

HFS33(JG-33F)

SOLID STATE RELAY



Features

- MOSFET output
- DC control
- Low on-state resistance
- Photo isolation
- 2500V dielectric strength
- RoHS compliant

DESCRIPTION

HFS33 Series offer 3-32VDC input control and use MOSFET technology to provide an economical and reliable method of switching medium and high power DC loads. These relays combine low on-state resistance with fast switching times. They are available with switching currents 50A at 30V, 100A at 30V, 40A at 50V, 80A at 50V and 20A at 100V, 40A at 100V, 50A at 150V, 10A at 200V, 40A at 200V, and 10A at 400V etc.

PRECAUTIONS

1. Inductive loads must be diode suppressed.
2. When choosing a SSR, please notice the actual load current and working ambient temperature. To use the SSR correctly, please refer to CHARACTERISTIC DATA and make sure the heat sink size when it works in full load current.
3. Apply heat-radiation silicon grease or a heat conductive sheet between the SSR and heat sink. There will be a space between the SSR and heat sink Attached to the SSR. Therefore, the generated heat of the SSR cannot be radiated properly without the grease. As a result, the SSR may be overheated and damaged or deteriorated.
4. Tighten the SSR terminal screws properly. If the screws are not tight, the SSR will be Damaged by heat generated when the power is ON. Perform wiring using the tightening torque shown in the right table.

Screw size	Recommended tightened torque
M3	0.58 to 0.98 N·m
M4	0.98 to 1.37 N·m

OUTPUT

	D-30D□M		D-50D□M		D-100D□M		D-150D□M	D-200D□M		D-400D□M	
	50	100	40	80	20	40	50	10	40	10	
Load voltage range ⁽²⁾	0 to 30VDC		0 to 50VDC		0 to 100VDC		0 to 150VDC	0 to 200VDC		0 to 400VDC	
Load current range	0.02-50A	0.02-100A	0.02-40A	0.02-80A	0.02-20A	0.02-40A	0.02-50A	0.02-10A	0.02-40A	0.02-10A	
Max. off-state leakage current (at rated voltage)	0.1mA		0.1mA		0.1mA		0.1mA	0.1mA		0.1mA	
Max. on-state voltage drop (at rated current)	0.35V	0.35V	0.64V	0.64V	1.5V	1.5V	0.6V	1V	1V	2.4V	
Max. on-state resistance	7mΩ	3.5mΩ	16mΩ	8mΩ	75mΩ	37.5mΩ	12mΩ	105mΩ	35mΩ	0.24 Ω	
Max. turn-on time											0.5ms
Max. turn-off time											0.5ms
Max. Surge current (10msec)	120A	240A	100A	200A	80A	160A	200A	40A	130A	40A	

INPUT ⁽¹⁾

Control voltage range	3 to 32VDC (Without LED) 4 to 32VDC (With LED)
Must operate voltage	3VDC
Must release voltage	1.0VDC
Max. input current	28mA (at 32VDC)
Max. reverse voltage	-32VDC

GENERAL

Dielectric strength (Input/Output/Base)		2500VAC, 50/60Hz, 1min.
Insulation resistance		1000MΩ (at 500VDC)
Ambient temperature	Operating	-30°C to +80°C
	Storage	-30°C to +100°C
Unit weight		Typ. 80g

Notes : (1) All parameters at 25 °C (2) See CHARACTERISTIC DATA

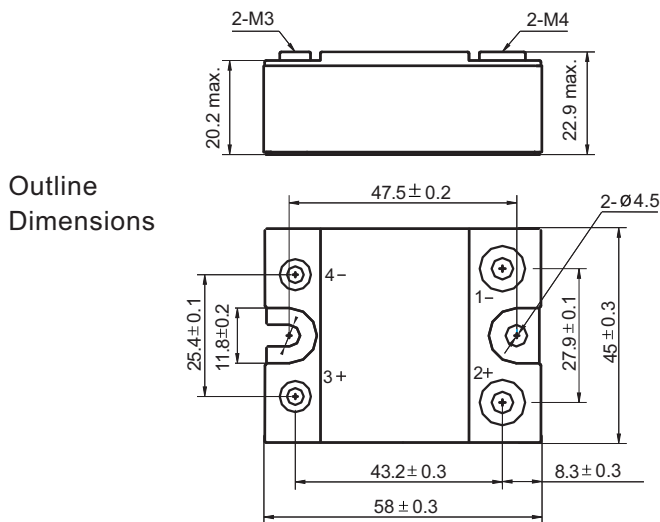
ORDERING INFORMATION

Type ¹⁾	HFS33 /						D-	200	D	10	M	-L	XXX
Input voltage	D: 3 to 32VDC (Without LED) 4 to 32VDC (With LED)												
Nominal Voltage	200: 200V 30: 30V 50: 50V 100: 100V 400: 400V												
Load Voltage form	D: DC												
Load Current	10: 10A 20: 20A 40: 40A 50: 50A 80: 80A 100: 100A												
Output component	M: MOSFET output												
LED indicator	L: With LED Nil: Without LED												
Special request code ²⁾	(Only for special requirements, e.g. 555 stand for RoHS compliant)												

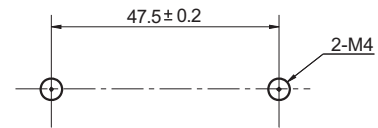
Notes: 1) Such specifications available: HFS33/D-30D50M-□, HFS33/D-50D40M-□, HFS33/D-100D20M-□, HFS33/D-150D50M-□, HFS33/D-200D40M-□, HFS33/D-30D100M-□, HFS33/D-50D80M-□, HFS33/D-100D40M-□, HFS33/D-200D10M-□, HFS33/D-400D10M-□.
2) HFS33 is an environmental friendly product, please mark special code (555) when order.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND MOUNTING HOLES

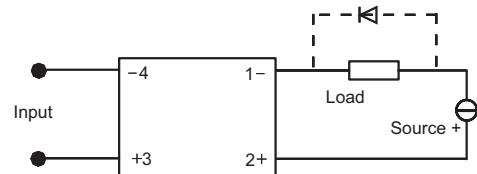
Unit: mm



Mounting Hole Layout

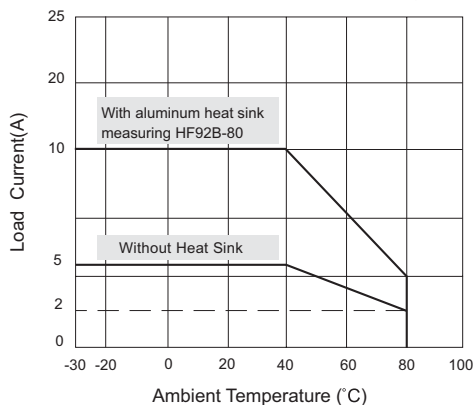


Wiring Diagram

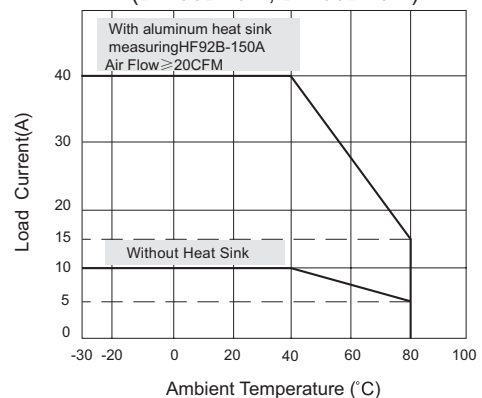


CHARACTERISTIC DATA

Max. Load Current vs. Ambient Temp. (D-200D10M)

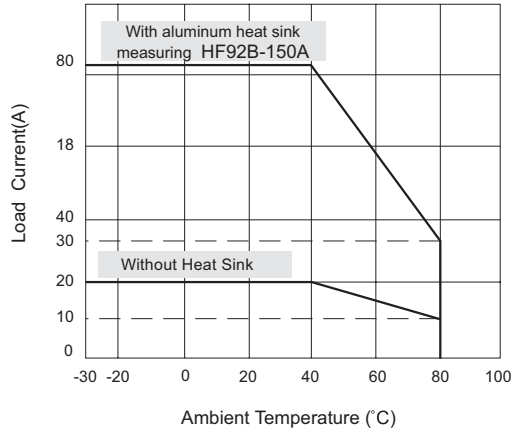


Max. Load Current vs. Ambient Temp. (D-100D40M, D-200D40M)

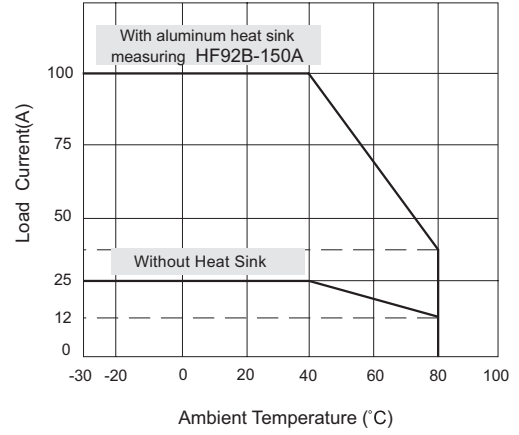


CHARACTERISTIC DATA

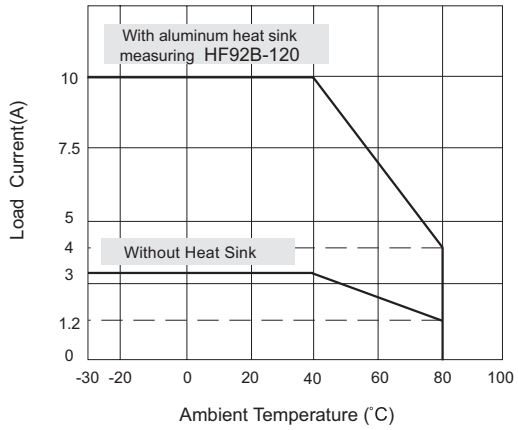
Max. Load Current vs. Ambient Temp.(D-50D80M)



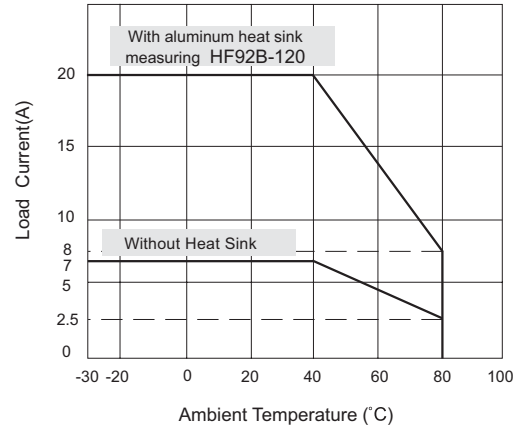
Max. Load Current vs. Ambient Temp.(D-30D100M)



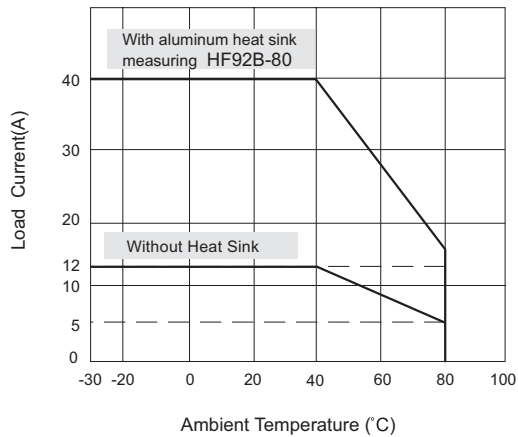
Max. Load Current vs. Ambient Temp.(D-400D10M)



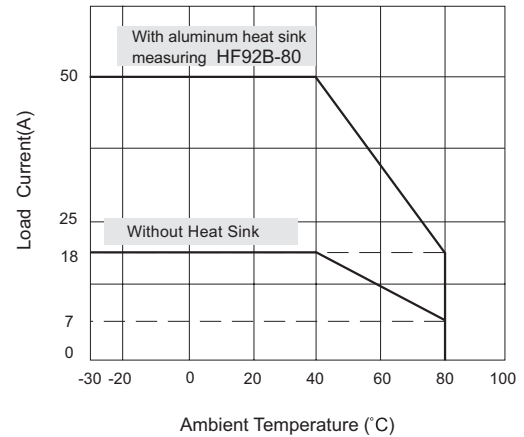
Max. Load Current vs. Ambient Temp.(D-100D20M)



Max. Load Current vs. Ambient Temp.(D-50D40M)

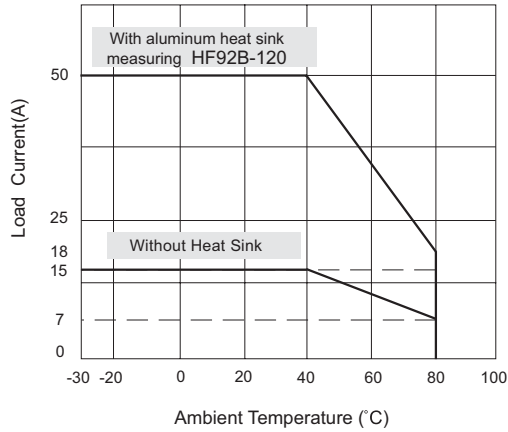


Max. Load Current vs. Ambient Temp.(D-30D50M)

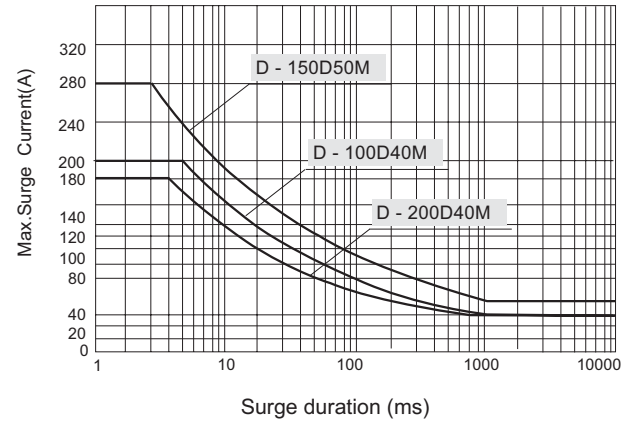


CHARACTERISTIC DATA

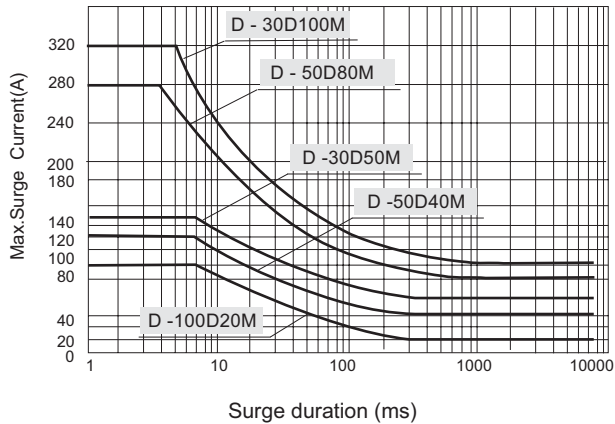
Max. Load Current vs. Ambient Temp.(D-150D50M)



Max. Surge Current vs. Duration Time



Max. Surge Current vs. Duration Time



Max. Surge Current vs. Duration Time

