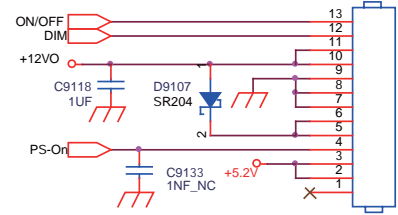


Power



LED DRIVER

The schematic diagram illustrates an LED driver circuit. The input is +12V, which is connected to a network of capacitors (C8107, C8112, C8108) and resistors (R8121, R8127, R8122). The feedback signal (FB) is taken from the output (VLED+) and fed back to the IC8501 (7903BS). The IC8501 is configured as a voltage follower, with its output (DIMOUT) connected to the gate of the MOSFET Q8104 (AOD4126). The MOSFET's source is connected to ground, and its drain is connected to the output (VLED+). The output is connected to a series of LEDs (LED1) through a current-sense resistor R8128. The sense amplifier Q8101 (AO4486) is used to sense the current through the LEDs. The dimming control section includes a potentiometer R8130 and a dimming input DIM. The output voltage is VLED+.

Key components and their values:

- Resistors: R8121 (100K 1% 1/8W_NC), R8127 (1K OHM +5% 1/8W), R8122 (47K +5% 1/8W), R8108 (330R 1/8W 5%), R8110 (0.20OHM 1% 1/4W), R8111 (0.20OHM 1% 1/4W), R8112 (0.20OHM 1% 1/4W), R8113 (0.20OHM 1% 1/4W), R8128 (100 OHM 1/4W), R8129 (10K OHM +5% 1/8W), R8141 (1.2 OHM), R8123 (1.5R), R8124 (1.5R), R8125 (1.5R), R8126 (1.5R), R8105 (10K 1/8W), R8104 (10 OHM), R8133 (33K OHM), R8134 (100K 1/8W 1%), R8135 (5K 1% 1/8W), R8136 (0 OHM +5% 1/8W), R8137 (0 OHM +5% 1/8W_NC), R8116 (5K 1% 1/8W), R8117 (7K 1/8W +/-1%), R8118 (5K1 +5% 1/8W), R8120 (33K 1/6W 5%), R8130 (330K 1/8W 5%), R8119 (10K OHM +5% 1/8W), R8139 (0R05 1/4W_NC), R8140 (0R05 1/4W).
- Capacitors: C8107 (100N 50V), C8112 (470UF 25V), C8108 (100N 50V), C8118 (1NF 50V_NC), C8104 (2.2uF 25V), C8110 (1NF 50V), C8111 (100pF 50V), C8113 (330UF 50V), C8106 (1N 50V), C8105 (330UF 50V), C8121 (1uF), C8123 (1uF), C8114 (10N 50V), C8116 (100N 50V_NC), C8119 (2.2uF 25V), C8120 (2.2uF 25V_NC), C8122 (100N 50V).
- Transistors: Q8104 (AOD4126), Q8101 (AO4486), Q8103 (2N7002K), Q8105 (PMBT3904), Q8106 (MMBT3906 PNP), Q8107 (PMBS3904).
- Diodes: D8101 (SR510-22), D8102 (NC), D8103 (1N4148W).
- ICs: IC8501 (7903BS), Q8101 (AO4486).

Connections and Labels:

- Input: +12V
- Output: VLED+
- Feedback: FB
- Dimming: DIM
- LEDs: LED1
- On/Off: ON/OFF
- Connections: CN8101 CONN, CN8102 CONN_NC

Component values and tolerances are specified for each part. The circuit is designed for a 12V input and a maximum output current of 1A.

Component	Value	Tolerance	Power
R8121	100K	1%	1/8W
R8127	1K	+5%	1/8W
R8122	47K	+5%	1/8W
R8108	330R	1/8W	5%
R8110	0.20OHM	1%	1/4W
R8111	0.20OHM	1%	1/4W
R8112	0.20OHM	1%	1/4W
R8113	0.20OHM	1%	1/4W
R8128	100 OHM	1/4W	
R8129	10K	+5%	1/8W
R8141	1.2 OHM		
R8123	1.5R		
R8124	1.5R		
R8125	1.5R		
R8126	1.5R		
R8105	10K	1/8W	
R8104	10 OHM		
R8133	33K	OHM	
R8134	100K	1/8W	1%
R8135	5K	1% 1/8W	
R8136	0 OHM	+5% 1/8W	
R8137	0 OHM	+5% 1/8W_NC	
R8116	5K	1% 1/8W	
R8117	7K	1/8W +/-1%	
R8118	5K1	+5% 1/8W	
R8120	33K	1/6W 5%	
R8130	330K	1/8W 5%	
R8119	10K	OHM +5% 1/8W	
R8139	0R05	1/4W_NC	
R8140	0R05	1/4W	

Component	Value	Tolerance	Power
C8107	100N	50V	
C8112	470UF	25V	
C8108	100N	50V	
C8118	1NF	50V_NC	
C8104	2.2uF	25V	
C8110	1NF	50V	
C8111	100pF	50V	
C8113	330UF	50V	
C8106	1N	50V	
C8105	330UF	50V	
C8121	1uF		
C8123	1uF		
C8114	10N	50V	
C8116	100N	50V_NC	
C8119	2.2uF	25V	
C8120	2.2uF	25V_NC	
C8122	100N	50V	

Component	Value	Tolerance	Power
Q8104	AOD4126		
Q8101	AO4486		
Q8103	2N7002K		
Q8105	PMBT3904		
Q8106	MMBT3906 PNP		
Q8107	PMBS3904		

Component	Value	Tolerance	Power
D8101	SR510-22		
D8102	NC		
D8103	1N4148W		

Component	Value	Tolerance	Power
IC8501	7903BS		

Component	Value	Tolerance	Power
R8138	0 OHM	+5% 1/8W	

Component	Value	Tolerance	Power
R8139	0R05	1/4W_NC	
R8140	0R05	1/4W	

Component	Value	Tolerance	Power
C8117	1uF_NC		

Component	Value	Tolerance	Power
R8121	100K	1% 1/8W_NC	

Component	Value	Tolerance	Power
C8117	1uF_NC		

