

ACDC_LYTSwitch-0_041114; Rev.1.3; Copyright Power Integrations 2014	INPUT	INFO	OUTPUT	UNIT	LYTSwitch-0_Rev_1-3xls: LYTSwitchZero Design Spreadsheet
INPUT VARIABLES					Customer
VACMIN	190		190.00	Volts	Minimum AC Input Voltage
VACNOM	230		230.00	Volts	Nominal AC Input Voltage
VACMAX	265		265.00	Volts	Maximum AC Input Voltage
FL	50		50.00	Hertz	Select Line Frequency
VO	19		19.00	Volts	Add Drain pin blocking diode
IO	80		80	mA	Output Current
Pout			1.52	W	Output Power
EFFICIENCY	0.91		0.91		Overall Efficiency Estimate (Adjust to match Calculated, or enter Measured Efficiency)
CIN	0.43		0.43	uF	Input Filter Capacitor
DC INPUT VARIABLES					
VMIN			190.0	Volts	Minimum DC Bus Voltage
VMAX			374.8	Volts	Maximum DC bus Voltage
LYTSwitchZero					
LYTSwitchZero	LYT0006		LYT0006		Selected LYTSwitchZero
ILIMIT			0.375	Amps	Typical Current Limit
ILIMIT_MIN			0.350	Amps	Minimum Current Limit
ILIMIT_MAX			0.504	Amps	Maximum Current Limit
FSMIN			62000	Hertz	Minimum Switching Frequency
IRMS			47.17	mA	Expected RMS current through LYTSwitch
VDS			4.6	Volts	Maximum On-State Drain To Source Voltage drop
DIODE					
VD			0.70	Volts	Freewheeling Diode Forward Voltage Drop
VRR			600	Volts	Recommended PIV rating of Freewheeling Diode
IF			1	Amps	Recommended Diode Continuous Current Rating
OUTPUT INDUCTOR					
Core type	Off-the-Shelf		Off-the-Shelf		Select core type between Ferrite and Off-the-Shelf
Core size	EE10		EE10		Select core size
Custom Core					Enter custom core description (if used)
AE			N/A	mm ²	Core Effective Cross Sectional Area
LE			N/A	mm	Core Effective Path Length
AL			N/A	nH/T ²	Ungapped Core Effective Inductance
BW			N/A	mm	Bobbin Physical Winding Width
NL			N/A		Number of turns on inductor
BP			N/A	Gauss	Peak flux density
LG			N/A	mm	Gap length
OD			N/A	mm	Maximum Primary Wire Diameter including insulation
INS			N/A	mm	Estimated Total Insulation Thickness (= 2 * film thickness)
DIA			N/A	mm	Bare conductor diameter

AWG			N/A	AWG	Primary Wire Gauge (Rounded to next smaller standard AWG value)
CM			N/A	Cmils	Bare conductor effective area in circular mils
CMA			N/A	Cmils/Amp	CAN DECREASE CMA < 500 (decrease L(primary layers),increase NS,use smaller Core)
L			N/A		Number of layers
LP_MIN	1500.00		1500	uH	Minimum calculated value of Inductor
IO_Average			92.2	mA	Average output current (Minimum input voltage)
ILRMS			156.52	mA	Estimated RMS inductor current (at VMAX)
LP_NOM			1800	uH	Recommended standard inductor value (including +10% of LP_MIN)
FEEDBACK COMPONENTS					
RFB	22.00		22.00	Ohms	Feedback Resistor. Use closest standard 1% value. Use Goal seek to adjust (or manually adjust) value of RFB such that IO_VACNOM equals the specified value of IO
CFB			22	uF	Feedback Capacitor
P_RFB			0.12	W	Power dissipation of sense resistor
OUTPUT REGULATION					
IO_VACMIN			92.2	mA	Output Current at VACMIN
IO_VACNOM			86.9	mA	Output Current at VACNOM
IO_VACMAX			85.7	mA	Output Current at VACMAX