

	INPUT	INFO	OUTPUT	UNITS	
VIN_MIN	120	120		V	Minimum AC input voltage
VIN_MAX	410	410		V	Maximum AC input voltage
VIN_RANGE		WIDE RANGE UNIVERSAL			Range of AC input voltage
LINEFREQ	50	50		Hz	AC Input voltage frequency
CAP_INPUT	22	22.0		uF	Input capacitor
VOUT	24	24.00		V	Output voltage at the board
PERCENT_CDC		0			Cable drop compensation desired at full load
IOUT	0.833	0.833		A	Output current
POUT		19.99		W	Output power
EFFICIENCY	0.89	0.89			AC-DC efficiency estimate at full load given that the converter is switching at the valley of the rectified minimum input AC voltage
FACTOR_Z		0.50			Z-factor estimate
ENCLOSURE		OPEN FRAME			Power supply enclosure
PRIMARY CONTROLLER SELECTION					
ILIMIT_MODE	INCREASED	INCREASED			Device current limit mode
DEVICE_GENERIC	INN36X6C	INN36X6C			Generic device code
DEVICE_CODE		INN3696C			Actual device code
POUT_MAX		30		W	Power capability of the device based on thermal performance
RDSON_100DEG		4.20		Ω	Primary switch on time drain resistance at 100 degC
ILIMIT_MIN		1.305		A	Minimum current limit of the primary switch
ILIMIT_TYP		1.450		A	Typical current limit of the primary switch
ILIMIT_MAX		1.595		A	Maximum current limit of the primary switch
VDRAIN_BREAKDOWN		900		V	Device breakdown voltage
VDRAIN_ON_PRSW		0.76		V	Primary switch on time drain voltage
VDRAIN_OFF_PRSW		713.4		V	Peak drain voltage on the primary switch during turn-off
WORST CASE ELECTRICAL PARAMETERS					
FSWITCHING_MAX	70000	70000		Hz	Maximum switching frequency at full load and valley of the rectified minimum AC input voltage
VOR	65	65.0		V	Secondary voltage reflected to the primary when the primary switch turns off
VMIN		117.75		V	Valley of the minimum input AC voltage at full load
KP		1.34			Measure of continuous/discontinuous mode of operation
MODE_OPERATION		DCM			Mode of operation
DUTYCYCLE		0.293			Primary switch duty cycle
TIME_ON		5.24		us	Primary switch on-time
TIME_OFF		10.14		us	Primary switch off-time
LPRIMARY_MIN		387.0		uH	Minimum primary inductance

LPRIMARY_TYP		407.3	uH	Typical primary inductance
LPRIMARY_TOL	5	5.0	%	Primary inductance tolerance
LPRIMARY_MAX		427.7	uH	Maximum primary inductance
PRIMARY CURRENT				
IPEAK_PRIMARY		1.454	A	Primary switch peak current
IPEDESTAL_PRIMARY		0.000	A	Primary switch current pedestal
IAVG_PRIMARY		0.181	A	Primary switch average current
IRIPPLE_PRIMARY		1.454	A	Primary switch ripple current
IRMS_PRIMARY		0.419	A	Primary switch RMS current
SECONDARY CURRENT				
IPEAK_SECONDARY		3.926	A	Secondary winding peak current
IPEDESTAL_SECONDARY		0.000	A	Secondary winding current pedestal
IRMS_SECONDARY		1.519	A	Secondary winding RMS current
TRANSFORMER CONSTRUCTION PARAMETERS				
CORE SELECTION				
CORE	EE19	EE19		Core selection
CORE CODE		PC40EE19-Z		Core code
AE		23.00	mm^2	Core cross sectional area
LE		39.40	mm	Core magnetic path length
AL		1250	nH/turns^2	Ungapped core effective inductance
VE		906.0	mm^3	Core volume
BOBBIN		BE19-116CPFR		Bobbin
AW		36.40	mm^2	Window area of the bobbin
BW		9.10	mm	Bobbin width
MARGIN		0.0	mm	Safety margin width (Half the primary to secondary creepage distance)
PRIMARY WINDING				
NPRIMARY		81		Primary turns
BPEAK		3748	Gauss	Peak flux density
BMAX		3289	Gauss	Maximum flux density
BAC		1644	Gauss	AC flux density (0.5 x Peak to Peak)
ALG		62	nH/turns^2	Typical gapped core effective inductance
LG		0.442	mm	Core gap length
LAYERS_PRIMARY		3		Number of primary layers
AWG_PRIMARY		30	AWG	Primary winding wire AWG
OD_PRIMARY_INSULATED		0.303	mm	Primary winding wire outer diameter with insulation
OD_PRIMARY_BARE		0.255	mm	Primary winding wire outer diameter without insulation
CMA_PRIMARY		240	Cmil/A	Primary winding wire CMA
SECONDARY WINDING				
NSECONDARY		30		Secondary turns
AWG_SECONDARY		25	AWG	Secondary winding wire AWG
OD_SECONDARY_INSULATED		0.760	mm	Secondary winding wire outer diameter with insulation
OD_SECONDARY_BARE		0.455	mm	Secondary winding wire outer diameter without insulation
CMA_SECONDARY		211	Cmil/A	Secondary winding wire CMA

BIAS WINDING		16		Bias turns
NBIAS				
PRIMARY COMPONENTS SELECTION				
LINE UNDERVOLTAGE				
BROWN-IN REQUIRED	110	110.0	V	Required AC RMS line voltage brown-in threshold
RLS		5.61	MΩ	Connect two 2.80 MΩ resistors to the V-pin for the required UV/OV threshold
BROWN-IN ACTUAL		90.6 - 109.9	V	Actual AC RMS brown-in range
BROWN-OUT ACTUAL		82.7 - 99.1	V	Actual AC RMS brown-out range
LINE OVERVOLTAGE				
OV_TARGET	413	413.0	V	AC RMS line voltage at which overvoltage will trigger. For High Line designs, brown-in threshold might need to be lowered to get the required overvoltage
RV_BIAS_ENABLED	YES	YES		Resistor between BPP and V pins to increase Line OV threshold without increasing Line UV
RV_BIAS		3831	kΩ	Biasing resistor between BPP and V pins of the device
OVERVOLTAGE_LINE		414 - 471	V	Actual AC RMS line over-voltage range
BIAS DIODE				
VBIAS		12.0	V	Rectified bias voltage
VF_BIAS		0.70	V	Bias winding diode forward drop
VREVERSE_BIASDIODE		126.26	V	Bias diode reverse voltage (not accounting parasitic voltage ring)
CBIAS		22	uF	Bias winding rectification capacitor
CBPP		4.70	uF	BPP pin capacitor
SECONDARY COMPONENTS				
RFB_UPPER		100.00	kΩ	Upper feedback resistor (connected to the first output voltage)
RFB_LOWER		5.62	kΩ	Lower feedback resistor
CFB_LOWER		330	pF	Lower feedback resistor decoupling capacitor
MULTIPLE OUTPUT PARAMETERS				
OUTPUT 1				
VOUT1		24.00	V	Output 1 voltage
IOUT1	0.83	0.83	A	Output 1 current
POUT1		19.92	W	Output 1 power
IRMS_SECONDARY1		1.514	A	Root mean squared value of the secondary current for output 1
IRIPPLE_CAP_OUTPUT1		1.266	A	Current ripple on the secondary waveform for output 1
AWG_SECONDARY1		25	AWG	Wire size for output 1
OD_SECONDARY1_INSULATED		0.760	mm	Secondary winding wire outer diameter with insulation for output 1
OD_SECONDARY1_BARE		0.455	mm	Secondary winding wire outer diameter without insulation for output 1
CM_SECONDARY1		303	Cmils	Bare conductor effective area in circular mils for output 1

NSECONDARY1		30		Number of turns for output 1
VREVERSE_RECTIFIER1		238.23	V	SRFET reverse voltage (not accounting parasitic voltage ring) for output 1
SRFET1	AUTO	Info	AON7254	The voltage stress (including the parasitic ring) on the secondary MOSFET selected may exceed the device BVDSS: pick a MOSFET with a higher BVDSS
VF_SRFET1		0.055	V	SRFET on-time drain voltage for output 1
VBREAKDOWN_SRFET1		150	V	SRFET breakdown voltage for output 1
RDSON_SRFET1		66.0	mΩ	SRFET on-time drain resistance at 25degC and VGS=4.4V for output 1
OUTPUT 2				
VOUT2		0.00	V	Output 2 voltage
IOUT2		0.000	A	Output 2 current
POUT2		0.00	W	Output 2 power
IRMS_SECONDARY2		0.000	A	Root mean squared value of the secondary current for output 2
IRIPPLE_CAP_OUTPUT2		0.000	A	Current ripple on the secondary waveform for output 2
AWG_SECONDARY2		0	AWG	Wire size for output 2
OD_SECONDARY2_INSULATED		0.000	mm	Secondary winding wire outer diameter with insulation for output 2
OD_SECONDARY2_BARE		0.000	mm	Secondary winding wire outer diameter without insulation for output 2
CM_SECONDARY2		0	Cmils	Bare conductor effective area in circular mils for output 2
NSECONDARY2		0		Number of turns for output 2
VREVERSE_RECTIFIER2		0.00	V	SRFET reverse voltage (not accounting parasitic voltage ring) for output 2
SRFET2	AUTO	NA		Secondary rectifier (Logic MOSFET) for output 2
VF_SRFET2		NA	V	SRFET on-time drain voltage for output 2
VBREAKDOWN_SRFET2		NA	V	SRFET breakdown voltage for output 2
RDSON_SRFET2		NA	mΩ	SRFET on-time drain resistance at 25degC and VGS=4.4V for output 2
OUTPUT 3				
VOUT3		0.00	V	Output 3 voltage
IOUT3		0.000	A	Output 3 current
POUT3		0.00	W	Output 3 power
IRMS_SECONDARY3		0.000	A	Root mean squared value of the secondary current for output 3
IRIPPLE_CAP_OUTPUT3		0.000	A	Current ripple on the secondary waveform for output 3
AWG_SECONDARY3		0	AWG	Wire size for output 3
OD_SECONDARY3_INSULATED		0.000	mm	Secondary winding wire outer diameter with insulation for output 3
OD_SECONDARY3_BARE		0.000	mm	Secondary winding wire outer diameter without insulation for output 3
CM_SECONDARY3		0	Cmils	Bare conductor effective area in circular mils for output 3
NSECONDARY3		0		Number of turns for output 3
VREVERSE_RECTIFIER3		0.00	V	SRFET reverse voltage (not accounting parasitic voltage ring) for output 3
SRFET3	AUTO	NA		Secondary rectifier (Logic MOSFET) for output 3

VF_SRFET3		NA	V	SRFET on-time drain voltage for output 3
VBREAKDOWN_SRFET3		NA	V	SRFET breakdown voltage for output 3
RDSON_SRFET3		NA	mΩ	SRFET on-time drain resistance at 25degC and VGS=4.4V for output 3
PO_TOTAL		19.92	W	Total power of all outputs
NEGATIVE OUTPUT	N/A	N/A		If negative output exists, enter the output number; e.g. If VO2 is negative output, select 2

