

Power Supply Input

Var	Value	Units	Description
VACMIN	85	V	Minimum Input AC Voltage
VACMAX	265	V	Maximum Input AC Voltage
FL	50	Hz	Line Frequency
TC	2.36	ms	Input Rectifier Conduction Time
Z	0.46		Loss Allocation Factor
η	88.0	%	Efficiency Estimate (Target) (Manual Overwrite)
VMIN	90.5	V	Minimum DC Input Voltage
VMAX	374.8	V	Maximum DC Input Voltage

Input Section

Var	Value	Units	Description
Fuse	1.00	A	Input Fuse Rated Current
I _{AVG}	0.18	A	Average Diode Bridge Current (DC Input Current)
Thermistor	3.30	Ω	Input Thermistor
MOV_VRATED	275	V	MOV Rated Voltage

Device Variables

Var	Value	Units	Description
Device	LNK6764K		PI Device Name
BVDSS	650	V	D _{rn} -Src Bkdn Voltage
Current Limit Mode	Default		Device Current Limit Mode
PO	14.41	W	Total Output Power
VDRAIN Estimated	532.28	V	Estimated Drain Voltage
VDS	4.70	V	On state Drain to Source Voltage
FS	132000	Hz	Switching Frequency (at VMIN and Full Load)
FMIN_OTE	119561	Hz	Minimum Switching Frequency During On-Time Extension
FMAX_OTE	134988	Hz	Maximum Switching Frequency During On-Time Extension
TSAMPLE_FULL_LOAD	3.19	μ s	Auxiliary Winding Sample Time at Full Load
TSAMPLE_NO_LOAD	1.46	μ s	Auxiliary Winding Sample Time at No Load
KP	0.853		Continuous/Discontinuous Operating Ratio (at VMIN and Full Load)
DMAX	0.554		Maximum Duty Cycle (at VMIN and Full Load)
KI	0.80		Current Limit Reduction Factor
ILIMITEXT	0.77	A	Programmed Current Limit
ILIMITMIN	0.967	A	Minimum Current Limit
ILIMITMAX	1.113	A	Maximum Current Limit
AROTE_FLAG	NO		Auto Restart On-Time Extension Enable
AROTE_ACT	-2147483647	ms	Actual Auto Restart On-Time Extension
IP	0.570	A	Peak Primary Current (at VMIN and Full Load)

IRMS	0.265	A	Primary RMS Current (at VMIN and Full Load)
RTH_DEVICE	64.53	°C/W	PI Device Heatsink Maximum Thermal Resistance
DEV_HSINK_TYPE	2 Oz (70 μ) 2-Sided Copper PCB		PI Device Heatsink Type
DEV_HSINK_AREA	163	mm ²	PI Device Heatsink Area

Clamp Circuit

Var	Value	Units	Description
Clamp Type	RCDZ Clamp		Clamp Circuit Type
VCLAMP	51.05	V	Average Clamping Voltage
Estimated Clamp Loss	0.229	W	Clamp total power loss
VC_MARGIN	68.77	V	Clamp Voltage Safety Margin
TPRIMARY	0.98	μs	Primary Drain Voltage Ring Decay Time

Primary Bias Variables

Var	Value	Units	Description
VB	10.0	V	Bias Voltage
IB	0.001	A	Bias Current
PIVB	54	V	Bias Rectifier Maximum Peak Inverse Voltage

Feedback Winding

Var	Value	Units	Description
NFB	5		Feedback Winding Number of Turns
VFB	11.05		Feedback pin voltage
Layers	0.18		Feedback Winding Layers

Transformer Construction Parameters

Var	Value	Units	Description
Core Type	EF25 (B66317)		Core Type (Manual Overwrite)
Core Material	N87		Core Material (Manual Overwrite)
Primary Pins	5		Number of Primary pins used
Secondary Pins	3		Number of Secondary pins used
USE_SHIELDS	NO		Use shield Windings
LP_nom	896	μH	Nominal Primary Inductance
LP_Tol	10.0	%	Primary Inductance Tolerance
NP	42.8		Calculated Primary Winding Total Number of Turns
NSM	10		Secondary Main Number of Turns
Primary Current Density	1.11	A/mm ²	Primary Winding Current Density
VOR	106.47	V	Reflected Output Voltage (Manual Overwrite)
BW	15.60	mm	Bobbin Winding Width
FF	79.35	%	Actual Transformer Fit Factor. 100% signifies fully utilized winding window
TSAMPLE_FULL_LOAD	3.19	μs	Auxiliary Winding Sample Time at Full Load
TSAMPLE_NO_LOAD	1.46	μs	Auxiliary Winding Sample Time at No Load
AE	52.50	mm ²	Core Cross Sectional Area

ALG	490	nH/T ²	Gapped Core Specific Inductance
BM	227	mT	Maximum Flux Density
BP	389	mT	Peak Flux Density
BAC	97	mT	AC Flux Density for Core Loss
LG	0.099	mm	Estimated Gap Length. See Information section for detail
L_LKG	8.96	μH	Estimated primary leakage inductance
LSEC	20	nH	Secondary Trace Inductance

Primary Winding Section 1

Var	Value	Units	Description
NP1	22		Number of Primary Winding Turns in the First Section of Primary
L	0.80		Primary Winding - Number of Layers
DC Copper Loss	0.01	W	Primary Section 1 DC Losses

Primary Winding Section 2

Var	Value	Units	Description
NP2	21		Rounded (Integer) Number of Primary winding turns in the second section of primary
L2	0.76		Primary Number of Layers in 2nd split winding

Output 1

Var	Value	Units	Description
VO	24.00	V	Typical Output Voltage
IO	0.60	A	Output Current
VOUT_ACTUAL	24.00	V	Actual Output Voltage
NS	10		Secondary Number of Turns
L_S_OUT	0.42		Secondary Output Winding Layers
DC Copper Loss	0.08	W	Secondary DC Losses
VD	0.90	V	Output Winding Diode Forward Voltage Drop
VD	0.90	V	Output Winding Diode Forward Voltage Drop
PIVS	111.16	V	Output Rectifier Maximum Peak Inverse Voltage
ISP	2.435	A	Peak Secondary Current
ISRMS	1.015	A	Secondary RMS Current
ISRMS_WINDING	1.015	A	Secondary Winding RMS Current
Secondary Current Density	6	A/mm ²	Secondary Winding Current Density
RTH_RECTIFIER	63.32	°C/W	Output Rectifier Heatsink Maximum Thermal Resistance
OR_HSINK_TYPE	2 Oz (70 μ) 2-Sided Copper PCB		Output Rectifier Heatsink Type
OR_HSINK_AREA	78	mm ²	Output Rectifier Heatsink Area
CO	220 x 1	μF	Output Capacitor - Capacitance
IRIPPLE	0.819	A	Output Capacitor - RMS Ripple Current
Expected Lifetime	30016	hr	Output Capacitor - Expected Lifetime

The regulation and tolerances do not account for thermal drifting and component tolerance of the output diode forward voltage drop and voltage drops across the LC post filter. The actual voltage values are estimated at full load only.

Please verify cross regulation performance on the bench.