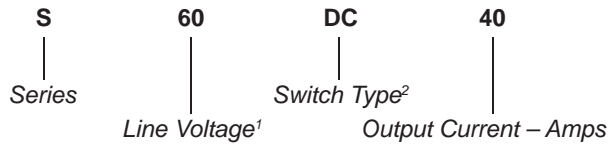**TELEDYNE
RELAYS**
Everywhere**you**look™

## FEATURES/BENEFITS

- Latest generation MOSFET technology
- Ultra low on-state resistance
- Innovative isolated driver ensures fast power transistor turn on and off and thus low power transient
- Ultra low output leakage current
- Low control current consumption
- Triggered control input to avoid linear control risks
- Low conducted and radiated disturbances

## Part Number

| Part Number | Description |
|---|---|
| S60DC40 | 40A, 600 Vdc Solid-State Relay |

## Part Number Explanation

| S | 60 | DC | 40 |
|---|---|---|---|
| *Series* | *Line Voltage[1]* | *Switch Type[2]* | *Output Current – Amps* |

NOTES
1) Line Voltage (peak): 60 = 600 Vdc
2) Switch Type: DC = DC

## ELECTRICAL SPECIFICATIONS
(+25°C ambient temperature unless otherwise specified)

### INPUT (CONTROL) SPECIFICATIONS

|  | Min | Max | Units |
|---|---|---|---|
| Control Range | 4.5 | 32 | Vdc |
| Input Current Range | 25 | 42 | mAdc |
| Typical Turn-On Voltage | 4.3 |  | Vdc |
| Must Turn-Off Voltage | 1 |  | Vdc |
| Reverse Voltage |  | 32 | Vdc |
| Reverse Leakage Current |  | 100 | µA |

### CONTROL CHARACTERISTIC
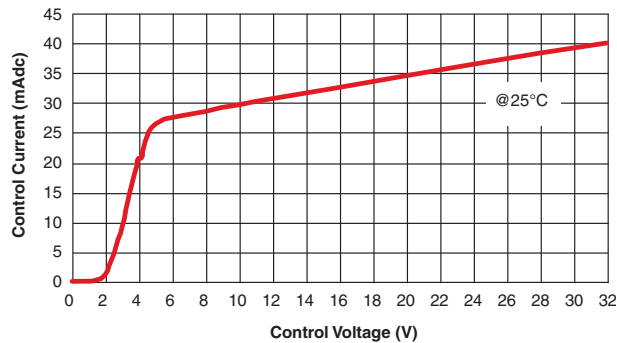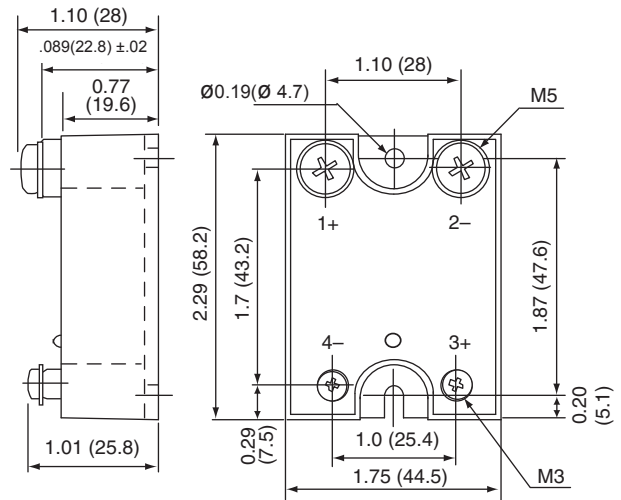


*Figure 2*

## MECHANICAL SPECIFICATION



Tolerances: ±.001
Dimensions in inches (mm)
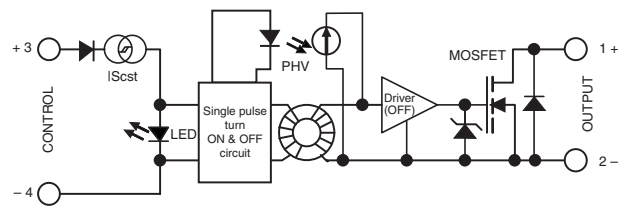Weight: 3.52 oz. (100g)

*Figure 1*

## BLOCK DIAGRAM



*Figure 3*

## ELECTRICAL SPECIFICATIONS
(+25°C ambient temperature unless otherwise specified)
### OUTPUT (LOAD) SPECIFICATIONS

|  | Min | Max | Units |
|---|---|---|---|
| Operating Range | 0 | 350* | Vdc |
| Peak Voltage |  | 600 | Vpeak |
| Reverse Voltage (Internal Diode) | 1.2 |  | V |
| Maximum Repetitive Avalanche Current |  | 20 | A |
| Maximum Single Pulse Avalanche Energy |  | 1800 | mJ |
| Maximum Repetitive Pulse Avalanche Energy |  | 1 | mJ |
| Maximum Nominal Currents (Resistive) |  | 40 | A |
| Non-Repetitive Peak Overload Current |  | 140 | A |
| Leakage Current |  | 250 | µAdc |
| On-State Resistance |  | 70 | mΩ |
| Output Capacitance (Typical) | 2.2 |  | nF |
| Junction-Case Thermal Resistance |  | 0.4 | °C/W |
| Built-In Heat Sink Thermal Resistance (Vertically Mounted) |  | 8 | °C/W |
| Heat Sink Thermal Time Constant |  | 10 | min |
| Control Inputs/Power Outputs Insulation Voltage |  | 4 | kV |
| Turn-On Time |  | 10 | µs |
| Turn-On Delay |  | 600 | µs |
| Turn-Off Time |  | 10 | µs |
| Turn-Off Delay |  | 100 | µs |
| On-Off Frequency |  | 700 | Hz |

*Recommend 275 Vrms size 20 varistor as protection across the output.

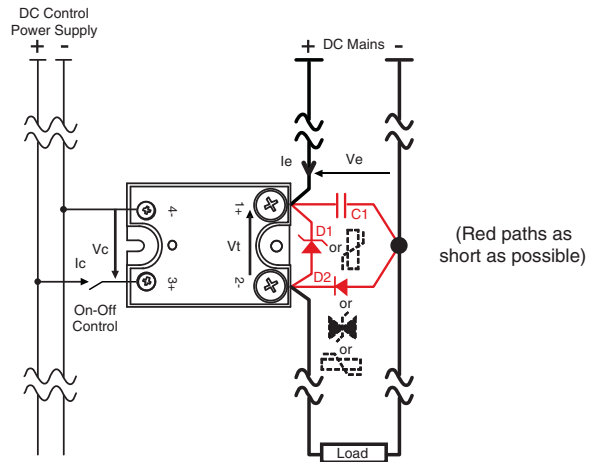### HIGH SIDE WIRING DIAGRAM
(Load Connected to "—")



*Figure 4*
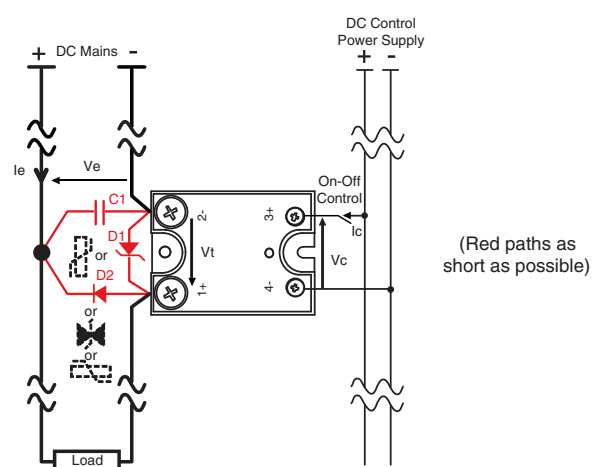
### LOW SIDE WIRING DIAGRAM
(Load Connected to "+")



*Figure 5*

# Series S60DC40
**Output to 40A, 600 Vdc**
**DC Solid-State Relay**

TELEDYNE
RELAYS
Everywhere**you**look™

## TIME DIAGRAMS

### TURN-ON

Vc (control)

Vt (switch)

tdon    ton

### TURN-OFF

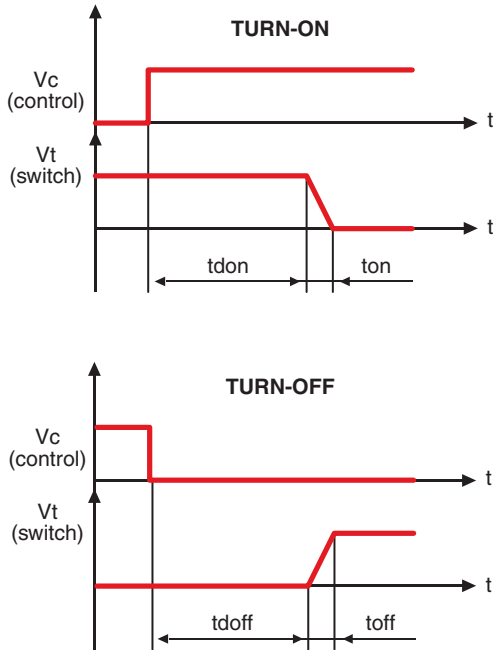Vc (control)

Vt (switch)

tdoff    toff
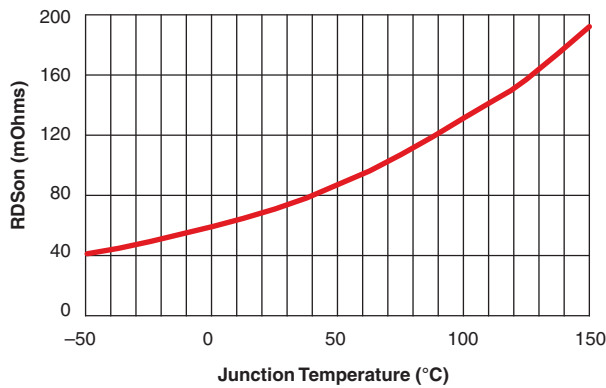
*Figure 6*

## ON RESISTANCE VS. TEMPERATURE



*Figure 7*

## GENERAL SPECIFICATIONS
(+25°C ambient temperature unless otherwise specified)

### ENVIRONMENTAL SPECIFICATIONS

|  | Min | Max | Units |
| --- | --- | --- | --- |
| Operating Temperature | –40 | +90 | °C |
| Storage Temperature | –55 | +100 | °C |
| Input-Output Isolation | 4000 |  | Vrms |
| Insulation Resistance | 1 |  | GΩ |
| Insulation Capacitance | 8 |  | pF |
| Junction Temperature |  | 150 | °C |

### CONNECTIONS

|  | Power | Control |
| --- | --- | --- |
| Screwdriver | Phillips NR2 | Phillips NR1 |
| Tightening Torque | 1.8 N.m | 0.8 N.m |
| Insulated crimp terminals (Round Tabs, Eyelet Type) | M5 | M3 |

### MISCELLANEOUS

| | |
| --- | --- |
| Display | Green LED (ON) |
| Housing | UL94V0 |
| Mounting | 2 screws (M4x12mm) |
| Noise Level | No audible noise |

### GENERAL

| | |
| --- | --- |
| Standards | IEC60947-1 |
| Protection Level | IP00 |
| Protection Against Direct Touch | None |
| CE Marking | Yes |
| UL, cULUS & VDE Approvals | Pending |

### E.M.C. EMISSION

Radiated & Conducted Disturbances
NFEN55011

## POWER DISSIPATION AND LOAD CURRENT LIMIT VS. TEMPERATURE

Please refer to the installation notice for
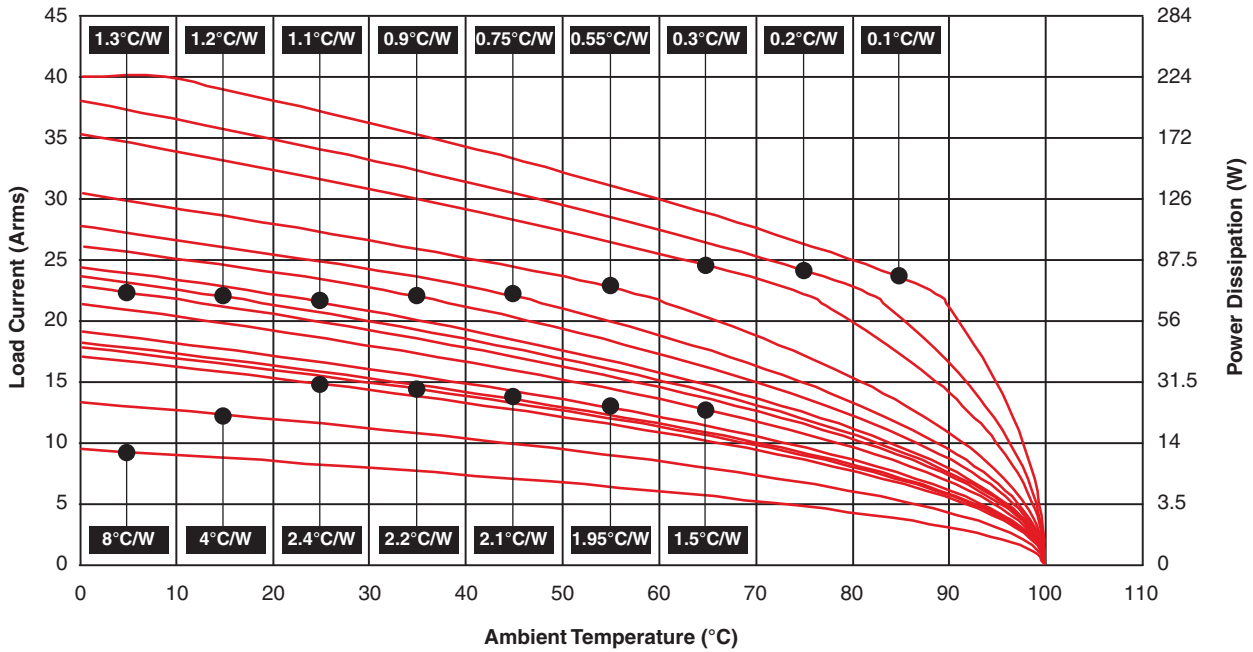precautions about mounting the device on a heat sink.



*Figure 8*
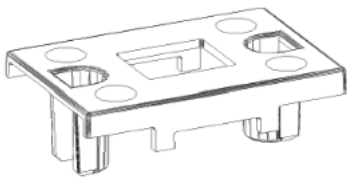
## PROTECTIVE COVER AVAILABLE
### Add -14 to part number



*Figure 9*

NOTES
1. For additional/custom options, contact factory.

## CURRENT OVERLOAD CHARACTERISTICS



Non-repetitive peak overload
switching current vs. overvoltage
protection clamping voltage (D1)

Single pulse
F(on-off)=50Hz
F(on-off)=100Hz
F(on-off)=700Hz

Non-repetitive
on-state (no switching)
max. peak current
vs.
overload pulse duration

*Figure 10*

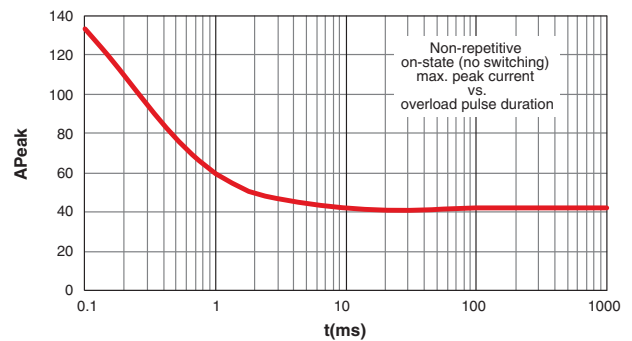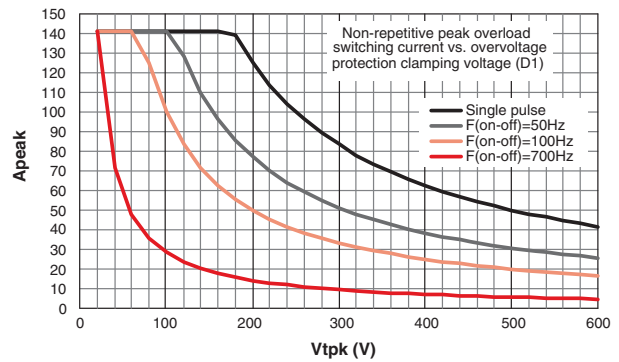SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE   © 2016 TELEDYNE RELAYS

S60DC40\012016\Q1

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for* Solid State Relays - Industrial Mount *category:*

*Click to view products by* Teledyne *manufacturer:*

Other Similar products are found below :

D2440-C  H10CA4890  D4875C  D53TP50DH-10  1395831-1  1616010-6  BR312BY  A-1326  H10CA4850  H12CA4890VL  RA2410-D06  RA2410HA06T  D1202F  D53TP50-10  W230E-1-12  W230T-3-12  1-1617030-3  1-1617033-7  MS2-D2420  MS2-D2430  A-1440  RJ1P60V50E  HS501DR-D2425  RN1F48I50  70.362.1028.0  7-1393030-8  Z5.509.0828.0  G3DZ-4B DC24  G3DZ-F4B DC12  SSRDAC10  RV8S-L-A240-D24  RV8S-L-A240-D6  RV8S-S-A240-D24  RV8S-S-A240-D6  RV8S-S-A240Z-D24  RV8S-S-D24-A240  RV8S-S-D48-A120  RN1F12V50  RJ1P60I30E  RJ1P60V30E  SO967860  SMT8628521  SO869970  SOD867180  SAL961360  SO867970  SOB863860  SOB867640  SOB942360  G3PH-5150B DC5-24