

## | LS SERIES

PCB MOUNT SOLID STATE RELAYS



### Features

- SIP SSR
- Ratings up to 12 A @ 280 VAC
- DC control
- Zero voltage turn-on (resistive loads) or instantaneous turn-on (inductive loads) output

### PRODUCT SELECTION

| Control Voltage | 8 A      | 12 A      |
|-----------------|----------|-----------|
| 4-10 VDC        | LS240D8  | LS240D12  |
| 20-28 VDC       | LSE240D8 | LSE240D12 |

### OUTPUT SPECIFICATIONS <sup>(A)</sup>

| Description                                                             | LS240D8 | LS240D12 |
|-------------------------------------------------------------------------|---------|----------|
| Operating Voltage (47-63 Hz) [Vrms]                                     | 24-280  | 24-280   |
| Transient Overvoltage [Vpk]                                             | 600     | 600      |
| Maximum Off-State Leakage Current @ Rated Voltage [mA <sub>rms</sub> ]  | 0.1     | 0.1      |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] <sup>(B)</sup> | 500     | 500      |
| Maximum Load Current [Arms] <sup>(C)</sup>                              | 8       | 12       |
| Minimum Load Current [Arms]                                             | 0.15    | 0.15     |
| Maximum Surge Current (16.6 msec) [A <sub>pk</sub> ]                    | 80      | 120      |
| Maximum On-State Voltage Drop @ Rated Current [Vrms]                    | 1.6     | 1.6      |
| Thermal Resistance Junction to Case (R <sub>jc</sub> ) [°C/W]           | 2.2     | 2.0      |
| Minimum Power Factor (with Maximum Load)                                | 0.5     | 0.5      |

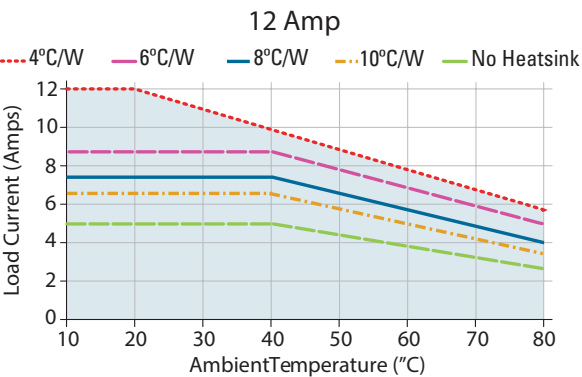
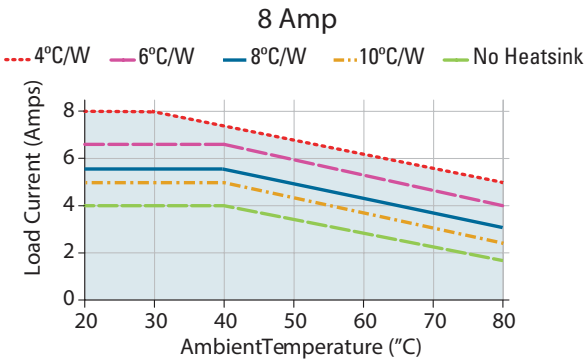
● INPUT SPECIFICATIONS<sup>(A)</sup>

| Description                             | LS                | LSE               |
|-----------------------------------------|-------------------|-------------------|
| Control Voltage Range                   | 4-10 VDC          | 20-28 VDC         |
| Must Turn-On Voltage                    | 4.0 VDC           | 20 VDC            |
| Must Turn-Off Voltage                   | 1.0 VDC           | 1.0 VDC           |
| Typical Input Current @ Nominal Voltage | 15 mA             | 15 mA             |
| Minimum Input Current                   | 7.0 mA            | 7.0 mA            |
| Nominal Input Impedance                 | 270 Ohms          | 1500 Ohms         |
| Nominal Input Impedance                 | Current Regulated | Current Regulated |
| Maximum Turn-On Time [msec]             | 1/2 cycle         | 1/2 Cycle         |
| Maximum Turn-Off Time [msec]            | 1/2 Cycle         | 1/2 Cycle         |

● GENERAL SPECIFICATIONS<sup>(A)</sup>

| Description                                       | Parameters                 |
|---------------------------------------------------|----------------------------|
| Dielectric Strength, Input/Output/Base (50/60 Hz) | 2500 Vrms                  |
| Minimum Insulation Resistance (@ 500 VDC)         | 10 <sup>9</sup> Ohms       |
| Maximum Capacitance, Input/Output                 | 10 pF                      |
| Ambient Operating Temperature Range               | -30 to 80°C                |
| Ambient Storage Temperature Range                 | -30 to 125°C               |
| Weight (typical)                                  | 0.6 oz (17 g)              |
| Encapsulation                                     | Thermally Conductive Epoxy |

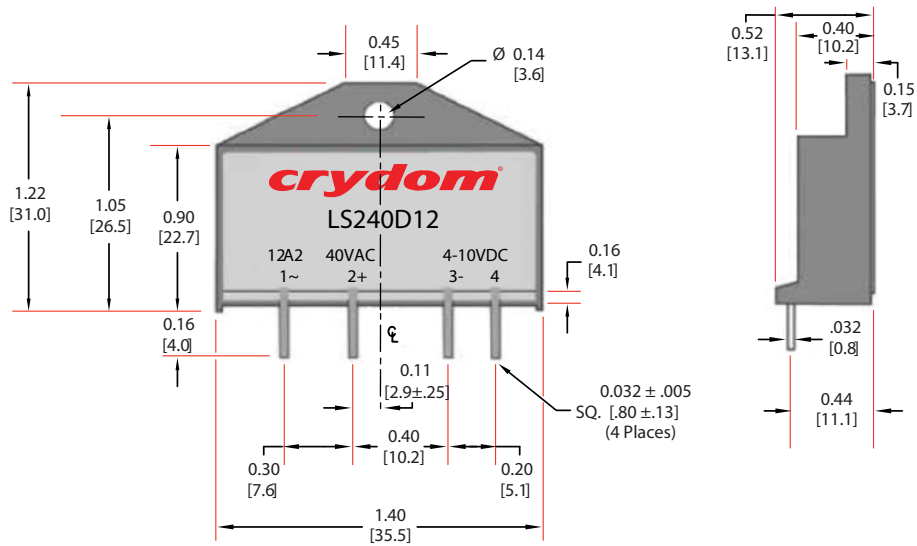
● THERMAL DERATE INFORMATION



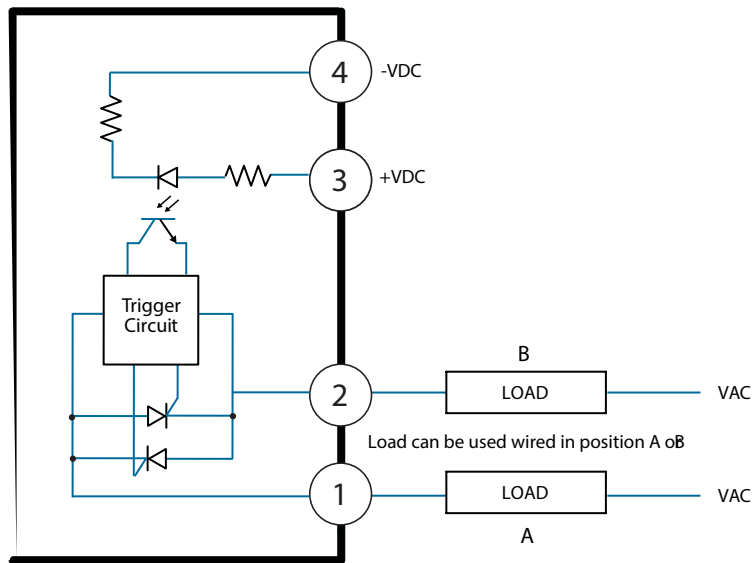
## MECHANICAL SPECIFICATIONS

Tolerances:  $\pm 0.02$  in / 0.5 mm

All dimensions are in inches [millimeters]



## EQUIVALENT CIRCUIT BLOCK DIAGRAM/WIRING DIAGRAM



## ORDERING OPTIONS

Example : LSE240D12R

|                                                         |    |   |     |   |    |   |
|---------------------------------------------------------|----|---|-----|---|----|---|
| Series                                                  | LS | E | 240 | D | 12 | R |
| LS                                                      |    |   |     |   |    |   |
| Control Voltage                                         |    |   |     |   |    |   |
| Blank: 4-10 VDC<br>E: 20-28 VDC                         |    |   |     |   |    |   |
| Operating Voltage                                       |    |   |     |   |    |   |
| 240: 24-280 VAC                                         |    |   |     |   |    |   |
| Control Voltage                                         |    |   |     |   |    |   |
| D: DC Input                                             |    |   |     |   |    |   |
| Rated Load Current                                      |    |   |     |   |    |   |
| 8: 8 Amps<br>12: 12 Amps                                |    |   |     |   |    |   |
| Switching Mode                                          |    |   |     |   |    |   |
| Blank: Zero voltage turn-on<br>R: Instantaneous turn-on |    |   |     |   |    |   |

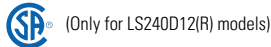
— Required for valid part number  
□ For options only and not required for valid part number

## GENERAL NOTES

- (1) All parameters at 25 °C unless otherwise specified
- (2) Off-State dv/dt test method per EIA/NARM standard RS-443. paragraph 13.11.1
- (3) See current derating curve

## AGENCY APPROVALS & CERTIFICATIONS

Designed in accordance with the requirements of IEC 62314



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