



A Unit of Teledyne Electronics and Communications

Series DS

3A to 220 Vdc SIP Package
DC Control

Part Number	Description
DS6R3E	3A, 60 Vdc
DS22R1E	1A, 220 Vdc

Part Number Explanation

DS	6	R	3	E
Series	Line Voltage ¹	Switch Type ²	Output Current - Amps	Control Range ³

NOTES

1) Line Voltage (nominal): 6 = 60 Vdc; 22 = 220 Vdc

2) Switch Type: R = Random turn-on

3) Control Range: E = 3-30 Vdc

MECHANICAL SPECIFICATION

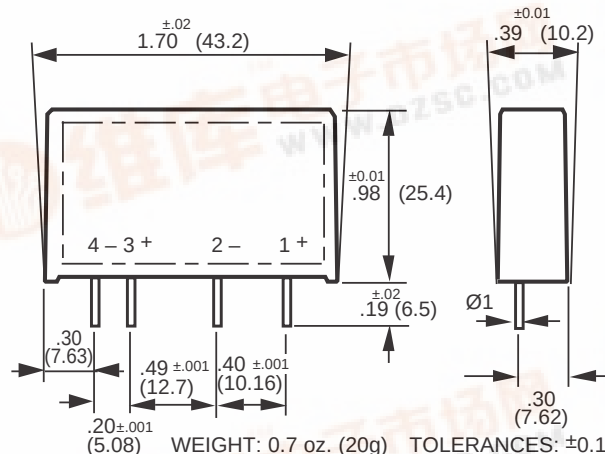


Figure 1 – DS relays; dimensions in inches (mm)

INPUT (CONTROL) SPECIFICATION

	Min	Max	Units
Control Range	3	30	Vdc
Input Current Range	1	30	mADC
Must Turn-Off Voltage		1	Vdc
Input Resistance (Typical)		1000	Ohms

BLOCK DIAGRAM

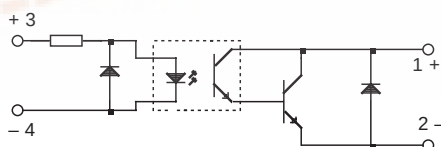
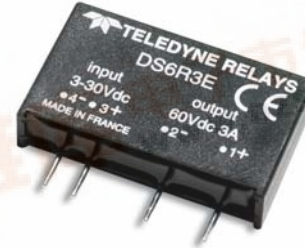


Figure 2 – DS relays



FEATURES/BENEFITS

- Industry standard package
- Surge tolerant
- Compact size

DESCRIPTION

The DS 3-amp solid-state single inline package (SIP) four-pin relays are designed for mounting on printed circuit boards. The relays are designed for medium-power DC loads. The Series DS relay is an alternative to electromechanical and reed relays.

APPLICATIONS

- Programmable logic controllers
- Instrumentation
- Test equipment
- Solenoid drivers

TYPICAL APPLICATION

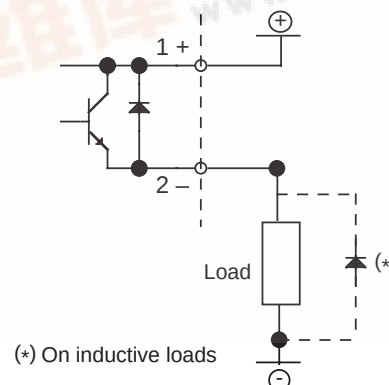


Figure 3 – DS relays

OUTPUT (LOAD) SPECIFICATION

	Min	Max	Unit
Operating Range			
DS6R3E	2	60	Vdc
DS22R1E	2	220	Vdc
Peak Voltage			
DS6R3E		60	Vpeak
DS22R1E		220	Vpeak
Load Current Range			
DS6R3E	.005	3	A
DS22R1E	.005	1	A
Maximum Surge Current Rating (Non-Repetitive)			
DS6R3E		10	Apeak
DS22R1E		5	Apeak
On-State Voltage Drop			
		1.6	Vdc
Off-State Leakage Current			
		1	mA
Turn-On Time			
DS6R3E	200		μs
DS22R1E	300		μs
Turn-Off Time			
DS6R3E	800		μs
DS22R1E	2000		μs
Off-State dv/dt			
	200		V/μs
Switching Frequency			
DS6R3E	0	500	Hz
DS22R1E	0	400	Hz

LOAD CURRENT DERATING CURVES

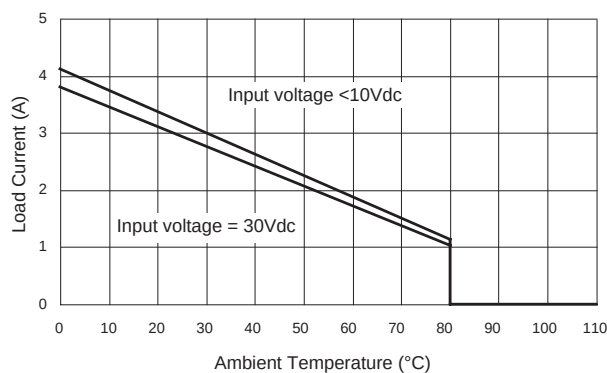


Figure 4a — DS6R3E thermal curves

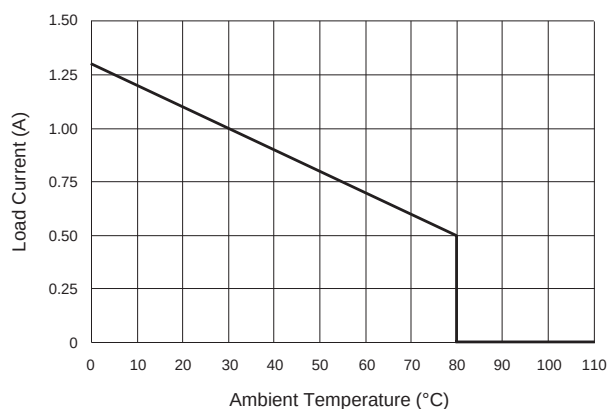


Figure 4b — DS22R1E thermal curves

ENVIRONMENTAL SPECIFICATION

	Min	Max	Unit
Operating Temperature	-40	80	°C
Storage Temperature	-40	105	°C
Input-Output Isolation		2500	Vrms
Input-Output Capacitance		8	pF

NOTES:

1. Electrical specifications at 25°C unless otherwise specified.
2. On inductive loads, a free-wheeling diode (or clamp) is recommended.
3. For additional/custom options, contact factory.