

HFS27 (AC type)

SOLID STATE RELAY



File No.:E133481



File No.:R50087694



File No.:CQC08001023661



Features

- Excellent thermal designing, load current 3A, Max. current up to 5A with 50% duty and 1Hz to 30 Hz
- High surge resistance
- Dielectric strength 4000V
- EMC performance meets CE requirement
- Single in-line PCB package
- Environmental friendly product (RoHS compliant)

INPUT (Ta = 25°C)

Input voltage range	05D	4VDC to 6VDC
	12D	9.6VDC to 14.4VDC
	24D	19.2VDC to 28.8VDC
Must operate voltage	05D	4VDC
	12D	9.6VDC
	24D	19.2VDC
Max. input current	05D	20mA
	12D	20mA
	24D	16mA
Input resistance	05D	300 x (1±20%)Ω
	12D	800 x (1±20%)Ω
	24D	2000 x (1±20%)Ω
Must release voltage		1VDC

GENERAL (Ta = 25°C)

Dielectric strength (input to output)	4000VAC, 50Hz/60Hz, 1min
Insulation resistance (input to output)	1000MΩ (at 500VDC)
Max. capacitance (input to output)	8pF
Shock resistance	Acceleration: 980m/s ² , continuous surge: 6ms
Vibration resistance	10Hz to 55Hz 1.5 mm DA
Ambient humidity	45% to 85% RH
Operating temperature	-30°C to 85°C
Storage temperature	-30°C to 100°C
Unit weight	Approx. 20g

DESCRIPTION

HFS27 is a SPST-NO printed circuit mount SIP, AC output SSR. Thanks to excellent structure designing, HFS27's size is smaller than similar SSR (2A or 3A SSR). It has high current up to 5A (under certain frequency), 4000V dielectric strength, perfect EMC performance and high resistance to surge current, ensuring the high performance reliability under rough application environment. This product can be used in electromagnetic valve, stage-lighting control, motor forward and reverse control, heating machine, Automat, medical equipments, elevator, power door, and etc.

PRECAUTIONS

1. Soldering must be completed within 10s at 260°C or less or within 5s at 350°C or less.
2. The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, the load current must be reduced. Please refer the curve of max. load current vs ambient temperature.
3. Please do not use the relay beyond the descriptions in the data sheet. If it is a must to use it beyond descriptions, please contact Hongfa for more technical support.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2010 Rev. 1.00

OUTPUT (Ta = 25°C)

	□D-240A2Z(P)	□D-380A2Z(P)	□D-240A3Z(P)	□D-380A3Z(P)
Load voltage range	48VAC to 280VAC	48VAC to 440VAC	48VAC to 280VAC	48VAC to 440VAC
Max. transient overvoltage	600Vpk	800Vpk.	600Vpk	800Vpk
Load current	0.1A to 2A		0.1A to 3A	
Max. surge current (10ms)	60Apk		80Apk	
Max. I ² t for fusing (10ms, A ² s)				72
Max. output on voltage drop				1.5Vr.m.s.
Max. output on leakage current				5mA
Min. off-state dv/dt				200V/μs
Max. turn-on time	Zero-cross: 1/2 cycle+1ms; Random: 1ms			
Max. turn-off time	1/2 cycle+1ms			
Frequency range	47Hz to 63Hz			
Min. power factor	0.5			
EMC/ burst immunity ¹⁾	According to GB/T17626.4 (IEC61000-4-4): Level 3 criterion B			
EMC/Surge (Shock) immunity	According to GB/T17626.5 (IEC61000-4-5): Level 3 criterion A			
EMC/Electrostatic discharge immunity	According to GB/T17626.2 (IEC61000-4-2): Level 3 criterion A			

Notes: 1) Some models can reach to level 3.

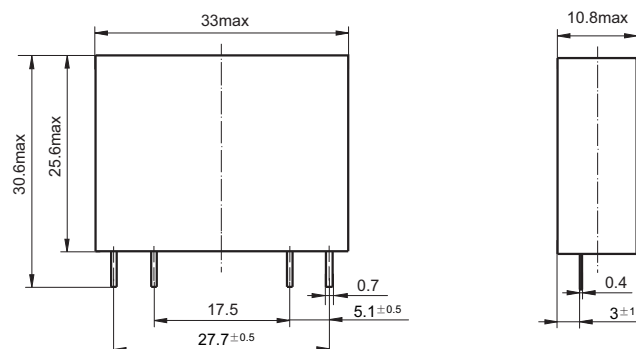
ORDERING INFORMATION

Type	HFS27 /	05D-	240A	2	Z	(XXX)
Input voltage	05D: 4VDC to 6VDC 12D: 9.6VDC to 14.4VDC 24D: 19.2VDC to 28.8VDC					
Load voltage	240A: 48VAC to 280VAC		380A: 48VAC to 440VAC			
Load current	2: 0.1A to 2A		3: 0.1A to 3A			
Zero cross function	Z: Zero cross turn-on P: Random turn-on					
Customer special code						

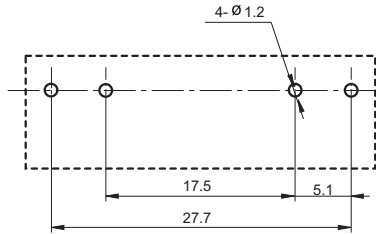
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

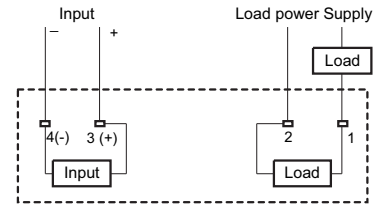
Outline Dimensions



PCB Layout (Bottom view)

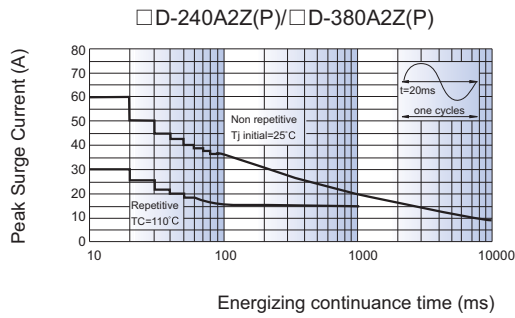


Wiring Diagram (Bottom view)

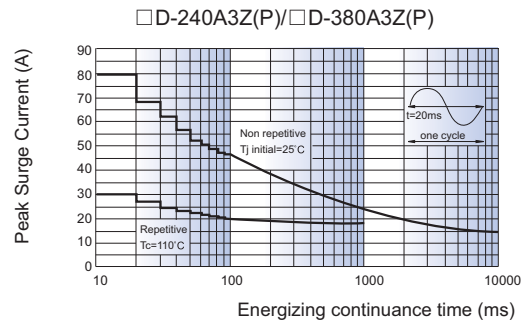


CHARACTERISTIC CURVES

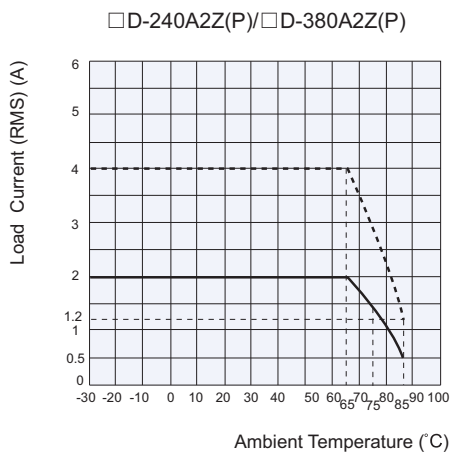
Max. Permissible Non-repetitive Peak Surge Current vs. Continuance time (2A)



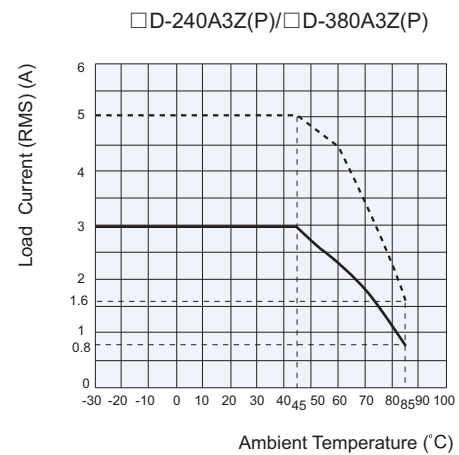
Max. Permissible Non-repetitive Peak Surge Current vs. Continuance time (3A)



Max. Load Current vs. Ambient Temp. (2A)



Max. Load Current vs. Ambient Temp. (3A)



----- Frequency is 1Hz to 30Hz and duty is 50%; ——— duty is 100%.

Disclaimer

This datasheet is for the customers' reference. All the specifications are subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.