

Continuous Duty

⚠ Caution

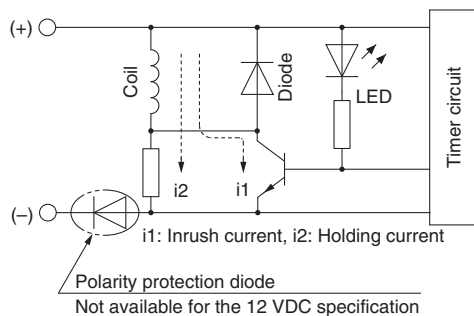
If a valve is energized continuously for long periods of time, the rise in temperature due to heat-up of the coil assembly may cause a decline in solenoid valve performance, reduce the service life, or have adverse effects on peripheral equipment. If the valve is energized continuously for long periods of time, be sure to use a valve with power-saving circuit (continuous duty type). In particular, if three or more adjacent stations on the manifold are energized simultaneously for extended periods of time or if the valves on A side and B side are energized simultaneously for long periods of time, take special care as the temperature rise will be greater.

If the continuously energized time exceeds three hours, please contact SMC.

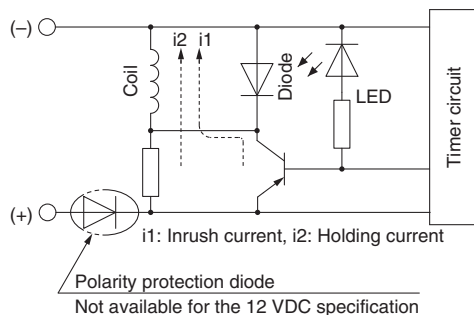
■ With power-saving circuit

Power consumption is decreased to approx. 1/3 (for SJ3□60T) compared with the standard model by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.)

Electric circuit diagram (with power-saving circuit) In case of positive common, single solenoid



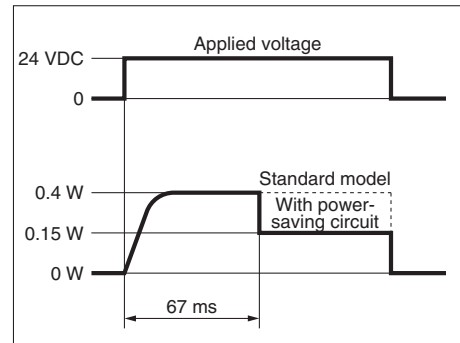
In case of negative common, single solenoid



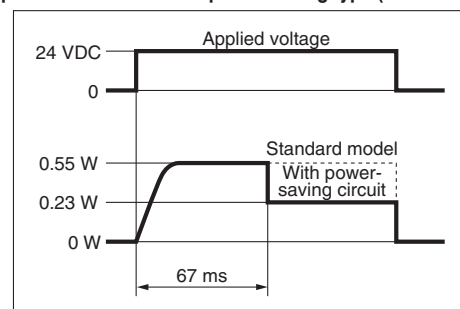
Working Principle

The circuit shown on page 111 reduces the power consumption for holding in order to save energy. Refer to the electrical power waveform as shown below.

Electrical power waveform of the power-saving type (SJ3□60T)



Electrical power waveform of the power-saving type (SJ1□60T, SJ2□60T)



- The 12 VDC specification with power-saving circuit does not have the polarity protection diode. Do not make a mistake with the polarity.
- Since the voltage will drop by approx. 0.5 V due to the transistor, pay attention to the allowable voltage fluctuation. (For details, refer to the solenoid specifications of each type of valve.)