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REVISIONS

P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	SEE SHEET 1	—	—	—

Electrical Specifications (-55°C to +105°C unless otherwise specified)

Input (2 terminal configuration)

Input supply voltage range (Vcc)	3.8 - 32 Vdc (Notes 1 & 2, Figures 1 & 2)
Input current (max.) @ 5Vdc	15mAdc (Notes 1 & 2, Figures 1 & 2)
Must turn-on voltage	3.8Vdc
Must turn-off voltage	1.5Vdc
Reverse voltage protection	-32Vdc

Input (3 terminal configuration)

Control voltage range	0 - 18 Vd
Control current (max.)	250µAdc @ 5V, 1mA @ 18V
Input supply voltage range (Vcc)	3.8 - 32 Vdc (Notes 1 & 2, Figures 1 & 2)
Input current (max.) @ 5Vdc	15mADC (Notes 1 & 2, Figures 1 & 2)
Must turn-on voltage	0.3Vdc
Must turn-off voltage	3.2Vdc

I/O

Dielectric strength (min.)	1,000V rms
Insulation resistance (min.) @ 500Vdc	10 ⁹ ohms
Capacitance (max.)	10pF

Output

Continuous load current (max.) @ 25°C	2.1Adc (Figure 7)
Continuous load voltage (max.)	60Vdc
Transient blocking voltage (max.)	80Vdc (Note 5)
On resistance (max.) @ T _j = 25°C, I _L = 100mA	0.15 ohm (Note 6, Figure 6)
Output voltage drop (max.)	0.5Vdc
Leakage current (max.) @ V = 60Vdc	100µAdc
Leakage current (max.) @ V = 60Vdc, with switch status	2mAdc
Turn-on time (max.)	3 ms (Figure 3)
Turn-off time (max.)	1 ms (Figure 3)
dv/dt (min.)	100V / µs
Electrical system spike	600Vdc (Note 5)
Output chip junction temperature (max.)	125°C
Thermal resistance (max.), junction to ambient	90°C/W
Thermal resistance (max.), junction to case	25°C/W

Status

Status supply voltage range	1 - 18Vdc
Status current (max.) @ V _{status} ≤ 0.4Vdc	600µADC (Figure 5, Note 8)
Status leakage current (max.) @ 16Vdc	10µAdc
Status turn-on time (max.)	3.5 ms (Figure 4)
Status turn-off time (max.)	8 ms (Figure 4)

Short Circuit Protection

Current surge without tripping (max.), 100ms pulse	4.25Adc
Overload trip current (max.), 0.5 ms pulse, V = 60Vdc	10Adc
Trip time (typical), turning on into short	400µs
Trip time (typical), shorting while relay is on	280µs

Environmental Characteristics

Ambient Temperature Range —

Operating — -55°C to +105°C

Storage — -55°C to +105°C

Vibration Resistance —

100 G's, 10-3,000 Hz

Shock Resistance —

50 G's, 11 ms pulse

Constant Acceleration Resistance

(Y1 axis) —

5,000 G's

Mechanical Characteristics

Weight (approx.) —

.176 oz. (5 grams)

Materials —

Header — KOVAR

Cover — Nickel

Pins — KOVAR, gold plated

Figure 1 - Maximum Input Current vs. Input Voltage

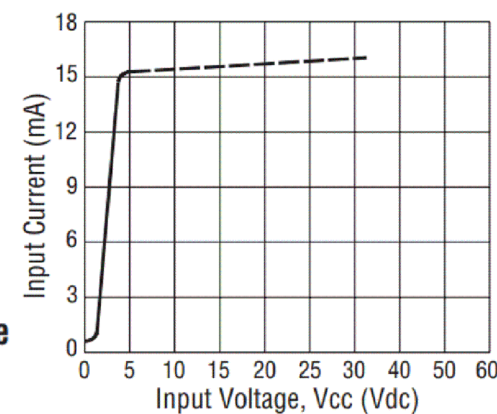


Figure 2 - Series Resistance vs. Vcc Supply Voltage (Note 1)

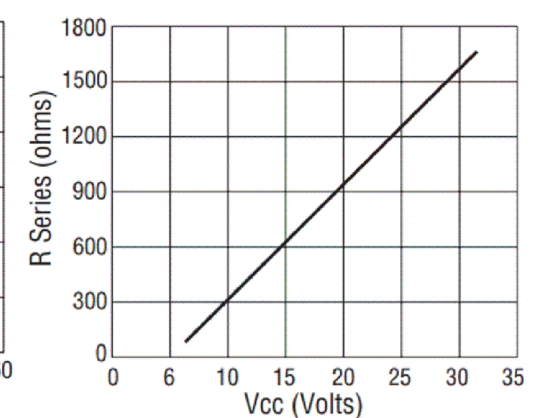


Figure 3 - Turn-on and Turn-off Timing

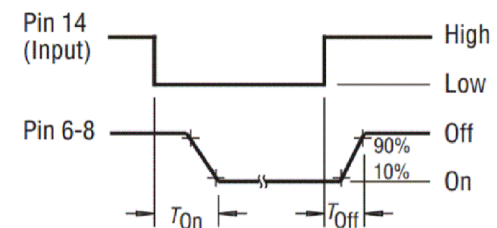


Figure 4 - Output Status Timing

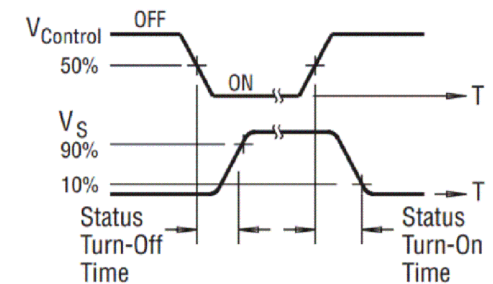


Figure 5 - Status Resistor vs. Status Supply Voltage

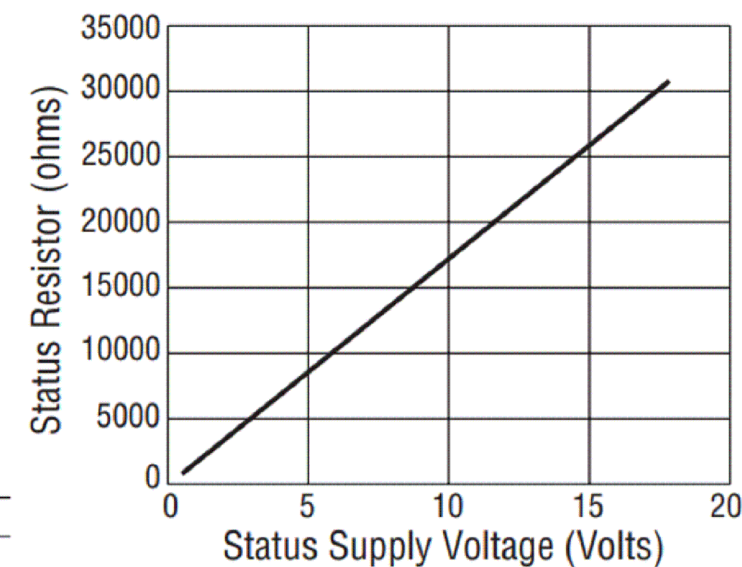
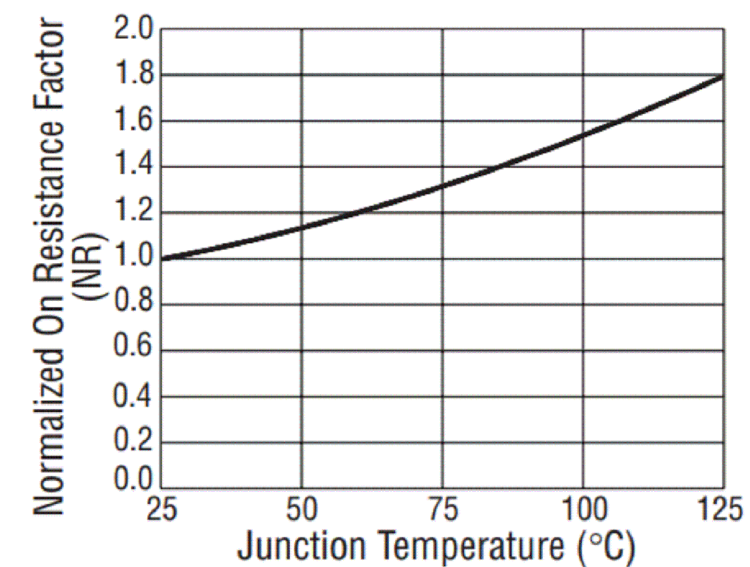



Figure 6 - On-Resistance vs. Temperature (Note 6)

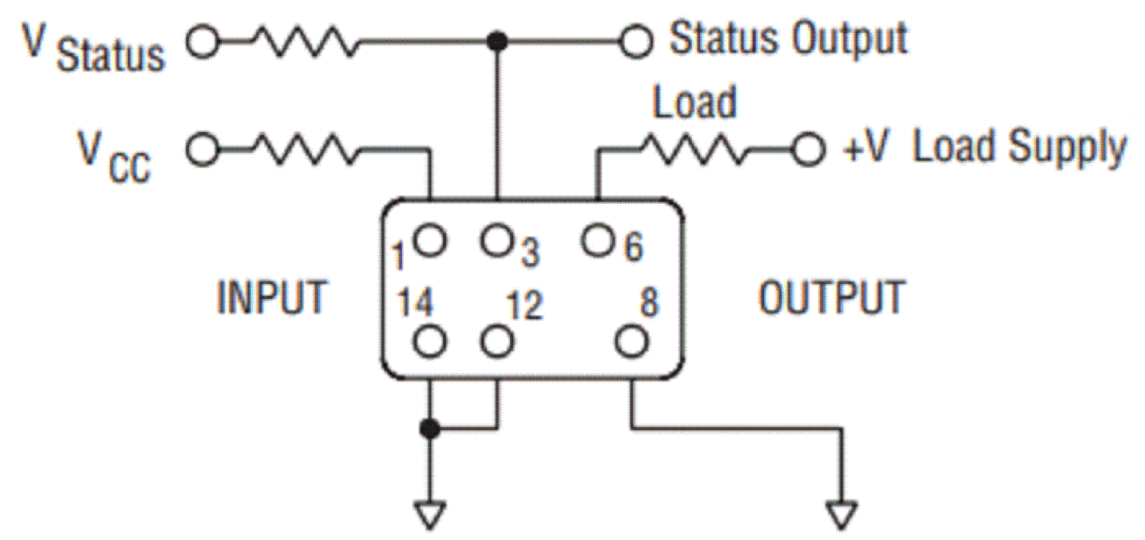


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		CHK RV	12SEP2019			
		APVD DH	12SEP2019	NAME		
		PRODUCT SPEC		DS11 SERIES SOLID STATE RELAY		
		APPLICATION SPEC		—		
		—		—		
		—		SIZE	CAGE CODE	DRAWING NO
		WEIGHT		A3	—	©-DS11-SERIES
		CUSTOMER DRAWING		SCALE	SHEET	REV
				NTS	1 OF 3	A

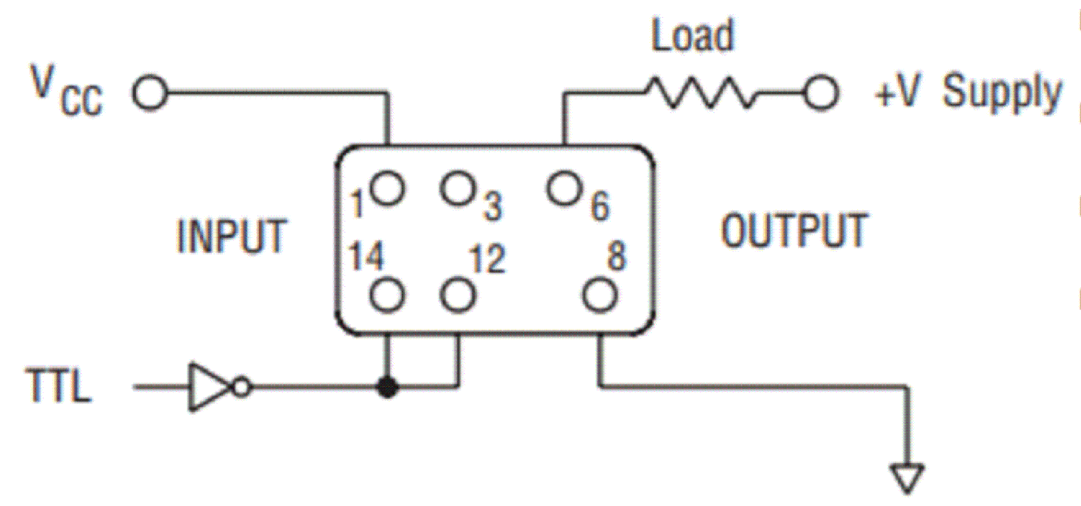
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P	LTR	DESCRIPTION	DATE	DWN	APVD
	—	SEE SHEET 1	—	—	—

2 Terminal Input Configuration

Direct Drive (Status Optional)



TTL Drive



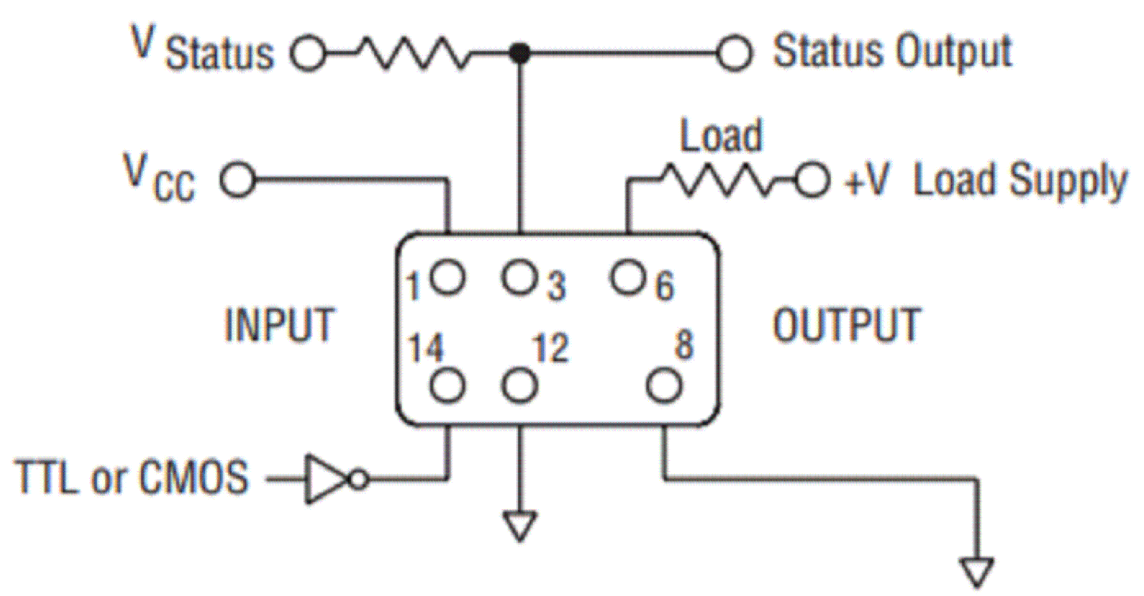
Product Facts

- Standard options: short circuit/overload protection, switch status and trip status
- Optically coupled all solid state relay
- TTL & CMOS compatible input
- Low on-resistance power MOSFET output
- Tested per MIL-PRF-28750D and approved to DSCC drawing 88062 with “Y” level screening

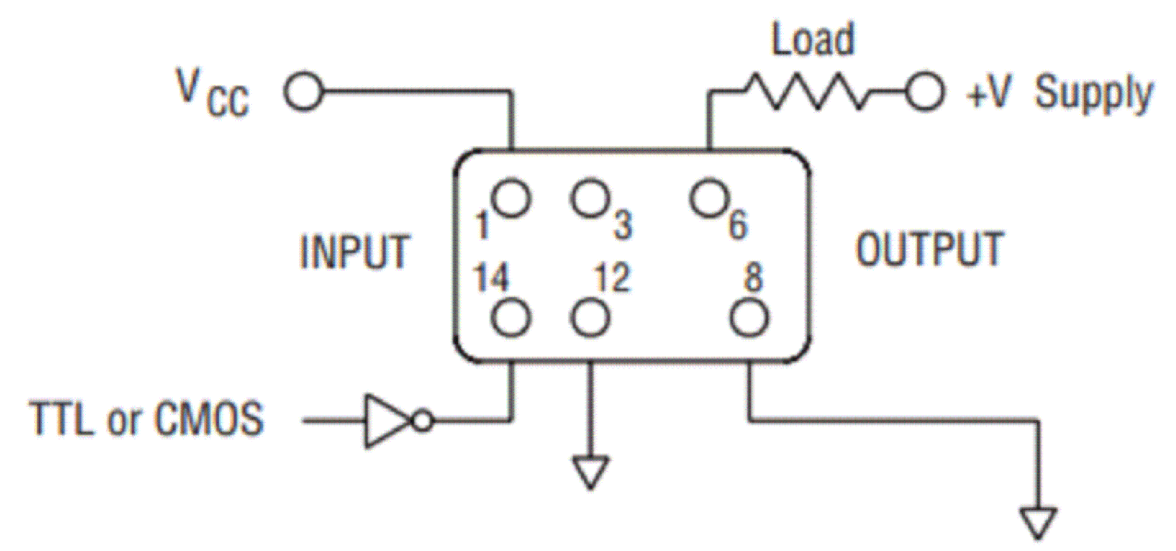


3 Terminal Input Configuration

With Output Status



Without Output Status



DS11-1Y	88062-008	Basic relay
DS11-1000	88062-004	Relay w/ short circuit protection
DS11-1001	88062-006	Relay w/ switch status
DS11-1002	88062-002	Relay w/ short circuit protection and switch status
DS11-1003	N/A	Relay w/ short circuit protection and trip status

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		APVD DH 12SEP2019	NAME DS11 SERIES SOLID STATE RELAY		
		PRODUCT SPEC			
		APPLICATION SPEC			
		WEIGHT	SIZE A3	CAGE CODE —	DRAWING NO. C-DS11-SERIES
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