

RCC 反激式电路设计表

RCC Design_Rev1.02 Copyright Wuming Electric Inc. 2003		输入	信息	输出	单位	RCC Design_Rev1.02.xls: RCC Flyback Transformer Design Spreadsheet
ENTER APPLICATION VARIABLES				Customer		
VACMIN	200			Volts		Minimum AC Input Voltage
VACMAX	265			Volts		Maximum AC Input Voltage
FI	50			Hz		Minimum AC input Frequency
Fmin	70			KHz		Minimum OSC Frequency
VO	2			Volts		Output Voltage
IO	1.5			Amps		Output Current
eta	0.7					Efficiency Estimate
Z	1					Loss Allocation Factor
tC	3			mSec		Bridge Rectifier Conduction Time Estimate
CIN	4.7			uFarads		Input Filter Capacitor
D	0.2					
T			14.2857143	uS		Max Time of Cycle
Ton			2.85714286	uS		On time of Cycle
Toff			11.4285714	uS		Off time of Cycle
d	2			A/mm ²		副边线圈电流密度
ENTER Output Diode Parameters						
Output Diode	1N5822					
VR	60			Volts		Diode Maximum Peak Repetitive Reverse Voltage
ID	3			Amps		Diode Average Forward Current
VD	0.52			Volts		Diode Forward Voltage drop
Vo_1	12			Volts		Auxiliary Output Voltage
VD_1	0.6			Volts		Auxiliary Diode Forward Voltage Drop
Io_1				Amps		Auxiliary Output Current
Vo_2	5			Volts		second Output Voltage
VD_2	0.6			Volts		second Diode Forward Voltage Drop
Io_2				Amps		second Output Current
Vo_3	5			Volts		third Output Voltage
VD_3	0.6			Volts		third Diode Forward Voltage Drop
Io_3				Amps		third Output Current
PO			3			Output Power
P			5.95			Total Power
VB	18			Volts		Driver Output Voltage
VD_B	1					
IB	0.02			A		Driver Output Current
IB_min	0.0115			A		
ENTER Other Parameters						
BP	2300			Gauss		Target Peak Flux Density at Maximum Current limit
Direct Switch Type	MJE13001					
Bvceo	520			Volts		
Imax	0.5			Amps		
Hfe	20					
Design Parameters						
VMIN			259	Volts		Minimum DC Input Voltage
VMAX			375	Volts		Maximum DC Input Voltage
IP			0.23	Amps		Peak Primary current
N12			0.04			
LP			3221	uHenries		<u>Minimum Primary Inductance</u>
LS			4.80	uHenries		
RS			3	OM		
ENTER TRANSFORMER CORE/CONSTRUCTION						
Core Type	ee16	EE16				
AE		0.192		cm ²		Core Effective Cross Sectional Area
LE		3.5		cm		Core Effective Path Length
AL		1140		nH/T ²		Ungapped Core Effective Inductance
BW		8.5		mm		Bobbin Physical Winding Width
M	1			mm		Safety Margin Width
Lg			0.22	mm		Gap Length NON GLASS BEAD Construction
NP			168	Turns		Number of Primary Turns
NS			7	Turns		Number of Secondary Turns
NB			13	Turns		
RB			< 781	OM		
PIV			16	Volts		
N1			35	Turns		Auxiliary Number of Turns

