

**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	Description
S20DC30	30A, 200 Vdc Solid-State Relay

**Part Number Explanation**

S              20              DC              30  
 Series          Line Voltage<sup>1</sup>      Switch Type<sup>2</sup>      Output Current – Amps

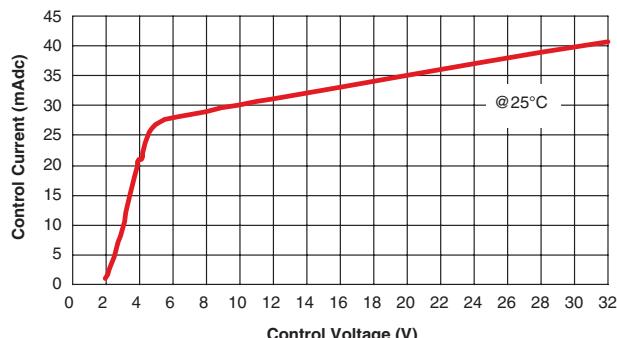
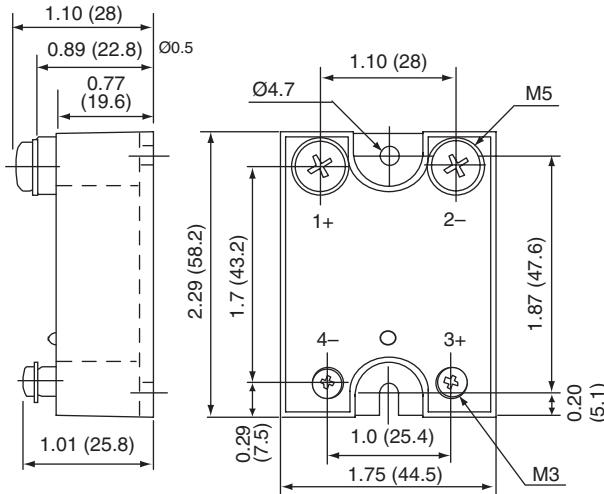
**NOTES**

- 1) Line Voltage (peak): 20 = 200 Vdc  
 2) Switch Type: DC = DC

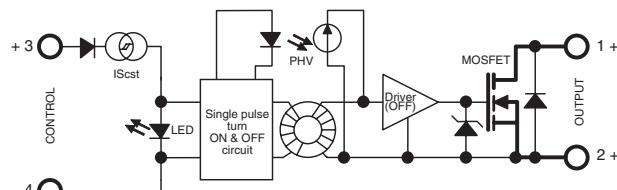
**ELECTRICAL SPECIFICATIONS**  
 (+25°C ambient temperature unless otherwise specified)

**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: Ø0.3  
 Dimensions in inches (mm)  
 Weight: 3.52 oz. (100g)

*Figure 1*
**BLOCK DIAGRAM**

*Figure 3*

# NEW Series S20DC30

Output to 30A, 200 Vdc  
DC Solid-State Relay

## ELECTRICAL SPECIFICATIONS

(+25°C ambient temperature unless otherwise specified)

### OUTPUT (LOAD) SPECIFICATIONS

	Min	Max	Units
Operating Range	0	130	Vdc
Peak Voltage	200		Vpeak
Reverse Voltage (Internal Diode)	1.5		V
Maximum Repetitive Avalanche Current	30	A	
Maximum Single Pulse Avalanche Energy	315		mJ
Maximum Repetitive Pulse Avalanche Energy	20		mJ
Maximum Nominal Currents (Resistive)	30	A	
Non-Repetitive Peak Overload Current	120	A	
Leakage Current	100		$\mu$ Adc
On-State Resistance	164		$m\Omega$
Output Capacitance (Typical)	3.0		nF
Junction-Case Thermal Resistance	0.75		$^{\circ}$ C/W
Built-In Heat Sink Thermal Resistance (Vertically Mounted)	8		$^{\circ}$ C/W
Heat Sink Thermal Time Constant	10		min
Control Inputs/Power Outputs			
Insulation Voltage	4		kV
Turn-On Time	10		$\mu$ s
Turn-On Delay	600		$\mu$ s
Turn-Off Time	10		$\mu$ s
Turn-Off Delay	100		$\mu$ s
On-Off Frequency	700		Hz

### TIME DIAGRAMS

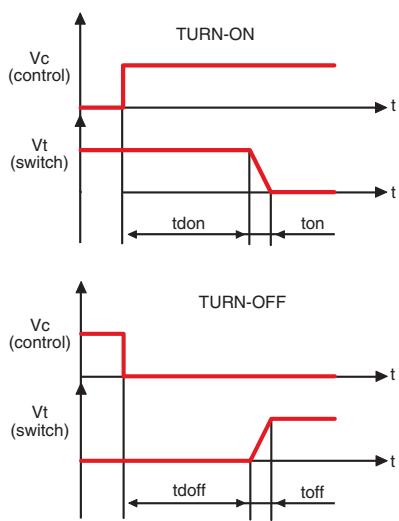


Figure 6

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

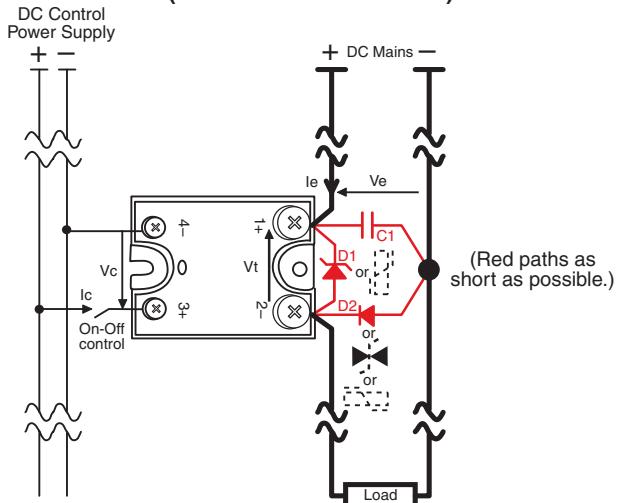


Figure 4

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

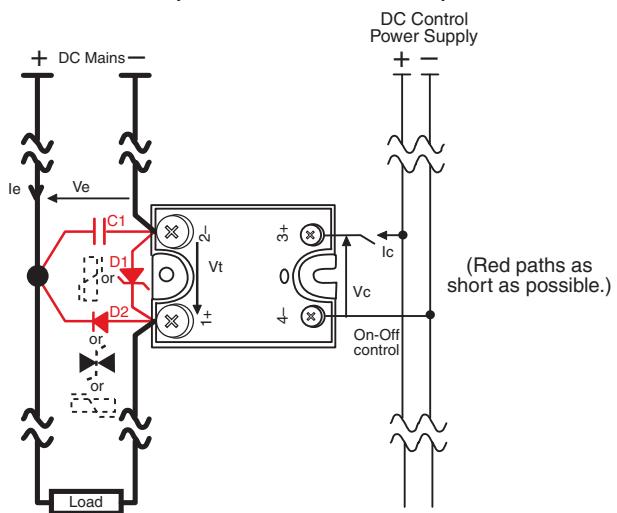


Figure 5

### ON RESISTANCE VS. TEMPERATURE

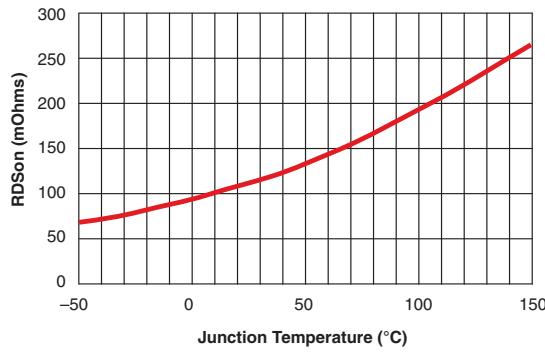


Figure 7

**POWER DISSIPATION AND LOAD CURRENT LIMIT VS. TEMPERATURE**

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

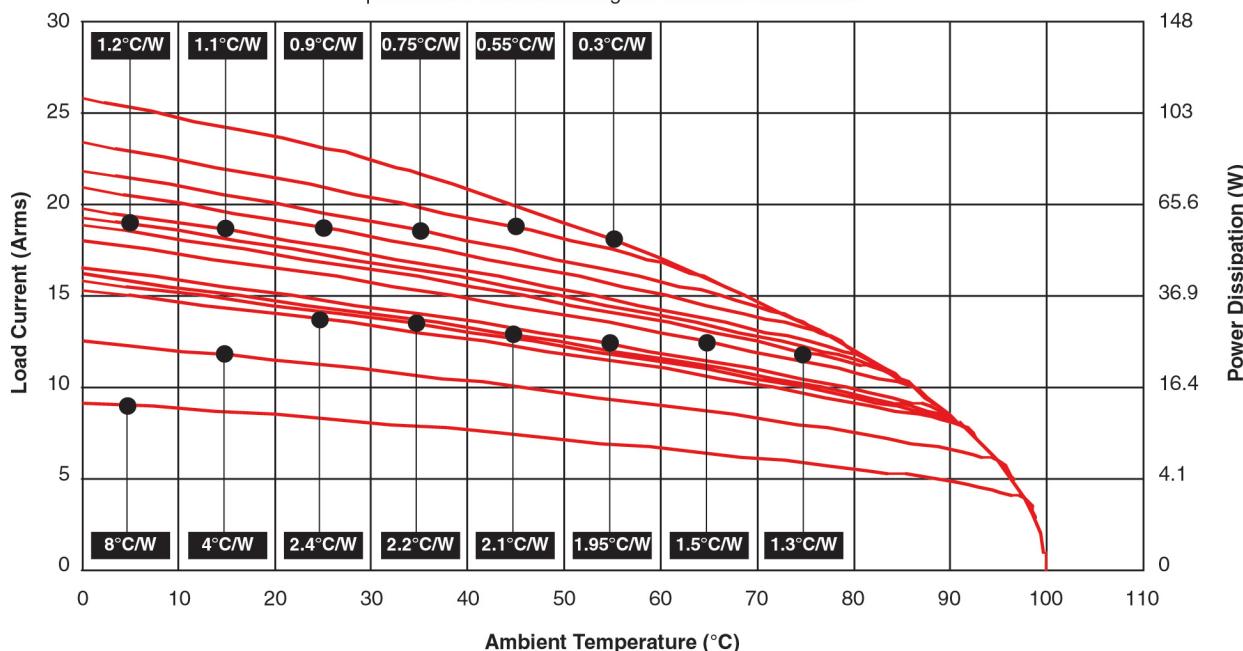


Figure 8

**GENERAL SPECIFICATIONS**

(+25°C ambient temperature unless otherwise specified)

**ENVIRONMENTAL SPECIFICATIONS**

	Min	Max	Units
Operating Temperature	-40	+90	°C
Storage Temperature	-40	+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

**E.M.C. EMISSION**

Radiated & Conducted Disturbances NFEN55011

**PROTECTIVE COVER AVAILABLE**

Add -14 to part number

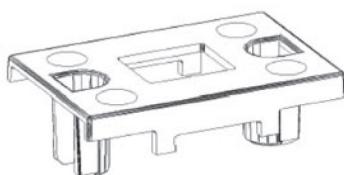


Figure 9

**NOTES**

1. For additional/custom options, contact factory.