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				Andrews)	CTYANGE				1 - 1 - 1 - 1 - 1 1 1 1 1 1	

With the same of t	
2]	
	across diode of inductor.
,	Assume voltage that across diade Vd= 03 to 05 V
	& voltage drop across inductors VI= 01 to 02 V
,	Not of vollage (Vonet) = Vo+Vaiode + Vinductor
,	= 5 + 0.5 + 0.2
	= 5.7 V
	All the second s
9	Step 3: Calculate the required Duty cucle:
	0 D(max) = Vo = 5.7 = 0.42
	Vin (min) 13.5
	(2) $D(min) = V_0 = 5.7 = 0.35$
	Vin (max) 16.5
	(3) $D(mnm) = V_0 = 5.7 = 0.38$
	Vin (nom) 15
	We splect switching frequency, fs = 40 kHZ
TELEDA D	: total time = 1 = 25 11500
	Fs 40
	: Ton (min) = 0.35 x 25 = 8.75 des
	= Ton (max) = 0.42 x 25 = 10.5 els
4]	step 4: selection of energy storage inductor Li
	Li > (Vonet) (I- Dmin)
	DIL (Fosc)
	LI > 5.7 (1-0.35) = 3.706
	200mp (40K) 8000
MIN'S	463 UH
	. •
a Ny	Jomax = (AT2/2) + To = 1.1A
in the second	L1 ((Upnet) (ttx) × ((Dmax / DT))-1)
	Tomax
	(the = transient recovery time
	= transient recovery

,	Doom > DT > Doing
4.5	Select DTI = 0.37
, p.	11 5 5.7 × 500.015 × (0.42/0.37) -1]
	V28
	LI 560-11 + 350 UH HARRING
	inductor value 3560 ut assuming Ftz = 500 1150,
	Instead of Soo usec I've select 1000 usec = 700 UH
	select inductor value between minimum and maximum value.
	1et L= \$600 dlf 1= 12000 -100
7	
\$	step so: Calculation of no. of turns of inductor:
	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
	AL = 2750 DH
	131-1 - (28 1-12) and sometiments - 8 and (2
Ta	step 5: selection of filter corrector.
	$\frac{\text{Stef}}{\text{Co}} \Rightarrow \frac{200 \text{ m A}}{\text{200 m A}} = \frac{200 \text{ m A}}{\text{200 m A}}$
	8 x a vo x fosc 8 x 0.05 x 40 k 16 k
	= 12.5 UF ≃13 UF
	WVdc = 2 X V in max
1 1	- James - mbl : America, and
e e e e e e e e e e e e e e e e e e e	calculate ESR ocapacitos & avo & 0.01 x5 & 0.125
	2×1 TL 2×200mA
-	Andrew Control of the
6	step 6: (calculations for Plym Ic Lm 3524)
-	Feedback resistance RI (RF).
	Assumption, value of RG is 5 K
	$RF = 5kQ(VO_{-1}) = 5k(5)-1$
	$RF = 5kQ\left(\frac{V_{0}-1}{2.5}\right) = 5k\left(\frac{5}{2.5}\right)-1$
	RF = 5k2
al e	All the same of th
	The state of the s

	Page
	Internal voltage available is of 5V.
	select values of R4 & R8 = SK, referense valtage
	non inventing terminal of orner amplifies is 2.5 volts
	Step 7: current Limiting Resistance RC2 R3
	current limit sonse Volt
H4.001	$R_{Cl} = R_{Cl} = R_{Cl}$
-alla	consider, current limit vig = 0.6V
,	Rc1= 0.461_0
_	
->	Calculate weltages across the RCL PRCL = Ipeak X RCl
	$= (1.3)^2 \times 0.461 = 0.78 \text{ watt}$
	Select the power watt of resistance > 2 watt
	serve pre povves water or resputing y 2 water
8) Stop 8	- Calculations for RT (RG) & CT (G)
	Jose 2 1 mais real de la maille al mar
er mod	RT (T
N 23	fosco is 40 KHZ
	Refer RT CT graph from datasheet
	lets CT = 0.0) UF
	From dayasheet / Rt - 5 km
_ Mobia.	The second of th
9	Step 9 X X X X X X X X X X X X X X X X X X
	we can solect.
	$R_2 = 5k\Omega$, $R_4 = 5k\Omega$, $R_5 = 5k\Omega$
, , 1	LOD I M. White the control of the co
[0]	Step10: calculation of Rs., Rg., Rio:
	$T0 = TC_1 + TC_2$
	Tritially assume that Ici = To
	To
	SO IBI & JCI
	hfe]



	IEI = IBI + ICI
	Assume, IE2 = IB, (1e, no current is taken
	From Rio & Ry branch)
	So, $T32 \approx T62$
	bfe2
	To calculate R8,
	Lets see the branch containing resistance RE RE RIO
	To order to turn on Q, we need the voltage
	Upe > V+h i.e 0.7 V farment should be greater
	than base amount Ib
	Hence,
	TBI = ICI = 1A : consider he = 20
	We 20
	condition driving a BTT in saturation IB> Ic/hte
	$T(S) = S(S) \times $
	ED/
	h+C
_	IB2 & 1.1 mA LOL DIVING SUMMON Should be > 10*7; e 11mA
	The Control of the Co
	current through Rx is 11 mA. Apply kVI from input.
-	Voltage across RIO, R9, R8 and VCE sat of internal
17	transistar.
-	Applying KVL across the R8, R9, R10, Vic sat of
_	internal transistor.
_	Min input voltage = VRIO + VR9 + VR8 + VCESal
_	$13.5 = 0.7 + 0.7 + VR_8 + 0.2$
	1/02 - 11.02/
	R8= VR8 = 11.9 R8= 1KB
_	R9 4 Rio can be found by just voltage divider circuit
_	Hence $Rg = Rho = 100 \Omega$

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	Veràfication:
-	- current in Rg & RIO branch is 0.7/100 a = 7mA
	- current assumed through R& is 11 mA.
	- IB2 = 11-7 = 4mA, Still IBZ is 4/11 = 3.63 times
2 Nambur Samuel and	IBILLY & 92 will be well droven in to
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	and the second of the second o