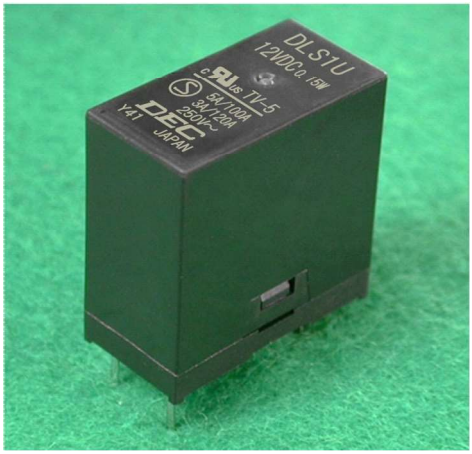
General purpose miniature power relay

RoHS compliant

DLS series

Power relay series pursuing reliability and safety



DLS1U

Currently it is used for such purposes

- Ideal for TV power supply and audio system
- 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

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

DLS series

■ Features

○ General purpose miniature power relay boasting high reliability and achievement.
○ PCB type, compact size, easy to use 1a relay.
○ We have 0.15W, 0.25W and 0.53W coil which are compatible with low power consumption for TV power supply and audio power supply.
○ Conforms to the various safety standards.

■ Model numbering system

DLS □ □ □ - □ □ □

Rated coil voltage: Numeric part indication	DC (V): 5, 9, 12, 24
Coil type	D: DC
Number of contact poles	1: 1 pole
Shape indication	O: PCB terminal
Contact configuration	(M): Make contact
Notes	0.15W, 0.25W, 0.53W : There are 3 varieties of coil power consumption including high sensitivity products.

■ Safety standards

	Contact rating
UL/cUL	5A 250V AC 5A 30V DC TV-5 120V AC 0.15W TV-8 120V AC 0.25W TV-10 120V AC 0.53W
SEMKO	8/60A, 5/100A, 3/120A, 250V AC 0.15W / 0.25W 8/135A, 10/80A 250V AC 0.53W
Electrical Appliances and Materials Safety Act	Conformable

■ Coil ratings

Item / AC/DC / Voltage		Power consumption High sensitivity 0.15W		Power consumption High sensitivity 0.25W		Power consumption Standard 0.53W		Operate voltage (V)	Release voltage (V)	Maximum voltage (V)
		Rated current (mA)	Coil resistance (Ω)	Rated current (mA)	Coil resistance (Ω)	Rated current (mA)	Coil resistance (Ω)	Ratio to rated voltage		
DC	5	30	167	50	100	106	47	80% max.	5% min.	110%
	9	16.7	540	27.7	325	60	150			
	12	12.5	960	20.8	576	44	275			
	24	6.25	3840	10.4	2300	22	1100			

● 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℃.

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

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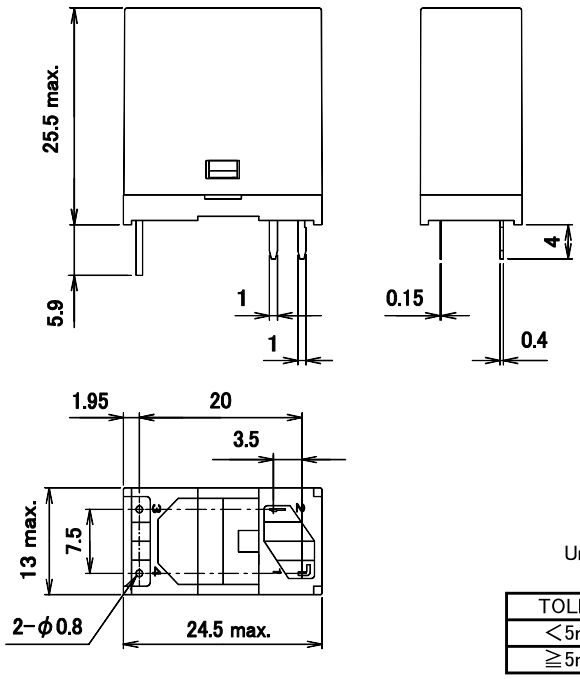
Ratings・Performance

Specifications	Item		Performance	
			High sensitivity type Power consumption 0.15W/0.25W	Standard type Power consumption 0.53W
Contact specification	Contact configuration		1a	
	Contact resistance		50mΩ max. (at DC6V 1A)	
	Contact material		Ag alloy	
Ratings	Rated load (resistive load)		AC250V 5A	
	Max. switching capacity (resistive load)		1250VA	
	Max. switching voltage		AC250V	
	Max. switching current		5A, TV-5/TV-8	TV-10
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℃)		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^2	
		Destruction	1000m/s^2	
Life	Mechanical endurance (at 180 times/min)		1 000 000 times min.	
	Electrical endurance (resistive load) (at 20 times/min)		50 000 times min. (at rated load)	
Conditions for operation	Ambient temperature		-40℃ to +70℃ (no freezing and condensing at low temperature)	
	Ambient humidity		5% to 85%RH	
Mass			approx. 15g	

● Notes: The above is the initial value.

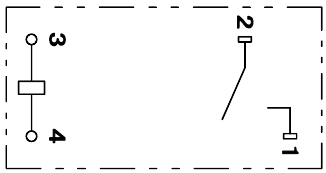
Dimensions



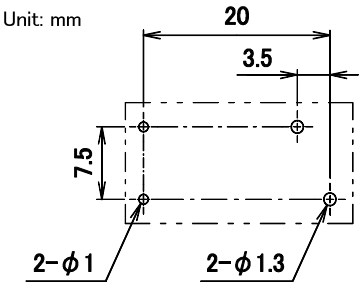
Unit: mm

TOLERANCES
<5mm: ±0.2
≧5mm: ±0.3

Schematics



PCB mounting holes (tolerances±0.1)



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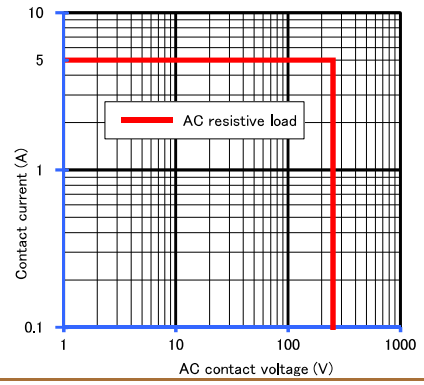
DLS series

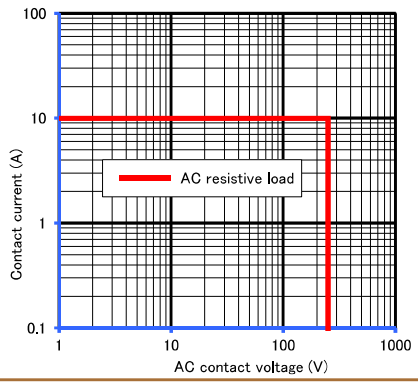
Reference data

■ Maximum switching capacity

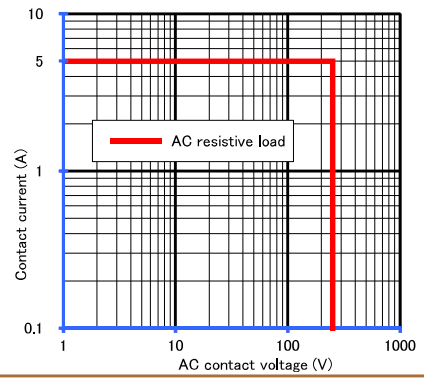
DLS1U (0.15W)



DLS1U (0.53W)

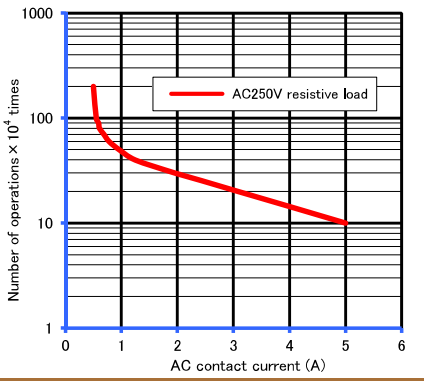


DLS1U (0.25W)

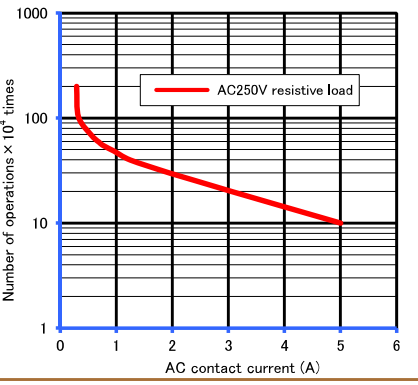


■ Durability curve

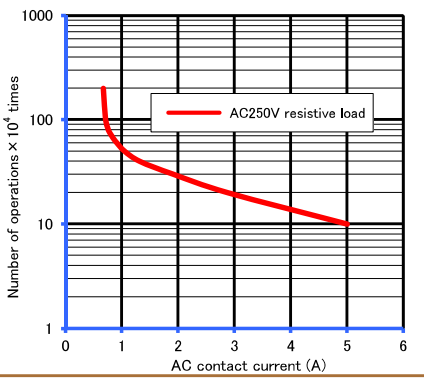
DLS1U (0.15W)



DLS1U (0.53W)



DLS1U (0.25W)



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