SANYOU RELAYS
Relays for advanced technology

Miniature Power Relay

SJ-M(5A)-Series

Features

- Advanced DEC DQ1U technology and production line was introduced into from Japan.
- Small size (18.4x10.2x15.5mm) with 5A switching capability for high density PCB mounting.
- Surge voltage: 5000V (between coil and contact).
- Patent number: ZL 2008 20188817.6, ZL 2008 20188818.0

Safety Approval

UL, C-UL File No.: E190598
VDE File No.: 40002146
CQC File No.: CQC 02001002114
TUV File No.: R50142420

Contact Capacity

Model	SJ-DM	SJ-LM
Nominal switching capacity (res. load)	5A 250VAC	3A 250VAC
Max. switching current	5A	3A
Max. switching voltage	277VAC	277VAC
Max. switching power	1,250VA	750VA

Charateristic Data

Contact material	Silver alloy	
Initial contact resistance (at 6VDC 1A)	50mΩ Max.	
Operate time (at nominal volt.)	10msec. Max.	
Release time (at nominal volt.)	5msec. Max.	
Initial insulation resistance	1,000MΩ Min.(DC500V)	
Initial dielectric strength	Between open contacts: AC1,000V, 50/60Hz 1Min.	
	Between coil and contact: AC4,000V, 50/60Hz 1Min.	
Vibration resistance	Functional	10 ~ 55Hz at double amplitude of 1.5 mm
	Destructive	10 ~ 55Hz at double amplitude of 1.5 mm
Shock resistance	Functional	10G Min.
	Destructive	100G Min.
Endurance (operations)	Mechanical (at 10,800 ops./h)	10,000,000
	Electrical (at 1,800 ops./h)	100,000
Ambient temperature	-40℃ ~ +105℃ (no condensation)	
Unit weight	Approx. 5.6 g	

Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current ±10% (mA)	Coil resistance ±10% (Ω)	Max. allowable voltage	Pick-up voltage (Max.)	Drop-out voltage (Min.)	Nominal operating power
3	150.00	20	130 % of nominal voltage	75 % of nominal voltage	5 % of nominal voltage	Approx. 0.45W
5	90.00	55				
6	75.00	80				
9	50.00	180				
12	37.50	320				
18	25.00	720				
24	18.75	1,280				

Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current ±10% (mA)	Coil resistance ±10% (Ω)	Max. allowable voltage	Pick-up voltage (Max.)	Drop-out voltage (Min.)	Nominal operating power
3	66.67	45	130 % of nominal voltage	75 % of nominal voltage	5 % of nominal voltage	0.20W
5	40.00	125				
6	33.33	180				
9	22.22	405				
12	16.67	720				
18	14.81	1,620				
24	8.33	2,880				

Safety Approval Ratings

Approval	CQC	TUV	VDE	UL/CUL	
File No.	CQC02001002114	R50142420	40002146	E190598	
Approved ratings	SJ–D & SJ–L: 5A 250VAC	SJ–D: 5A 250VAC	SJ–D: 5A 250VAC SJ–L: 3A 250VAC 5A 250VAC	SJ–D: 10A 125VAC, Resistive 5A 277VAC, Resistive 10A 120VAC, Resistive 5A 250VAC, Resistive 5A 28VDC, Resistive 5A 250VAC, General Use 1.5A 250VAC, General Use 1/3HP 240VAC TV–5, 120VAC Pilot Duty: 240VA, 240VAC	SJ–L: 3A 277VAC, Resistive 5A 120VAC, Resistive 3A 250VAC, Resistive 3A 28VDC, Resistive 3A 250VAC, General Use 1A 250VAC, General Use 1/4HP 240VAC TV–3, 120VAC Pilot Duty: 120VA, 240VAC

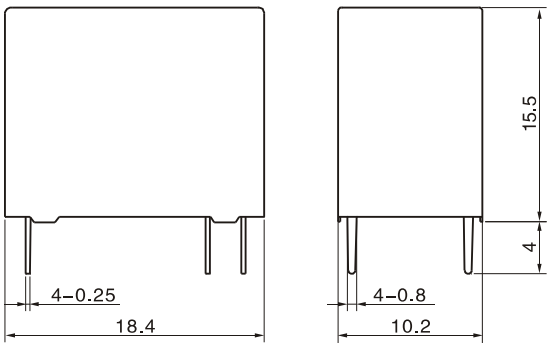
Ordering Information

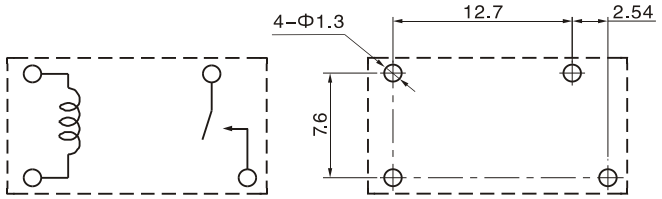
Nomenclature

SJ –S –1 12 D M 1 – F –XX

- Special Parameter: Nil–Standard type, Letter or number–Special requirement
- Insulation System: Nil–Standard, B–Class B, F–Class F
- Contact Material: Nil–AgSnO2, 1–AgCdO
- Contact Form: M–Form A
- Coil Power: D–0.45W, L–0.20W
- Coil Voltage (VDC): 03, 05, 06, 09, 12, 18, 24
- Number of Poles: 1–1 Pole
- Protective Construction: S–Flux proofed, SH–Sealed type washable
- Type Designation: SJ

Outline Dimensions, Wiring Diagram, P.C. Board Layout (unit: mm)





Wiring Diagram (bottom view)

P.C.B. Layout (bottom view)

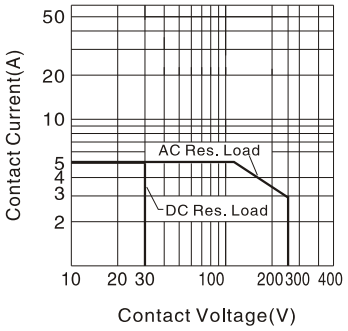
Unless otherwise specified:
If dimension < 1mm, tolerance: ±0.2mm;
If dimension 1~5mm, tolerance: ±0.3mm;
If dimension > 5mm, tolerance: ±0.4mm.
Note: 1. Extended terminal dimension is dimension before soldering.
2. Tolerance of P.C.B. layout: ±0.1mm.

Typical Applications

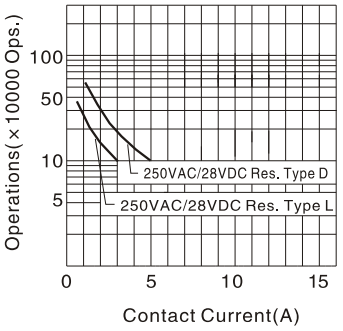
● Home appliances, office equipment, audio equipment, car, air conditioner, etc.

Characteristic Curves

Max. Switching Power



Endurance Curve



Coil Temp. Rise