

**TASK 17**

**ASSEMBLY CHECK**

Connections		Resistances	Potentiometer extreme position		
			Counter-clockwise	Clockwise	
Input AC loop*	<input type="checkbox"/>	OUT-gate			<input type="checkbox"/>
Power loop	<input type="checkbox"/>	DCH-VCC			<input type="checkbox"/>
Integrated circuit supply	<input type="checkbox"/>	DCH-THR			<input type="checkbox"/>
Shorts between IC pins	<input type="checkbox"/>				

**TASK 18**

**PULSE WAVE GENERATOR**

Estimated maximum average supply current  $\triangleright I_{sup(av)max,est} =$

Measured maximum average supply current  $\triangleright I_{sup(av)max,meas} =$

Proper operation  $\triangleright$

Enclose image of  $u_g$  and  $u_{C4}$  voltages.

Attachment/graph number  $\triangleright$

Analysis in regard of proper operation  $\nabla$

Proper operation  $\triangleright$

Pulse wave appearing at the transistor's gate  $\triangleright$

Pulse wave parameters and current drawn by the generator ▽

	$t_p$	$f_p$	$\Delta f_p / f_p$	$D$	$\Delta D$	$I_{sup(av)}$	Attmt./ graph no.
$k = 0$			X				
$D \approx 0,5$					X		X
$k = 1$			X				
Requirements met		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	X

Comments and conclusions ▽

**TASK 19\***

**POWER SUPPLY BLOCK**

Controller supply voltage without load ▷  $U_{CC,0} =$

Correct polarity ▷

Correct value ▷

Estimated average load current at  $D_{max}$  ▷  $I_{o(av)est}|_{D_{max}} =$

Measured average load current ▷  $I_{o(av)meas}|_{D_{max}} =$

Proper operation ▷

Enclose image of  $u_d$  and  $u_{GS}$  voltages scaled to demonstrate rectifier's operation.

Attachment/graph number ▷

Proper operation ▷

Enclose image of  $u_d$  and  $u_{CC}$  voltages scaled to the  $T_d$  period.

Attachment/graph number ▷

Proper operation ▷

	$u_{d(av)m}$	$\Delta u_{d(pp)}$	$\frac{\Delta u_{d(pp)}}{u_{d(av)m}}$	$u_{CC(av)}$	$\Delta u_{CC(pp)}$	$\frac{\Delta u_{CC(pp)}}{u_{CC(av)}}$	Attmts./ graphs no.
$D_{min}$							
$D_{max}$							
Requirements met		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	X

Relative difference between controller supply voltage measured and determined through simulation ▷

for  $D =$

Comments and conclusions ▷

**TASK 20\*\***

**CIRCUIT START-UP WITH THE TARGET LOAD**

Estimated average load current at  $D_{max}$  ▷  $I_{o(av)est}|_{D_{max}} =$

Measured average load current ▷  $I_{o(av)meas}|_{D_{max}} =$

Proper operation ▷

**TASK 21**

**CHOPPER WITH A HALOGEN LAMP**

*Enclose picture(s) of the prototype.*

Attachment number(s) ▷

*Enclose image of  $u_{GS}$  and  $u_{DS}$  waveforms showing transistor's periodic switching.*

Attachment/graph number ▷

Transistor proper operation ▷

Justification ▷

*Enclose image of  $u_{GS}$  and  $u_{DS}$  voltages showing the course of transistor's turn-on for maximum duty cycle.*

Attachment/graph number ▷

Rise time ▷  $t_r|_{D_{max}} =$

Deviation from estimated value ▷  $\Delta t_r/t_r =$

Deviation from required value ▷  $\Delta t_r/t_r =$

Requirements met ▷

Enclose image of  $u_i$  and  $u_o$  voltages scaled to the  $T_d$  period.

Attachment/graph number ▷

*Enclose image of  $u_i$  and  $u_o$  voltages scaled to the  $T_s$  period.*

Attachment/graph number ▷

Chopper proper operation ▷   
(as scaled to  $T_d$  and  $T_s$ )

Justification ▷