V_{O, set}=5\text{Vdc}$	η		93.3		%
$V_{IN}=28\text{Vdc}$, $T_A=25^\circ\text{C}$	$V_{O, set}=12\text{Vdc}$	η		94.7		%
$V_{IN}=28\text{Vdc}$, $T_A=25^\circ\text{C}$	$V_{O, set}=18\text{Vdc}$	η		95.9		%
Switching Frequency	All	f_{sw}	—	300	—	kHz

¹Depending on Input and Output Voltage, external capacitors 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.

* Larger values may be possible at specific output voltages. Please consult your GE Technical representative for additional details.

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Electrical Specifications (continued)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Switching Frequency	All	f_{sw}	—	300	—	kHz

General Specifications

Parameter	Min	Typ	Max	Unit
Calculated MTBF ($I_o=0.8I_{o,max}$, $T_A=40^{\circ}C$) Telcordia Issue 2, Method 1, Case 3		17,822,788		Hours
Weight	—	3.49 (0.123)	—	g (oz.)