



# AMPHION™ Solid State Relays

## DESCRIPTION

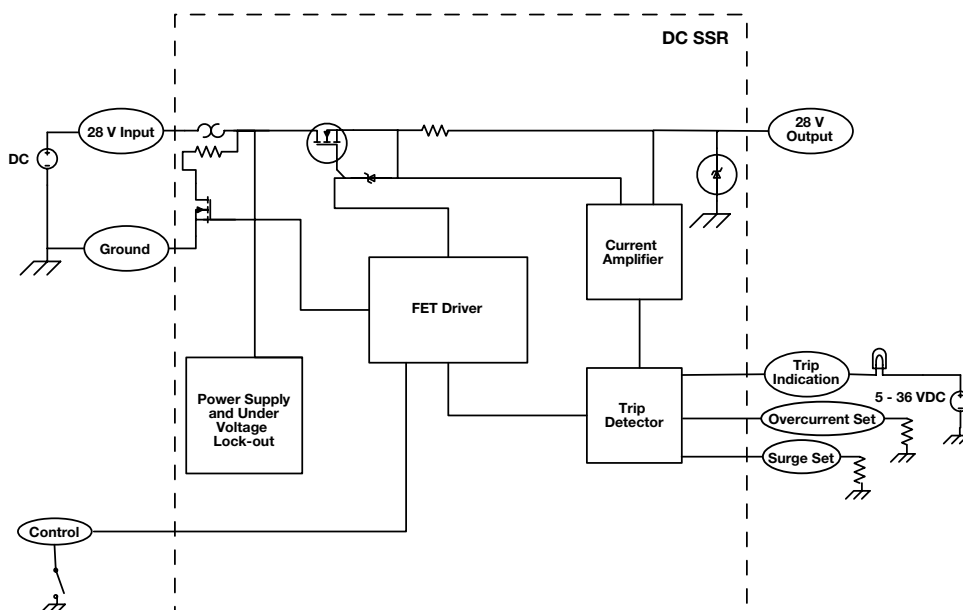
The 10747 Solid State Relay (SSR) combines the functions of a power contactor and an arc fault circuit breaker into one small and efficient module. The SSR fits in a standard M12883/48-02 socket and can switch up to 25 A at 28 VDC. This device can switch inductive or incandescent loads at the full rated current. There is also no wear out mechanism and the “on” resistance does not increase with age providing a highly reliable solid state alternative to mechanical relays.

## ARC FAULT PROTECTION

The circuit breaker has the ability to detect and trip on intermittent arc faults produced by wire insulation failure.

## UNIQUE FAILSAFE DESIGN

Unlike other solid-state products, the SSR contains patented circuitry that prevents a failure in a short-circuited condition. This means that a failure will not cause a critical load to remain powered in an unprotected and uncontrolled manner.



## FEATURES

- ✓ Adjustable trip curve
- ✓ No heatsink required at ambients  $\leq 85^{\circ}\text{C}$
- ✓ Discrete trip status output
- ✓ Trip free reset
- ✓ No bias supply required
- ✓ No output offset
- ✓ Patented “fail-open” circuitry
- ✓ Low voltage drop
- ✓ Controlled transition time for low EMI
- ✓ Bus bar input connection and dual output pins

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## MAXIMUM RATINGS

Operating Voltage Range (28 in. to ground): 10 – 36 VDC

Surge Voltage (28 in. to ground): 48 V for 1 sec, 80 V for 100ms

Normal Operating Temperature Range: -40° to 85°F  
(-40° to 29°C) ambient

Extended Operating Temperature Range (trip accuracy reduced to ±10%): -67° to 257°F (-55° to 125°C) ambient

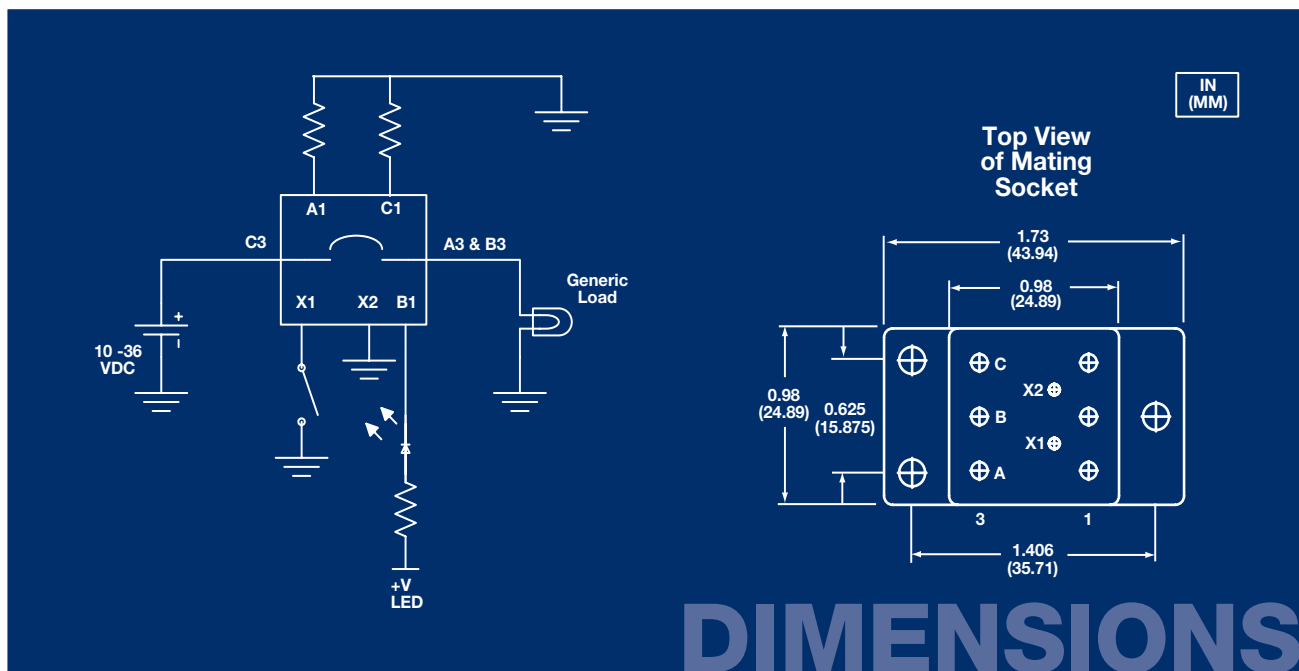
Storage Temperature: -76° to 257°F  
(-60° to 125°C) ambient

Rupture Current: >600 A

Control Pin Voltage: Ground or Open

AMPHION Part Number	Current Range	Turn on/ Turn off times at full load	Maximum Off State Voltage	Total On-State Resistance	Maximum Voltage Drop at Full Current
10747B01E10	5 to 10 A	20 uS, 10%-90%	± 0.1 VDC	0.004 Ohm	0.04
10747B01E15	7.5 to 15 A	20 uS, 10%-90%	± 0.1 VDC	0.004 Ohm	0.06
10747B01E20	10 to 20 A	20 uS, 10%-90%	± 0.1 VDC	0.004 Ohm	0.08
10747B01E25	15 to 25 A	20 uS, 10%-90%	± 0.1 VDC	0.003 Ohm	0.07
10747B01E30	15 to 30 A	20 uS, 10%-90%	± 0.1 VDC	0.003 Ohm	0.09

## PIN DEFINITIONS



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