

ACDC_LinkSwitchTN2-Buck_10231 8; Rev.1.1; Copyright Power Integrations 2018	INPUT	INFO	OUTPUT	UNIT	ACDC_LinkSwitchTN2 Buck
ENTER APPLICATION VARIABLES					Design Title
LINE VOLTAGE RANGE			Custom		AC line voltage range
VACMIN	217.00		217.00	V	Minimum AC line voltage
VACTYP	230.00		230.00	V	Typical AC line voltage
VACMAX	253.00		253.00	V	Maximum AC line voltage
fL	50.00		50.00	Hz	AC mains frequency
LINE RECTIFICATION TYPE	H		H		Select 'F'ull wave rectification or 'H'alf wave rectification
VOUT	5.00		5.00	V	Output voltage
IOUT	0.050		0.050	A	Average output current
EFFICIENCY_ESTIMATED			0.80		Efficiency estimate at output terminals
EFFICIENCY_CALCULATED			0.49		Calculated efficiency based on real components and operating point
POUT			0.25	W	Continuous Output Power
CIN	9.40		9.40	uF	Input capacitor
VMIN			304.9	V	Valley of the rectified input voltage
VMAX			357.8	V	Peak of the rectified maximum input AC voltage
T_AMBIENT	60		60	degC	Operating ambient temperature in degrees celcius
INPUT STAGE RESISTANCE	100		100	Ohms	Input stage resistance in milliohms (includes fuse, thermistor, filtering components)
PLOSS_INPUTSTAGE			0.000	W	Input stage losses estimate
ENTER LINKSWITCH-TN2 VARIABLES					
OPERATION MODE			MDCM		Mostly discontinuous mode of operation
CURRENT LIMIT MODE	STD		STD		Choose 'RED' for reduced current limit or 'STD' for standard current limit
PACKAGE	SO-8C		SO-8C		Select the device package
DEVICE SERIES	LNK32X4		LNK32X4		Generic LinkSwitch-TN2 device
DEVICE CODE			LNK3204		Required LinkSwitch-TN2 device
ILIMITMIN			0.240	A	Minimum current limit of the device
ILIMITTYP			0.257	A	Typical current limit of the device
ILIMITMAX			0.275	A	Maximum current limit of the device
RDSON			44.20	ohms	MOSFET's on-time drain to source resistance at 100degC
FSMIN			62000	Hz	Minimum switching frequency
FSTYP			68000	Hz	Typical switching frequency
FSMAX			72000	Hz	Maximum switching frequency
VDSOEN			2.00	V	MOSFET on-time drain to source voltage estimate
DUTY			0.03		Maximum duty cycle
TIME_ON			0.493	us	MOSFET conduction time at the minimum line voltage
TIME_ON_MIN		Warning	0.507	us	The on-time of the MOSFET at the maximum line voltage is less than that specified for the device, pick a larger inductor
KP_TRANSIENT			0.140		KP under conditions of a transient

IRMS_MOSFET			0.024	A	MOSFET RMS current
PLOSS_MOSFET			0.046	W	Primary MOSFET loss estimate
BUCK INDUCTOR PARAMETERS					
INDUCTANCE_MIN			612	uH	Minimum design inductance required for power delivery
INDUCTANCE_TYP	680		680	uH	Typical design inductance required for power delivery
INDUCTANCE_MAX			748	uH	Maximum design inductance required for power delivery
TOLERANCE_INDUCTANCE	10		10	%	Tolerance of the design inductance
DC RESISTANCE OF INDUCTOR	5.0		5.0	ohms	DC resistance of the buck inductor
FACTOR_LOSS			0.900		Factor that accounts for "off-state" power loss to be supplied by inductor
IRMS_INDUCTOR			0.177	A	Inductor RMS current
PLOSS_INDUCTOR			0.156	W	Inductor losses
FREEWHEELING DIODE PARAMETERS					
VF_FREEWHEELING			0.70	V	Forward voltage drop of the freewheeling diode
PIV			447	V	Peak inverse voltage of the freewheeling diode
IRMS_DIODE			0.175	A	Diode RMS current
TRR			75	ns	Required reverse recovery time of the selected diode
PLOSS_DIODE			0.056	W	Freewheeling diode losses
RECOMMENDED DIODE			UF4005	W	Recommended freewheeling diode
BIAS/FEEDBACK PARAMETERS					
VF_BIAS			0.70	V	Forward voltage drop of the bias diode
RBIAS			2490	Ohms	Bias resistor
RBP			0.1	uF	BP pin capacitor
RFB			3480	Ohms	Feedback resistor
CFB			10	uF	Feedback capacitor
C_SOFTSTART				uF	No soft-start capacitor required
PLOSS_FEEDBACK			0.004	W	Feedback section losses
OUTPUT CAPACITOR					
OUTPUT VOLTAGE RIPPLE	50		50	mV	Desired output voltage ripple
IRIPPLE_COUT			0.240	A	Output capacitor ripple current
ESR_COUT			208	mOhms	Maximum ESR of the output capacitor