General purpose miniature power relay

RoHS compliant

DF series

Power relay series pursuing reliability and safety

DFU

Currently it is used for such purposes

- Industrial equipment, Solar water heater, Factory automation equipment, Automation equipment
- Control panel, Power supply equipment, Molding equipment, Machine tools, Welding machines, Machinery for agriculture
- Commercial equipment, Vending machines, Telecommunications equipment, Disaster prevention equipment, Copiers, Measuring instruments, Medical devices
- Construction machinery, Snow vehicle, Around a small boat and other engines
- Various household appliances

DEC is a professional manufacturer of relays

DEC Daiichi Electric Co., Ltd.

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General purpose miniature power relay that can be used for a wide range of applications from control to power.

DF series

Features

○ General purpose high capacity power relay boasting high reliability and achievements.

Model numbering system

DF □ □ □ - □ □

Rated coil voltage: Numeric part indication	DC (V): 5, 12, 24
Coil type	D: DC
Number of contact poles	1: 1 pole
Shape indication	F: Coil side is #187 tab terminal, contact side is #250 tab terminal, flange-mounting type
Contact configuration	Nil: Transfer contact (M): Make contact

Safety standards

	Contact rating	
	DFU 1a	DFU 1c
UL/cUL	20A 275V AC 2hp 265V AC	15A 280V AC 2hp 265V AC
VDE	20A cosϕ=1 250V AC	15A cosϕ=0.4 250V AC
Electrical Appliances and Materials Safety Act	Conformable	

Coil ratings

AC/DC	Voltage(V)	Rated current (mA)	Coil resistance (Ω)	Operate voltage (V)	Release voltage (V)	Maximum voltage (V)	Power consumption (W)
				Ratio to rated voltage			
DC	5	180	27.8	80% max.	10% min.	110%	0.9
	12	75	160				
	24	37	650				

● Notes:
1. Rated current and coil resistance are values at coil temperature of 20°C, tolerance is ±10%.
2. Operate voltage and release voltage are values at coil temperature of 20°C.
3. Maximum voltage is the maximum value of the allowable voltage fluctuation range of the relay coil operating power supply with the ambient temperature at 20°C.

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Ratings・Performance

Specifications	Item		Performance	
Contact specification	Contact configuration		1a	1c
	Contact resistance		50mΩ max. (at DC6V 1A)	
	Contact material		Ag alloy	
Ratings	Rated load (resistive load)		AC250V 20A (NO) / AC250V 15A (NC)	
	Max. switching capacity (resistive load)		5000VA	
	Max. switching voltage		AC250V	
	Max. switching current		20A (NO)	20A (NO) / 15A (NC)
Electrical capability	Insulation resistance		100MΩ min. (at DC500V)	
	Dielectric strength	Between coil and contact	AC2000V 1 min	
		Between open contact	AC1000V 1 min	
	Impulse withstand voltage (between coil and contact)		10 000V min. (1.2×50μs)	
	Operate time (at rated voltage on, at 20℃)		20ms max. (excluding contact bounce time)	
	Release time (at rated voltage off, at 20℃)		20ms max. (excluding contact bounce time)	
Mechanical capability	Vibration resistance	Malfunction	10 to 55 to 10Hz (double amplitude 1.5mm)	10 to 55 to 10Hz (double amplitude 1.0mm)
		Destruction	10 to 55 to 10Hz (double amplitude 1.5mm)	10 to 55 to 10Hz (double amplitude 1.0mm)
	Shock resistance	Malfunction	100m/s^2	
		Destruction	1000m/s^2	
Life	Mechanical endurance (at 180 times/min)		1 000 000 times min.	
	Electrical endurance (at 20 times/min)		100 000 times min. (at rated load)	
Conditions for operation	Ambient temperature		−25℃ to +60℃ (no freezing and condensing at low temperature)	
	Ambient humidity		5% to 85%RH	
Mass			approx. 32g	

● Notes: The above is the initial value.

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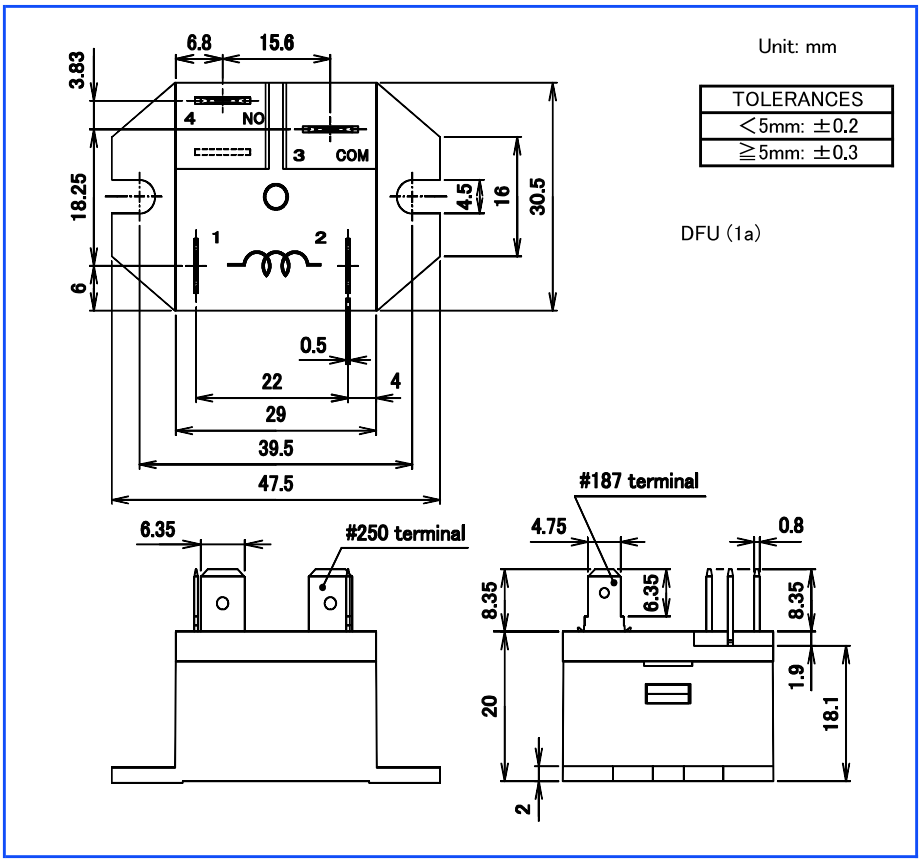
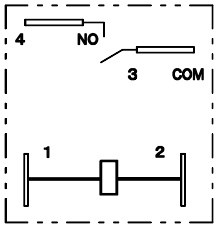
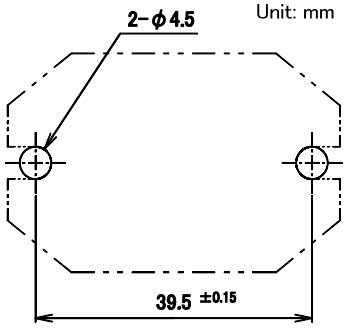
Dimensions



Schematics



Mounting holes



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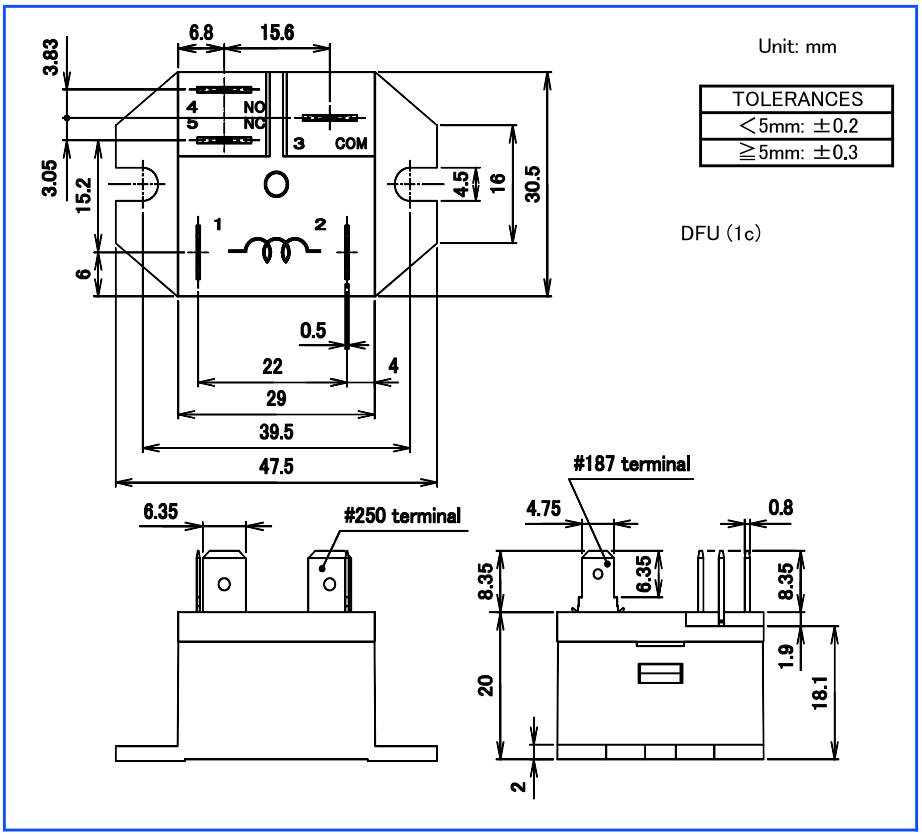
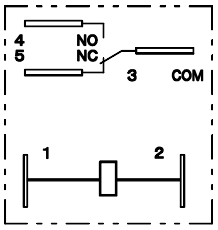
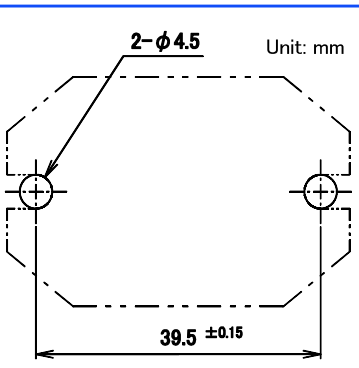


Schematics



Mounting holes



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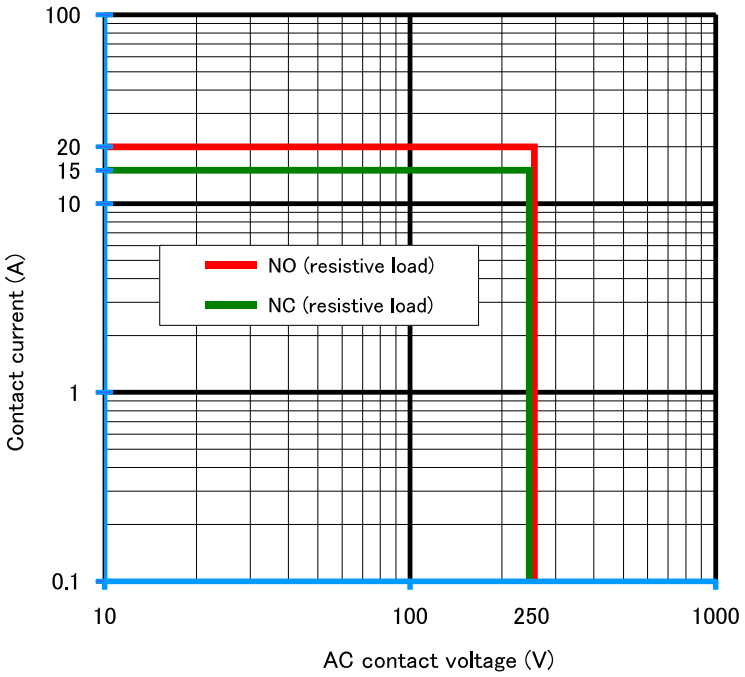
Reference data

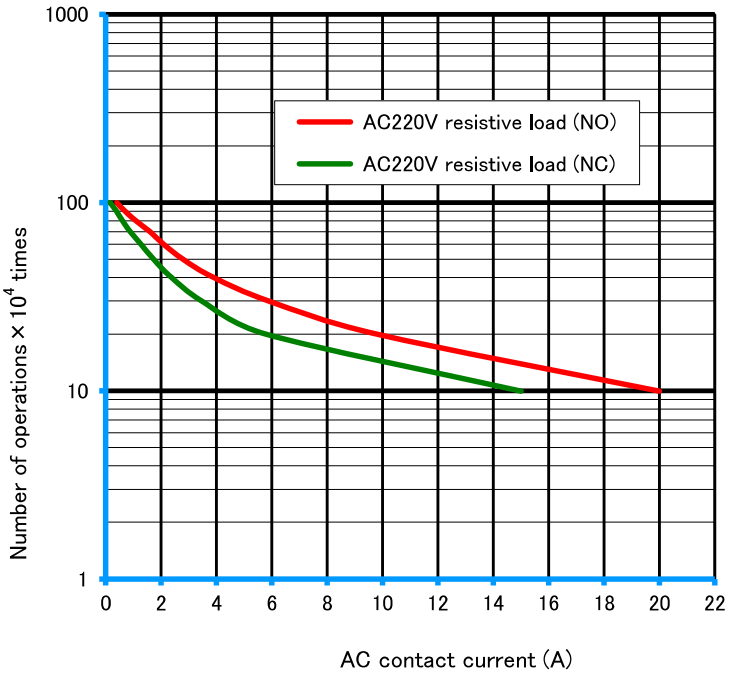
Maximum switching capacity

DFU



Durability curve

DFU



● Please understand that specifications may be changed without notice due to product improvement etc. ● Dimensions and specifications indicate only major points. Please contact our sales representatives for details.

DEC is a professional manufacturer of relays

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