

HD Series DC Solid State Relay

HD系列直流固态继电器

DC SSR | 4-32VDC Input
75/100/200VDC Output | MOSFET Output



7 Key Features | 七大核心特性

- 1. 75V / 100V / 200VDC 电压平台**
75V / 100V / 200VDC load voltage platforms
- 2. 120A 与 40A 负载电流规格**
120A and 40A load current ratings
- 3. 4-32VDC 宽范围控制输入**
4-32VDC wide-range control input
- 4. MOSFET / SiC MOS 直流输出**
MOSFET / SiC MOS DC output
- 5. 输入输出 4000Vrms 隔离**
4000Vrms input-output isolation
- 6. 防旋转端子结构**
Anti-rotation terminal structure
- 7. CE、EMC Level 3 与 RoHS 符合性**
CE, EMC Level 3 and RoHS compliance

Product Overview | 产品概述

HD 系列为面板安装型直流固态继电器，覆盖 HD75D120、HD100D120 与 HD200D40 三个型号，提供 4-32VDC 控制输入以及 75VDC/120A、100VDC/120A、200VDC/40A 直流负载输出能力。产品采用 MOSFET 或 SiC MOS 输出器件，具备 4000Vrms 输入输出隔离、防旋转端子和底板散热结构，适用于测试设备、X 光检测设备、冷冻干燥设备、工程机械和工业直流负载控制。

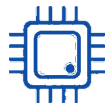
The HD series is a panel-mount DC solid state relay family covering HD75D120, HD100D120 and HD200D40. It provides 4-32VDC control input with 75VDC/120A, 100VDC/120A and 200VDC/40A DC load output capability. MOSFET or SiC MOS output devices, 4000Vrms input-output isolation, anti-rotation terminals and baseplate heat dissipation support testing equipment, X-ray inspection systems, freeze dryers, engineering machinery and industrial DC load control.

Ordering Code | 型号说明

HD	75	D	120
产品系列 Product Series	负载电压 Load Voltage	控制方式 Control Type	额定电流 Rated Current
HD: 直流固态继电器系列 HD: DC solid state relay series	75 / 100 / 200: 负载电压, 75VDC / 100VDC / 200VDC 75 / 100 / 200: load voltage, 75VDC / 100VDC / 200VDC	D: 直流控制输入 D: DC control input	120 / 40: 额定负载电流, 120A 或 40A 120 / 40: rated load current, 120A or 40A

Typical Applications | 典型应用

- 测试设备
Testing equipment
- X 光检测设备
X-ray inspection systems
- 冷冻干燥设备
Freeze dryers
- 工程机械
Engineering machinery
- 工业直流负载控制
Industrial DC load control
- 自动化设备
Automation equipment



特性与安装 / Characteristics & Integration



通用数据表 | General Data

输出器件 / Output device	MOSFET / SiC MOS
适用负载 / Suitable loads	Resistive / inductive / capacitive DC loads
介质耐压 / Dielectric Strength, Input/Output	4000Vrms
绝缘电阻 / Insulation resistance	10 ⁹ Ω @500VDC
防旋转端子 / Anti-rotation barriers	M5/OUTPUT, M4/INPUT
认证标准 / Agency Approvals	CE EN60950-1, EMC Level 3, RoHS



系列型号表 | Series Model Matrix

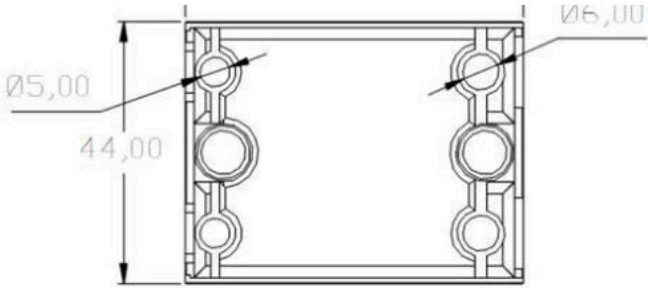
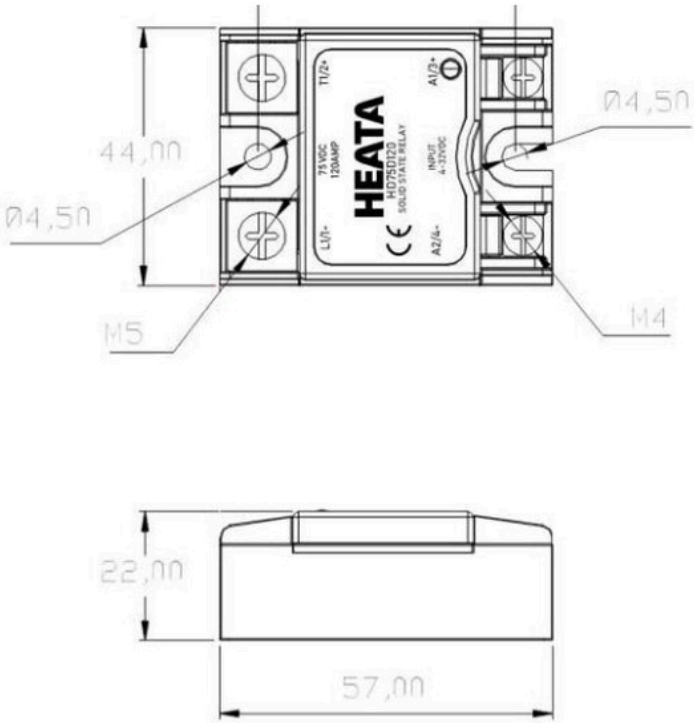
型号 Model	额定电流 Rated Current	负载电压范围 Load Voltage Range	控制电压范围 Control Voltage Range	输出器件 Output Device
HD75D120	120A	75VDC	4-32VDC	MOSFET
HD100D120	120A	100VDC	4-32VDC	SiC MOS
HD200D40	40A	200VDC	4-32VDC	MOSFET

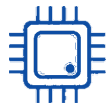


机械规格 | Mechanical Specification

单位 / Unit: mm

HD75D120

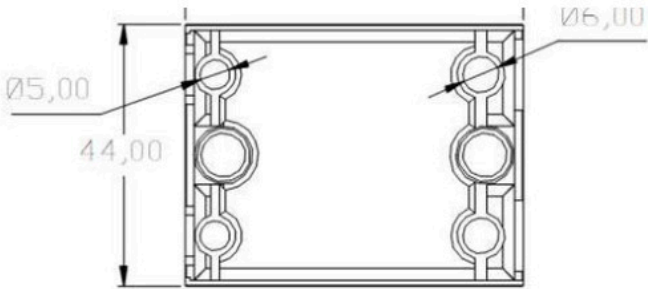
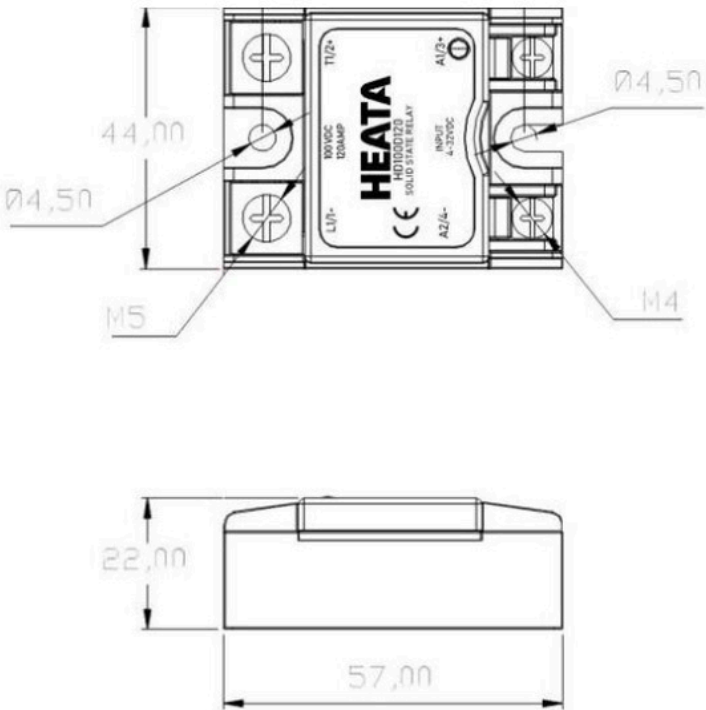




机械规格 | Mechanical Specification

单位 / Unit: mm

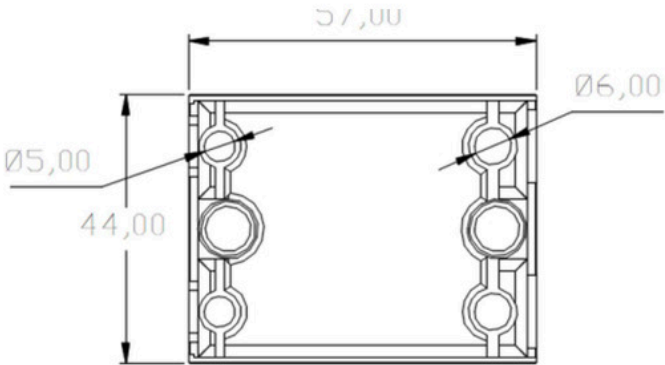
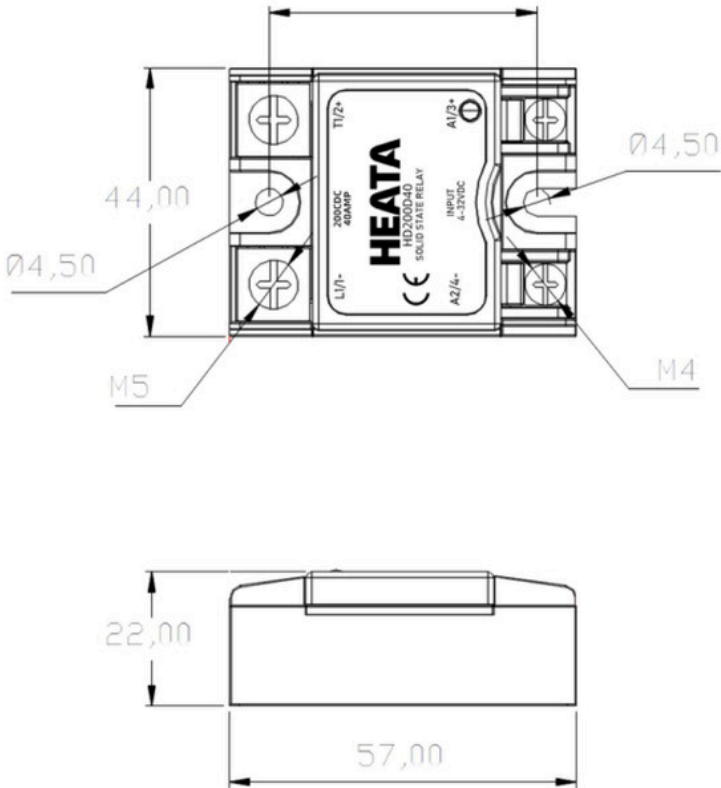
HD100D120

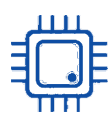


机械规格 | Mechanical Specification

单位 / Unit: mm

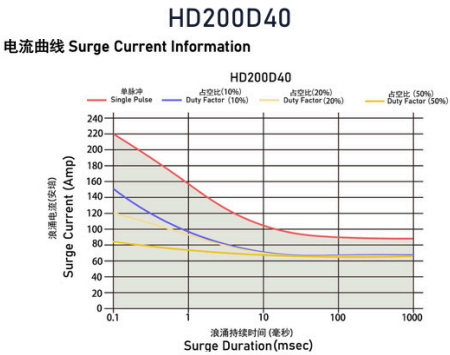
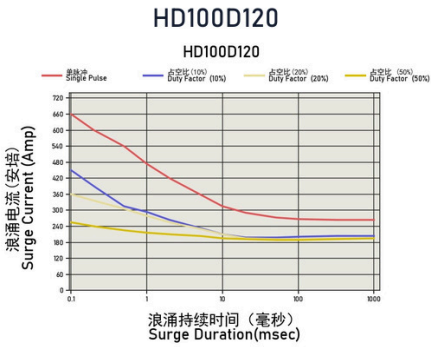
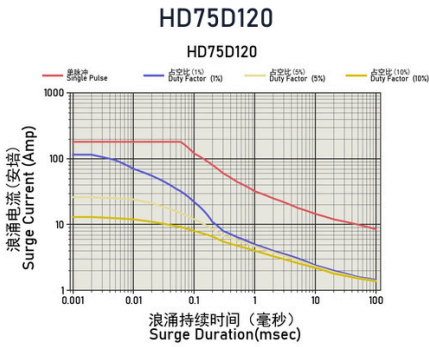
HD200D40



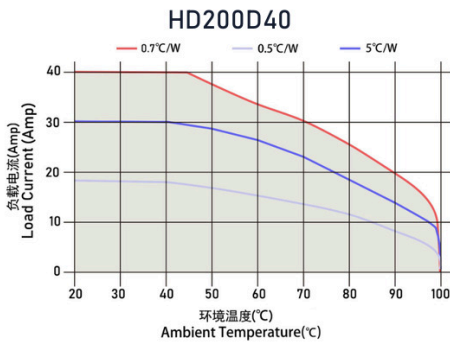
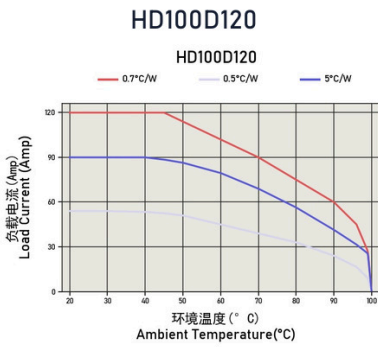
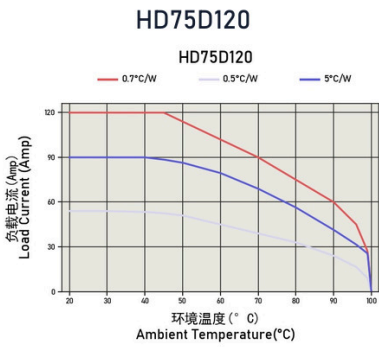


浪涌电流曲线与温度降额曲线 | Surge Current & Thermal Derate Information

浪涌电流曲线 / Surge Current Information



温度降额曲线 / Thermal Derate Information



认证标准 | Agency Approvals

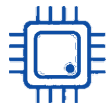
项目 Item	符合性 Compliance
EN60950-1	Meets the requirements of sections 1.5, 1.7, 2.9, 2.10.5.3, 4.2, 4.5, 4.7
IEC 61000-4-2	Electrostatic Discharge Level 3
IEC 61000-4-4	Electrically Fast Transients Level 3
IEC 61000-4-5	Electrical Surges Level 3



接线说明 | Wiring Notes

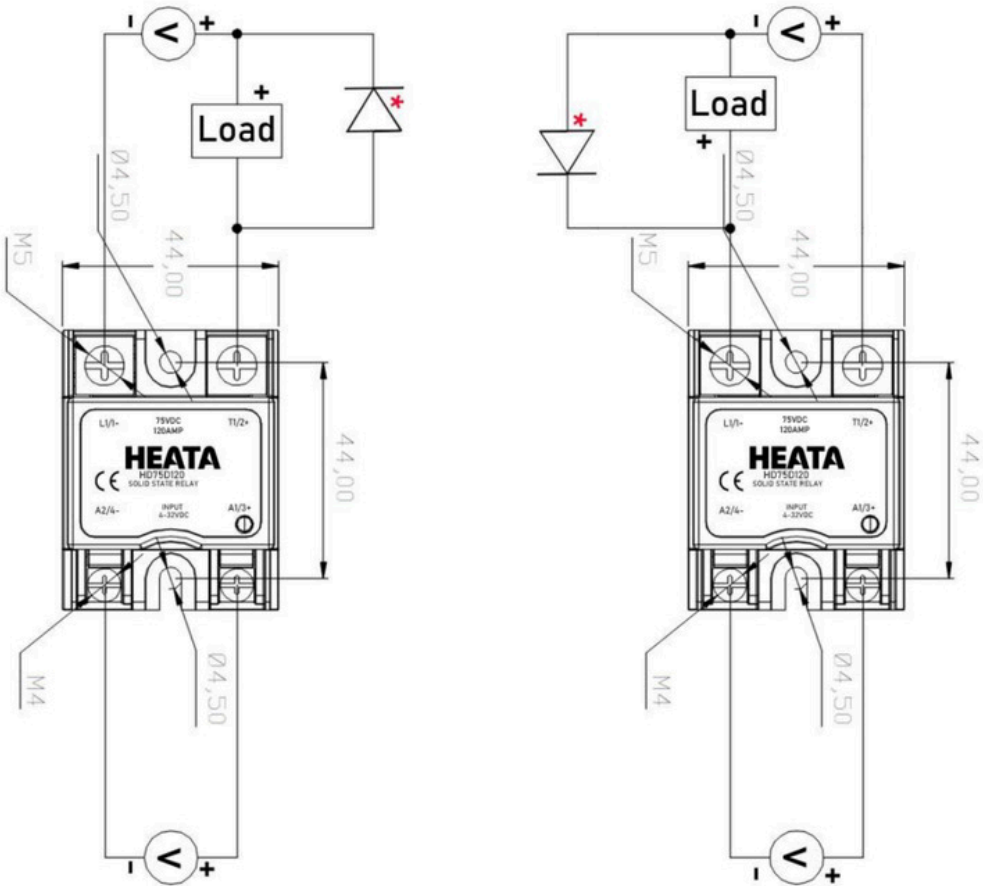
项目 Item	说明 Description
负载端子 Load terminals	L1/- and T1/+ DC output terminals
控制端子 Control terminals	A1/3+ and A2/4- DC control input
保护器件 Protective device	Flyback diode for inductive load, installed according to wiring diagram polarity
导线固定 Wire fixing	Tighten terminals securely before operation
极性要求 Polarity requirement	Observe DC load and control polarity markings





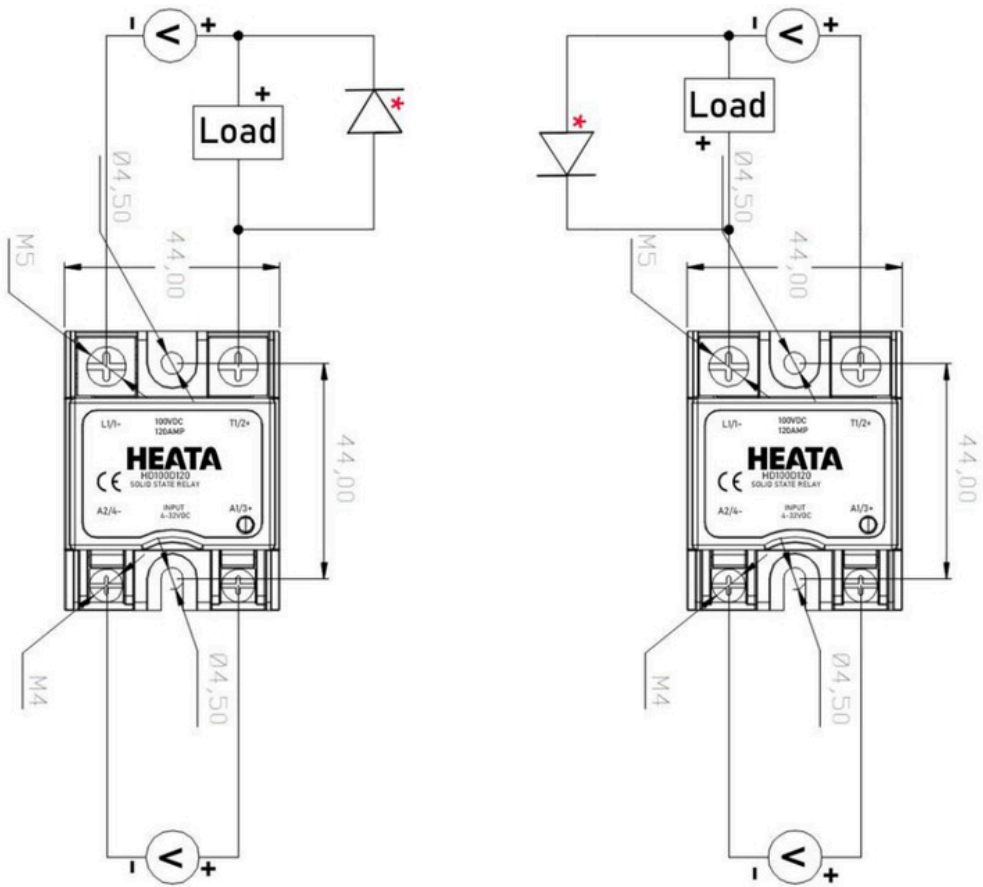
接线图 | Wiring Diagram

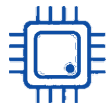
HD75D120



接线图 | Wiring Diagram

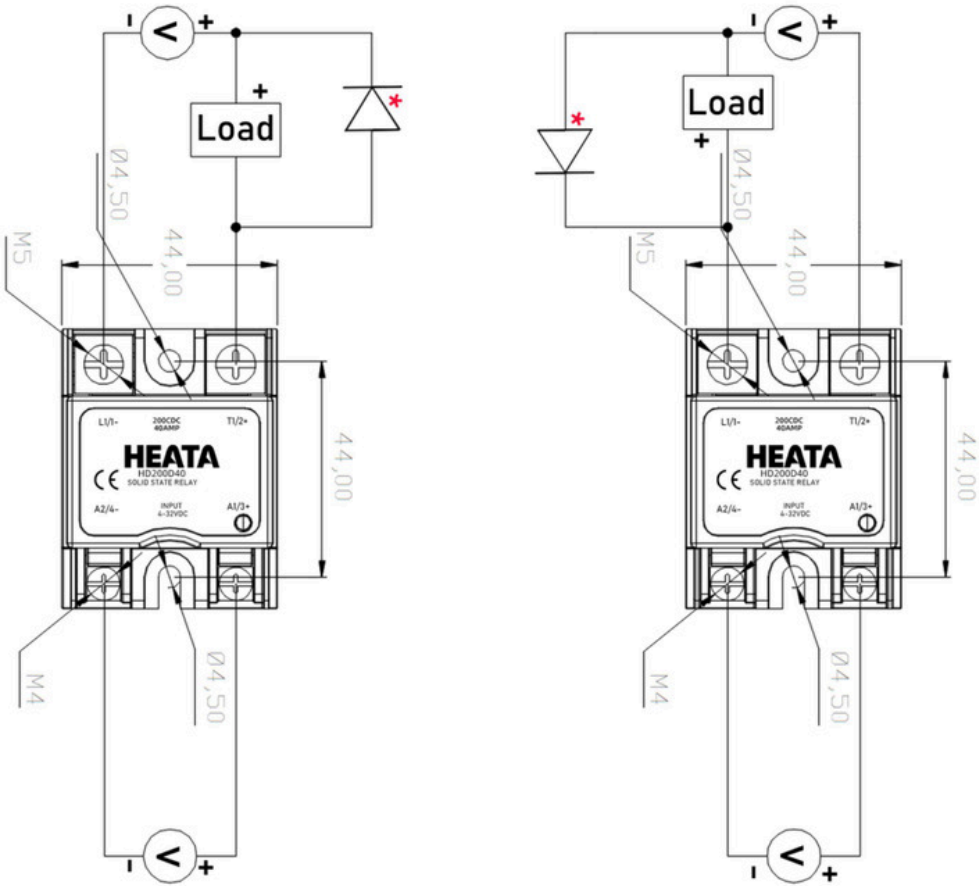
HD100D120

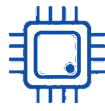




接线图 | Wiring Diagram

HD200D40





性能 / Performance



输出参数 | Output

项目 Item	HD75D120	HD100D120	HD200D40
最大负载电压 Maximum load voltage	75VDC	100VDC	200VDC
最大导通电阻 Maximum on-state resistance	5mΩ	20mΩ	25mΩ
最大负载电流 Maximum load current	120ADC	120ADC	40ADC
最大浪涌电流 Maximum surge current	1100Apk @60μs	1200Apk @100ms	120Apk @10ms
最大导通压降 Maximum on-state voltage drop	-	0.5VDC @120ADC	1VDC
最大断态漏电流 Maximum off-state leakage current	0.1mA	0.1mA	0.1mA
最小负载电流 Minimum load current	-	-	1mA
最大导通时间 Maximum turn-on time	0.2ms	0.2ms	0.1ms
最大关断时间 Maximum turn-off time	0.1ms	0.1ms	0.1ms



输入参数 | Input

项目 Item	HD75D120	HD100D120	HD200D40
控制电压范围 Control voltage range	4-32VDC	4-32VDC	4-32VDC
确保导通电压 Minimum turn-on voltage	3.8VDC	4VDC	4VDC
确保关断电压 Must turn-off voltage	1VDC	1VDC	1VDC
最大控制电流 Maximum control current	15mA	15mA	15mA
最大反向电压 Maximum reverse voltage	-32VDC	-32VDC	-32VDC



通用参数 | General

项目 Item	参数 Rating
介质耐压 Dielectric Strength, Input/Output (50Hz/60Hz)	4000Vrms
绝缘电阻 Insulation Resistance (@500VDC)	10 ⁹ Ω
工作温度范围 Operating temperature range	-40 to 100°C
储存温度范围 Storage temperature range	-40 to 125°C
重量(典型值) Weight (Typical value)	约70g / Approx. 70g



备注 | Remark

条目 Item	备注 Remark
10.1	继电器工作产生的热量需通过底板散出，底板与散热器需接触紧密并使用导热垫片或导热硅脂。
10.2	端子应确保接线牢固；M4端子推荐安装扭矩0.58-0.98N·m，M5端子推荐0.98-1.37N·m。
10.3	产品工作的环境温度较高时，请参照温度曲线降额使用。
10.4	容性负载或并联大电容负载建议在负载回路中串联NTC抑制浪涌电流。

说明 / Note: Remarks are consolidated from HD75D120, HD100D120 and HD200D40 reference specifications.