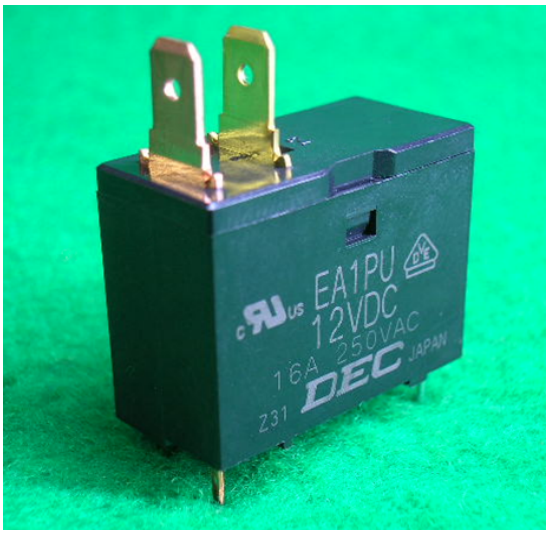
General purpose miniature power relay

RoHS compliant

EA series

Power relay series pursuing reliability and safety



EA1PU

Currently it is used for such purposes

- Power for microwave ovens
- Control panel, Power supply equipment, Molding equipment, Machine tools, Welding machines, Machinery for agriculture
- Vending machines, Telecommunications equipment, Disaster prevention equipment, Copiers
- Commercial equipment, Measuring instruments, Medical devices
- Various household appliances

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

EA series

Features

- General purpose power relay boasting high reliability and achievement.
- Tab terminals for contact and PCB terminals for coil and contact signal is prepared.
- It is a relay developed with optimum specification for microwave ovens.
- Low-profile, low coil power consumption (high sensitivity) relay.

Model numbering system

EA □ □ □ — □ □ □

Rated coil voltage: Numeric part indication	DC (V): 12, 24
Coil type	D: DC
Number of contact poles	1: 1 pole
Shape indication 1	1P: Fixed terminal with signal terminal on PCB side 1PR: No signal terminal fixed terminal, with insulation mounting terminal
Contact configuration	(M): Make contact
Shape indication 2	-R: Type 1P, with dummy terminal

Safety standards

	Contact rating
UL (C-UL)	16A 250V AC
VDE	16A 250V AC cosϕ=1
Electrical Appliances and Materials Safety Act	Conformable

Coil ratings

Item / AC/DC / Voltage	Rated current (mA)	Coil resistance (Ω)	Operate voltage (V)	Release voltage (V)	Maximum voltage (V)	Power consumption (W)
			Ratio to rated voltage			
DC 12	41.7	288	80% max.	5% min.	110%	0.5
DC 24	20.9	1150				

● Notes:
1. Rated current and coil resistance are values at coil temperature of 20℃, tolerance is ±10%.
2. Operate voltage and release voltage are values at coil temperature of 20℃.
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℃.

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■ Ratings・Performance

Specifications	Item		Performance
Contact specification	Contact configuration		1a
	Contact resistance		50mΩ max. (at DC6V 1A)
	Contact material		Ag alloy
Ratings	Rated load (resistive load)		AC250V 16A
	Max. switching capacity (resistive load)		4000VA
	Max. switching voltage		AC250V
	Max. switching current		16A
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. (1.2×50μs)
	Operate time (at rated voltage on, at 20℃)		15ms max. (excluding contact bounce time)
	Release time (at rated voltage off, at 20℃)		5ms 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^2
		Destruction	1000m/s^2
Life	Mechanical endurance (at 20 times/min)		1 000 000 times min.
	Electrical endurance (resistive load) (at 20 times/min)		100 000 times min. (at rated load)
Conditions for operation	Ambient temperature		−15℃ to +70℃ (no freezing and condensing at low temperature)
	Ambient humidity		5% to 85%RH
Mass			approx. 12g

● Notes: The above is the initial value.

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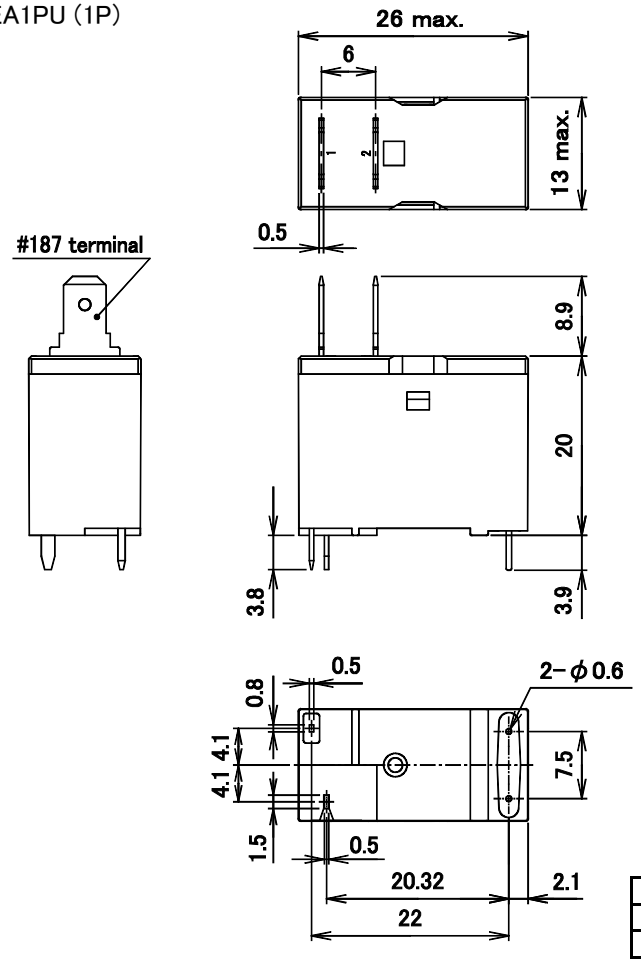
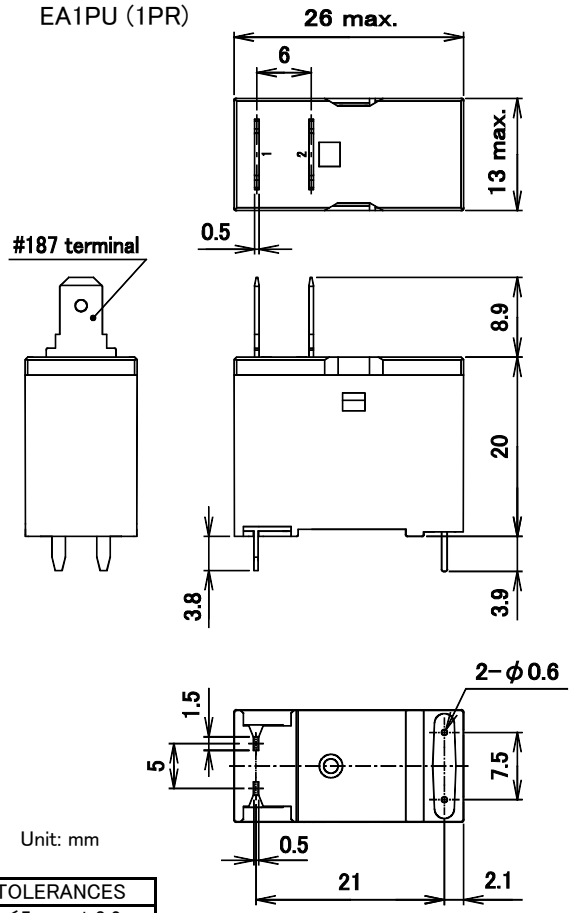
Dimensions

EA1PU (1P)



EA1PU (1PR)

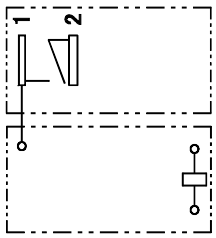


Unit: mm

TOLERANCES
＜5mm: ±0.2
≧5mm: ±0.3

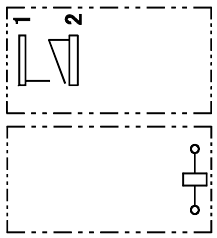
Schematics

EA1PU (1P)



Schematics

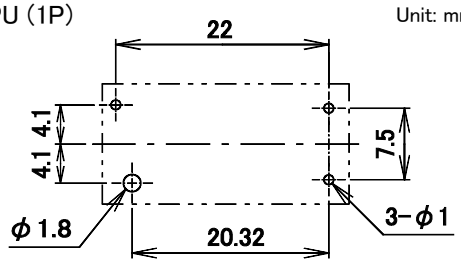
EA1PU (1PR)



PCB mounting holes (tolerances±0.1)

EA1PU (1P)

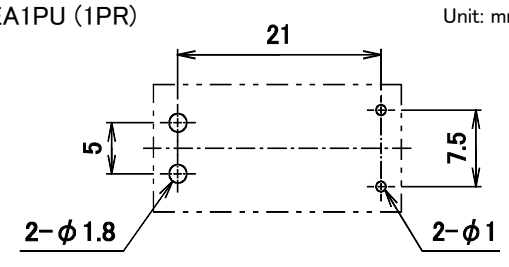
Unit: mm



PCB mounting holes (tolerances±0.1)

EA1PU (1PR)

Unit: mm



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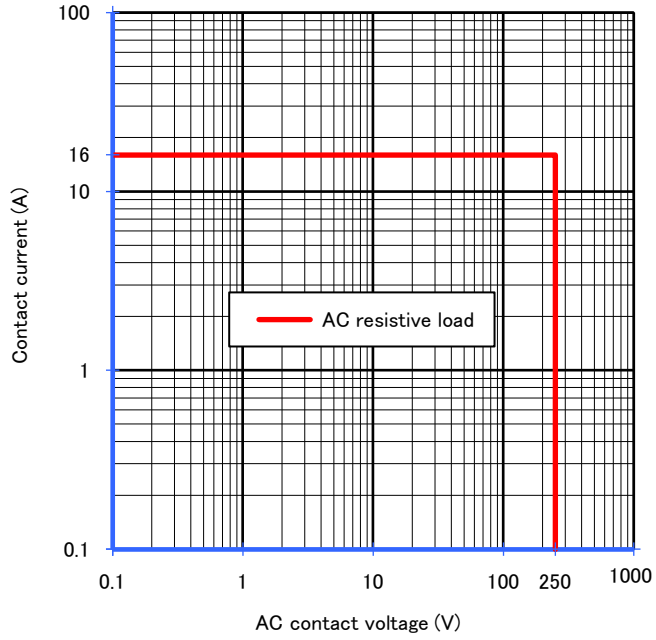
Reference data

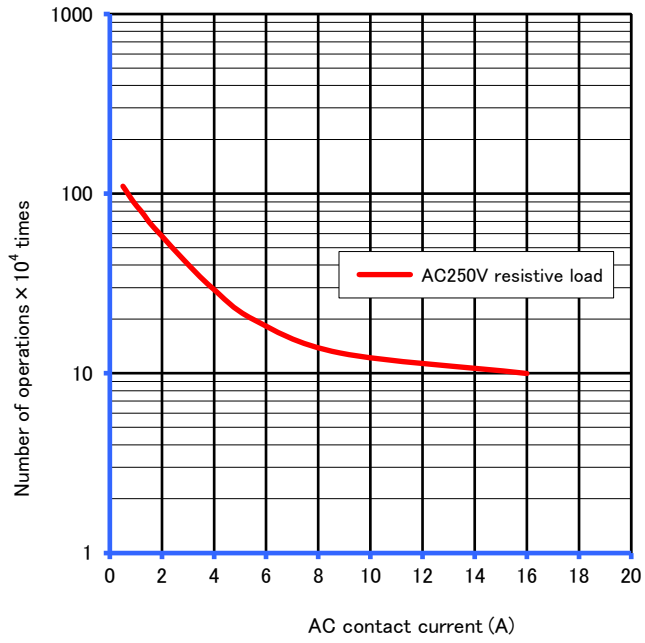
■ Maximum switching capacity

EA1PU



■ Durability curve

EA1PU



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