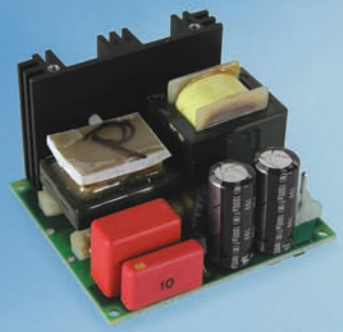
Sōlarc LIGHT



B50R004R BALLAST

USHIO America's ballast products are designed to operate with USHIO America Sōlarc® lamp products only. The ballast consists of an internal regulator that delivers constant power to the Sōlarc lamp. This design is ideally suited for both battery and AC power supply-driven applications where both small size and high efficiency are needed. The new wattage setting feature allows you to select your lamp wattage within a 10W range to achieve a 20% light output difference. The ballast is a self-contained system with all the necessary starting, regulating and safety features to meet any application, from commercial to medical.

Performance Specifications

Electrical (all measurements are at 25°C)

Absolute Maximum Input Voltage	**16.0 VDC**
Minimum Safe Input Voltage Range	**11.0 VDC**
Operating Input Voltage Range	12.0 VDC to 15.0 VDC
Input Current Range	5.6 A @ 12.0 VDC, 4.4 A @ 15.0 VDC
Lamp Run-Up (Cold)	2.0 A/sec
Nominal Lamp Voltage	55V ± 6V
Inrush Current	~15 A < 100 µsec
Time to Shut Down	3.0 sec nominal
Ignition Voltage	~9 kV Peak
Output Wattage	Switchable in 3 increments: 50, 55, 60W*
Efficiency	~78% @ 15.0 VDC and 25°C

Environmental

Storage Temperature Range	-40°C to +105°C
Operating Temperature Range	0°C to +70°C
Air Flow Requirements	10 cfm @ 25°C ambient

*The B50R004R is factory preset at 50-watts operation. If other wattage settings are desired, refer to user-selectable "Power Setting" diagram on the back of this datasheet. Consult the factory for technical assistance per lamp and ballast. Cooling, lamp life and output performance will change depending on ballast wattage setting.

Application Notes

Increase airflow requirements by 1 cfm for every 2°C rise above 25°C. Do not allow the temperature of the MOSFET attached to the heat sink to rise above 90°C. Additional heat sinking is possible by screwing more thermally conducting material to the top of the heat sink. Use a #2 screw and thermal compound to ensure proper conduction.

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Mounting

Mount the ballast using the four holes in the corners with a #2 screw. The heat sink should not be used for mounting because it is electrically floating. Since there is high voltage on the board, spacing of 6.35mm [0.25 inches] on all sides is required or appropriate insulating material must be used.

Safety

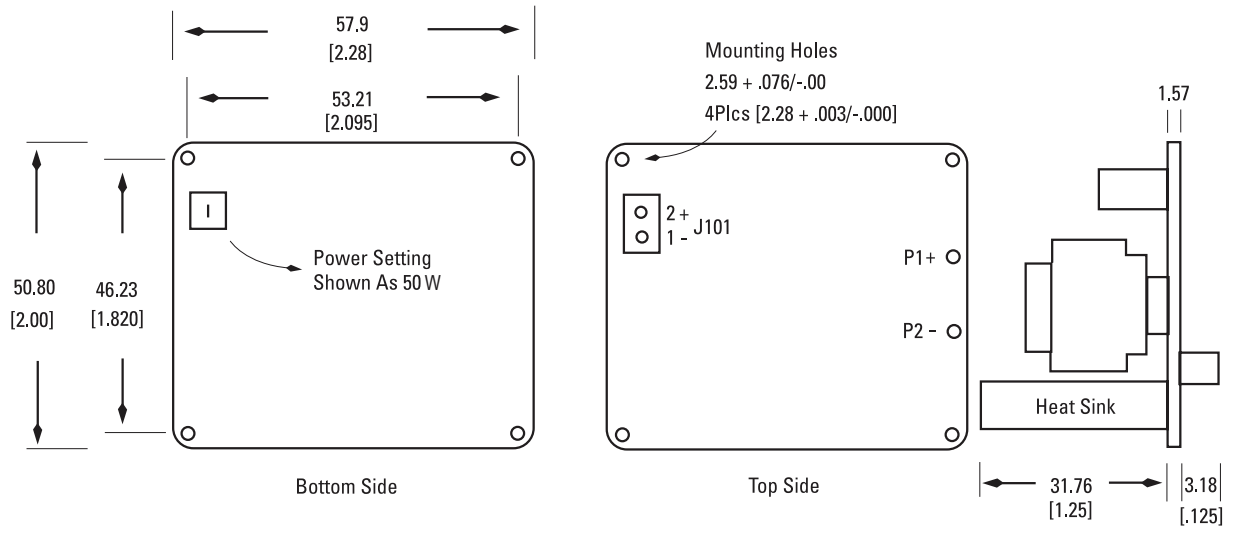
This ballast, as well as all others produced by USHIO America for the Sōlarc arc lamp, has been designed to pass commercial and medical safety regulations world-wide when applied correctly. Since it is a secondary device, it is part of the end product's approval. It also may conform to any EMC directives when the ballast and the lamp are enclosed in a metal or metal-coated enclosure. Proper interlocking for lamp replacement is always recommended. There is a risk of electric shock when using the ballast without proper precautions.

Connections

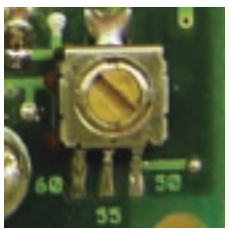
Input Power . . . . . Molex Part Number 09-05-1021 – J101 pin 2: +
J101 pin 1: –

Lamp Connection . . . . . P1 + Soldered High-Voltage Wires
P2 – Soldered High-Voltage Wires

Mechanical (All dimensions are in mm [inches].)



Power Settings—User Selectable



Factory preset at 50W operation.

Set switch for discrete wattage settings (50, 55, 60W) as shown here.