

**DG**  
series

Power relay series pursuing reliability and safety



DG1U-II



DG1U-III



DG1U-III 16A

■ Currently it is used for such purposes

- Ideal for power supply for TV
- 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
- Various household appliances

DEC is a professional manufacturer of relays

# DG series

## ■ Features

- General purpose miniature power relay boasting high reliability and achievement.
- PCB type.
- Small size, easy to use 1a relay.
- Ideal for TV power supply, audio power supply, etc.
- Conforms to the various safety standards.
- We prepare contact current 5A and high capacity type 10A and 16A.
- We prepare contact gap 1mm products suitable for interlock of copiers etc.

## ■ Model numbering system



Rated coil voltage: Numeric part indication  
DC (V): 3, 5  
12, 24

Coil type	D: DC
Number of contact poles	1: 1 pole
Shape indication	O: PCB terminal
Contact configuration	(M): Make contact
Structure of operate	II : Pushing the upper side of contact III : Pushing the under side of contact
Contact current	Nil: 5A -10A: 10A 16A: 16A
Contact gap	Nil: Standard type 1G: 1mm gap

## ■ Safety standards

	Contact rating		
	DG1U-II	DG1U-III	DG1U-III 16A
UL/cUL	5A 125/250VAC 5A 30VDC TV-5, TV-8 120/250VAC	5A 125/250VAC 5A 30VDC TV-5 120/250VAC, 10A 250VAC	16A 277VAC
SEMKO	3/120A, 8/120A 8/60A, 4/135A 250VAC	10A 250VAC	
TUV	5A 8A 250VAC 5A 8A 30VDC	5A 250VAC 10A 250VAC	16A 250VAC
CQC	5A 250VAC	10A 250VAC	16A 250VAC
Electrical Appliances and Materials Safety Act	Conformable		

## ■ Coil ratings

AC/DC	Item Voltage	Power consumption 0.25W		Power consumption 0.53W		Operate voltage (V)	Release voltage (V)	Maximum voltage (V)	Power consumption
		Rated current (mA)	Coil resistance (Ω)	Rated current (mA)	Coil resistance (Ω)				
DC	3	—	—	176.5	17	80% max.	5% min.	110%	0.25W 0.53W
	5	50	100	106	47				
	12	20.8	576	44	275				
	24	10.4	2300	22	1100				

- 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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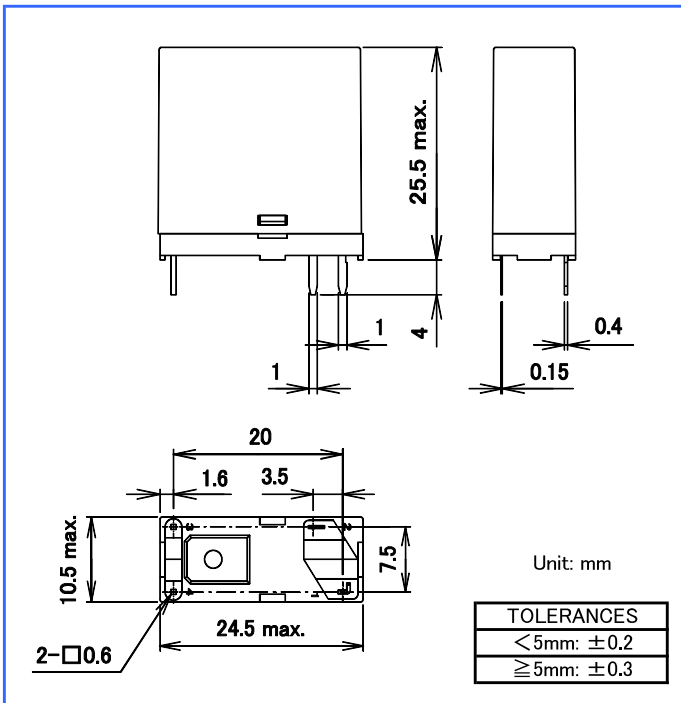
# DG series

## Ratings Performance

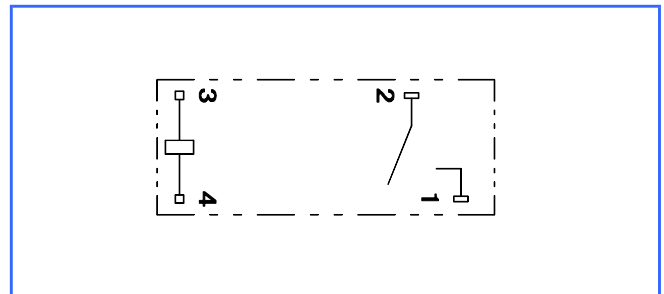
Specifications	Item	Performance		
		DG1U-II	DG1U-III	DG1U-III 16A
Contact specification	Contact configuration	1a		
	Contact resistance	50mΩ max. (at DC6V 1A)		
	Contact material	Ag alloy		
Ratings	Rated load (resistive load)	AC250V 5A	AC250V 10A	AC277V 16A
	Max. switching capacity (resistive load)	1250VA	2500VA	4432VA
	Max. switching voltage	AC250V		AC277V
	Max. switching current	5A, TV-8	5A, 10A	16A
	Power consumption	0,25W/0,53W		0,53W
	Electrical capability	Insulation resistance	100MΩ min. (at DC500V)	
Dielectric strength		Between coil and contact	AC4000V 1 min	
		Between open contact	AC1000V 1 min	
Impulse withstand voltage (between coil and contact)		10 000V min. (1.2 × 50 μs)		
Operate time (at rated voltage on, at 20°C)		15ms max. (excluding contact bounce time)		
Release time (at rated voltage off, at 20°C)		10ms max. (excluding contact bounce time)		
Mechanical capability	Vibration resistance	Malfunction	10 to 55 to 10Hz (double amplitude 1.5mm)	
		Destruction	10 to 55 to 10Hz (double amplitude 1.5mm)	
	Shock resistance	Malfunction	100m/s <sup>2</sup>	
		Destruction	1000m/s <sup>2</sup>	
Life	Mechanical endurance (at 180 times/min)	1 000 000 times min.		
	Electrical endurance (at 20 times/min) (16A: 1 s ON/9 s OFF)	100 000 times min. (at rated load) (however, the 1G type is 100 000 times minimum at 10A, 50 000 times minimum at 16A)		
Conditions for operation	Ambient temperature	-40°C to +70°C (no freezing and condensing at low temperature)		
	Ambient humidity	5% to 85%RH		
Mass		approx. 10g		

● Notes: The above is the initial value.

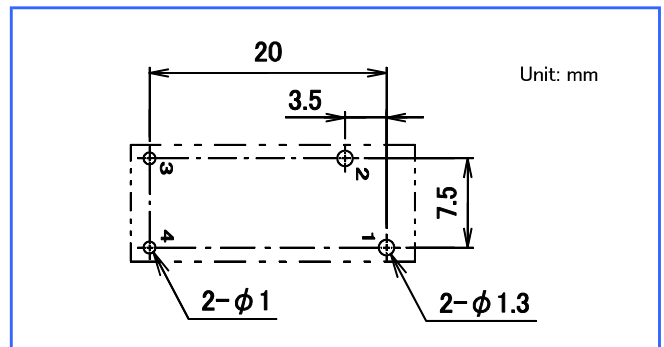
## Dimensions



## Schematics



## PCB mounting holes (tolerances ±0.1)



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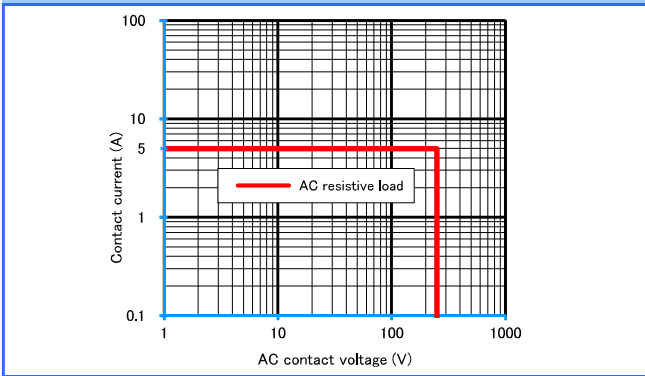
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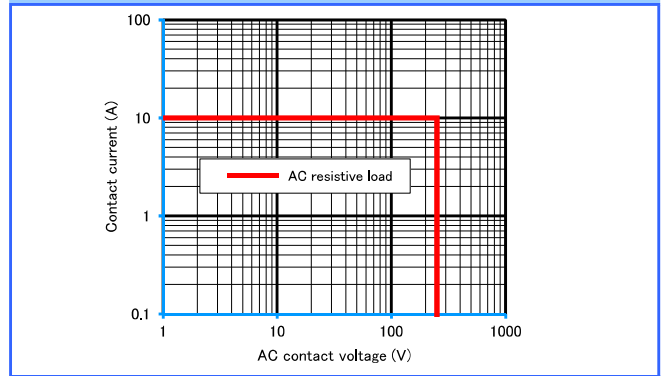
## Reference data

### ■ Maximum switching capacity

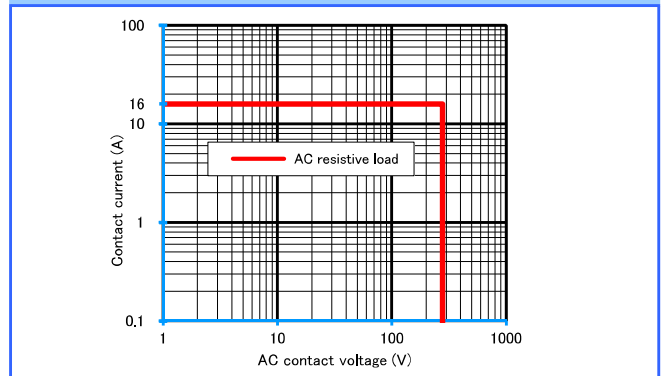
DG1U-II / III (5A)



DG1U-III (10A)

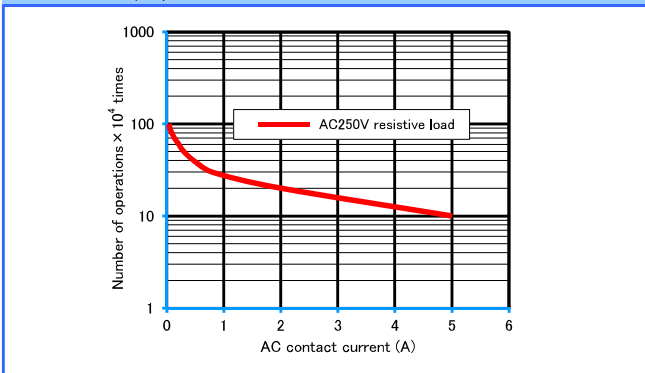


DG1U-III 16A

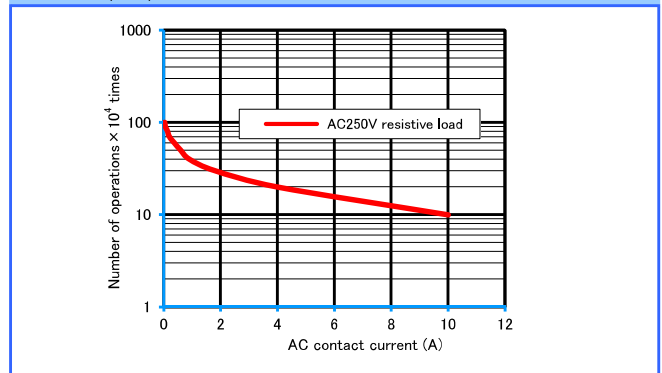


### ■ Durability curve

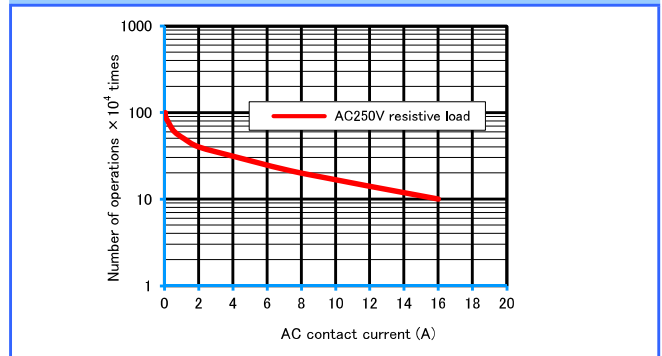
DG1U-II / III (5A)



DG1U-III (10A)



DG1U-III 16A



● 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.

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