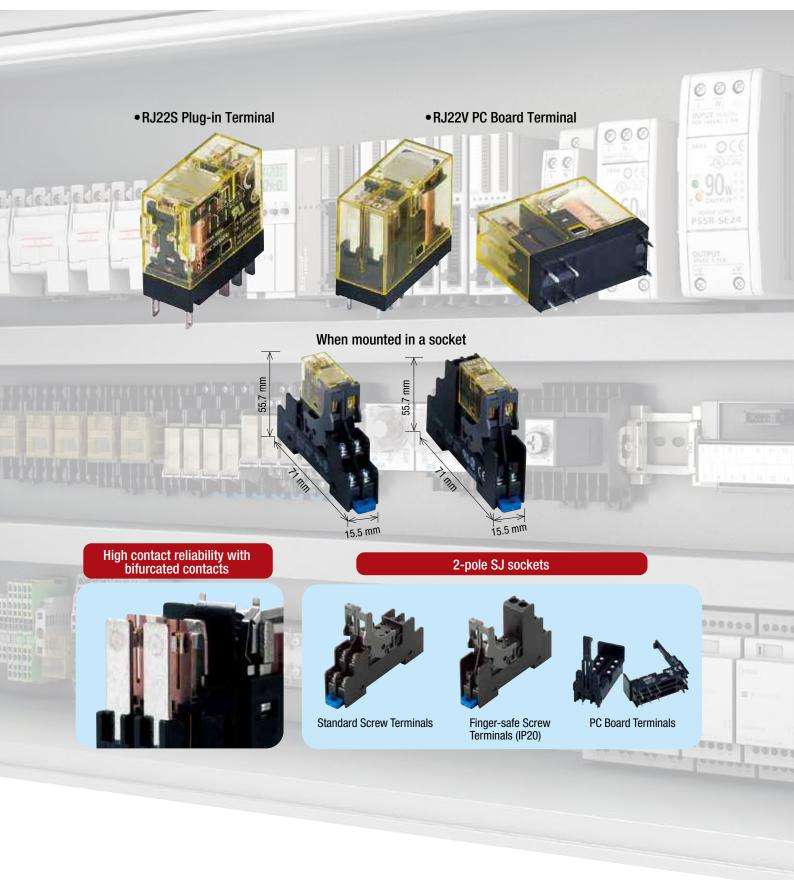


## RJ Series Slim Power Relays (Bifurcated Contacts)



# RJ Series Slim Power Relay Plug-in Terminal (bifurcated contacts)

## High contact reliability with bifurcated contacts (minimum applicable load: 1V DC, 100µA)

- The smallest width for 2-pole/bifurcated contacts relay (based on IDEC research as of July 2017)
- Non-polarized green LED indicator available (except for simple type)
- IDEC's unique light-guide structure enables an RJ relay to be identified by the illuminating LED.
- Diode, reverse polarity diode, and RC circuits are available.
- Peak inverse voltage is 1000V.
- UL recognized, CSA certified, VDE approved, EN compliant.

#### **Applicable Standards**



• See website for details on approvals and standards.



#### Relays Bifurcated Contacts

	2-ро	2-pole (bifurcated contacts DPDT)				
Туре	Part No. (Ordering No.)	Coil Voltage Code				
Standard (with LED indicator)	RJ22S-CL-*	A12, A24, A110, A115, A120, A220, A230, A240, D5, D6, D12, D24, D48,				
Simple (without LED indicator)	RJ22S-C-*	D100				
With diode (with LED indicator)	RJ22S-CLD-*					
With diode (without LED indicator)	RJ22S-CD-*					
With diode Reverse polarity (with LED indicator)	RJ22S-CLD1-*	D5, D6, D12, D24, D48, D100				
With diode Reverse polarity (without LED indicator)	RJ22S-CD1-*					
With RC circuit (with LED indicator)	RJ22S-CLR-*	A12, A24, A110, A115, A120, A220, A230,				
With RC circuit (without LED indicator)	RJ22S-CR-*	A240				

#### **Coil Voltage Code**

Code	Voltage
A12	12V AC
A24	24V AC
A110	110V AC
A115	115V AC
A120	120V AC
A220	220V AC
A230	230V AC
A240	240V AC
D5	5V DC
D6	6V DC
D12	12V DC
D24	24V DC
D48	48V DC
D100	100-110V DC

#### **Contact Ratings**

Allowable C	ontact Power		Rated Lo	bad	Allowable Cwitching	Allowable Switching	Minimum	
Resistive Load	Inductive Load	Voltage	Resistive Load	Inductive Load cosø=0.4 L/R=7ms	Allowable Switching Current	Allowable Switching Voltage	Applicable Load (Note)	
250VA AC	100VA AC	250V AC	1A	0.4A	10	250V AC	1V DC	
30W DC	15W DC	30V DC	1A	0.5A	- 1A	125V DC	100µA (reference value)	

Note: Measured at operating frequency of 120 operations per minute (failure rate level P, reference value)

## Ratings

		UL Ra	atings		CSA Ratings						VDE Ratings	
Voltage	Resistive		General Use		Resistive		Inductive		General Use		Resistive	
	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC
250V AC	—	—	1A	1A	—	—	—	—	1A	1A	1A	1A
30V DC	1A	1A	_	_	1A	1A	1A	1A		_	1A	1A

## **Coil Ratings**

			W	ithout LED	Indicator	N	/ith LED Ind	licator		ting Charact rated values		
Rated Voltage (V)		Coil Voltage Code	Rated Current (mA) ±15% (at 20°C)		Coil Resistance (Ω)	Rated Current (mA) ±15%, (at 20°C)		Coil Resistance (Ω)	Pickup Voltage	Dropout Voltage	Maximum Continuous Applied	Power Consumption
			50Hz	60Hz	±10% (at 20°C)	50Hz	60Hz	±10% (at 20°C)	(initial value)	(initial value)	Voltage (Note)	
	12V	A12	87.3	75.0	62.5	91.1	78.8	62.5				Approx. 1.1VA (50Hz) 0.9 to 1.2VA (60Hz)
	24V	A24	43.9	37.5	243	47.5	41.1	243				
	110V	A110	9.6	8.2	5,270	9.5	8.1	5,270	80% maximum	30%	140%	
AC 50/60	115V	A115	9.1	7.8	6,030	9.0	7.7	6,030				
Hz	120V	A120	8.8	7.5	6,400	8.7	7.4	6,400		minimum		
112	220V	A220	4.8	4.1	21,530	4.8	4.1	21,530				
	230V	A230	4.6	3.9	24,100	4.6	3.9	24,100				
	240V	A240	4.3	3.7	25,570	4.3	3.7	25,570				
	5V	D5	1(	06	47.2	1.	0	47.2				
	6V	D6	88	3.3	67.9	92	.2	67.9				
	12V	D12	44	.2	271	48	8.0	271	70%	10%	170%	Approx.
DC	24V	D24	22	2.1	1,080	25	5.7	1,080	maximum	minimum		0.53 to 0.64W
	48V	D48	11	.0	4,340	10	).7	4,340			·	0.00 10 0.04W
	100- 110V	D100	5.3	-5.8	18,870	5.2	-5.7	18,870			160%	

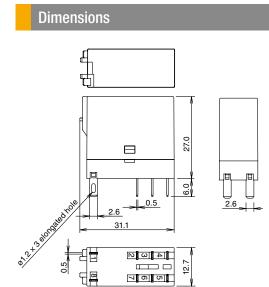
Note: Maximum continuous applied voltage is the maximum voltage that can be applied to relay coils.

## Specifications

Helay   KJ22S     Number of Poles   2-pole     Contact Configuration   DPDT (bifurcated contacts)     Contact Material   AgNi (gold clad)     Degree of Protection   IP40     Contact Resistance (initial value)   50 mΩ maximum (measured using 5V DC, 1A voltage drop method)     Operating Time (at 20°C)   15 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Between contacts of the same pole   1,000V AC, 1 minute     Between contacts of the different poles   3,000V AC, 1 minute     Vibration Resistance   0perating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   NO contact: 200 m/s², NC contact: 100 m/s²     Between contacts of the different poles   1,000 m/s²     Coad: 100,000 operations minimum (operating frequency 1,800 per hour)   DC coad: 200,000 operations minimum (operating frequency 1,800 per hour)     Dicectrical Life   AC load: 10 million operations minimum (operating frequency 1,800 per hour)	Delevi		P 1000			
Contact Configuration     DPDT (bifurcated contacts)       Contact Material     AgNi (gold clad)       Degree of Protection     IP40       Contact Resistance (initial value)     50 mΩ maximum (measured using 5V DC, 1A voltage drop method)       Operating Time (at 20°C)     15 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum       Release Time (at 20°C)     10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum       Impulse Withstand Voltage     10,000V AC (between contact and coil)       Insulation Resistance     100 MΩ minimum (500V DC megger)       Between contacts of the same pole     1,000V AC, 1 minute       Between contacts of the different poles     3,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Damage Limits     10 to 55 Hz, amplitude 0.75 mm     2000V AC (betraing frequency 1,800 per hour)       Shock Resistance     Operating Extremes     NO contact: 200 m/s², NC contact: 100 m/s²       Damage Limits     1,000 m/s²     AC load: 100,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)       Operating Temperature	Relay		RJ22S			
Contact Material     AgNi (gold clad)       Degree of Protection     IP40       Contact Resistance (initial value)     50 mΩ maximum (measured using 5V DC, 1A voltage drop method)       Operating Time (at 20°C)     15 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum       Release Time (at 20°C)     10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum       Insulation Resistance     10,000 VAC (between contact and coil)       Insulation Resistance     100 MΩ minimum (500V DC megger)       Dielectric Strength     Between contacts of the same pole     1,000V AC, 1 minute       Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Datage Limits     10 to 55 Hz, amplitude 0.75 mm       Shock Resistance     Operating Extremes     NO contact: 200 m/s², NC contact: 100 m/s²       Electrical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Temperature (100% rated voltage)     5 to 85%RH (no condensation)			•			
Image: Second		0	,			
Contact Resistance (initial value)   50 mΩ maximum (measured using 5V DC, 1A voltage drop method)     Operating Time (at 20°C)   15 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Between contact and coil   5,000V AC, 1 minute     Between contacts of the same pole   1,000V AC, 1 minute     Between contacts of the different poles   10 to 55 Hz, amplitude 0.75 mm     Vibration Resistance   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock Resistance   Operating Extremes   NO contact: 200 m/s², NC contact: 100 m/s²     Relectrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)	Contact Mate	erial	AgNi (gold clad)			
(initial value)   voltage drop method)     Operating Time (at 20°C)   15 ms maximum (at the rated coil voltage, excluding contact bounce time)     With diode or RC: 20 ms maximum   10 ms maximum (at the rated coil voltage, excluding contact bounce time)     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time)     Impulse Withstard Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Dielectric   Between contact and coil   5,000V AC, 1 minute     Between contacts of the same pole   1,000V AC, 1 minute     Ifferent poles   3,000V AC, 1 minute     Vibration   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Resistance   Damage Limits   1,000 m/s²     Nechanical Life   AC load: 10,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operat	Degree of Pro	otection	IP40			
Operating Time (at 20°C)   15 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Dielectric   Between contact and coil     Strength   Between contacts of the same pole     Between contacts of the different poles   3,000V AC, 1 minute     Vibration   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Resistance   Damage Limits   1,000 m/s²     Resistance   AC load: 100,000 operations minimum (operating frequency 1,800 per hour)     DC load: 200,000 operations minimum (operating frequency 18,000 operations per hour)   DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature   -40 to +70°C (no freezing)   -40 to +85°C (no freezing)     Storage Temperature   -40 to +85°C (no freezing)   5 to 85%RH (no condensation)		stance				
Operating Time (at 20°C)   excluding contact bounce time) With diode or RC: 20 ms maximum     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Dielectric Strength   Between contact and coil   5,000V AC, 1 minute     Between contacts of the asme pole   3,000V AC, 1 minute     Vibration   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 18,000 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Humidity   5 to 85%RH (no condensation)	(initial value)		<b>v</b> 1 <i>j</i>			
With diode or RC: 20 ms maximum     Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Between contact and coil   5,000V AC, 1 minute     Between contacts of the same pole   3,000V AC, 1 minute     Between contacts of the different poles   3,000V AC, 1 minute     Vibration   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Electrical Life   Jamage Limits   1,000 m/s²     Mechanical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Humidity   5 to 85%RH (no condensation)	Oporating Tir	no (at 20°C)				
Release Time (at 20°C)   10 ms maximum (at the rated coil voltage, excluding contact bounce time) With diode or RC: 20 ms maximum     Impulse Withstand Voltage   10,000V AC (between contact and coil)     Insulation Resistance   100 MΩ minimum (500V DC megger)     Dielectric Strength   Between contact and coil   5,000V AC, 1 minute     Between contacts of the same pole   1,000V AC, 1 minute   3,000V AC, 1 minute     Vibration Resistance   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock Resistance   Operating Extremes   NO contact: 200 m/s², NC contact: 100 m/s²     Shock Resistance   Operating Extremes   NO contact: 200 m/s², NC contact: 100 m/s²     Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Opcrating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Humidity   5 to 85%RH (no condensation)		ne (al 20-0)				
With diode or RC: 20 ms maximum       Impulse Withstand Voltage     10,000V AC (between contact and coil)       Insulation Resistance     100 MΩ minimum (500V DC megger)       Between contact and coil     5,000V AC, 1 minute       Between contacts of the same pole     1,000V AC, 1 minute       Between contacts of the different poles     3,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes     N0 contact: 200 m/s², NC contact: 100 m/s²       Electrical Life     Damage Limits     1,000 m/s²       Kechanical Life     AC load: 100 million operations minimum (operating frequency 1,800 per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)						
Impulse Withstand Voltage     10,000V AC (between contact and coil)       Insulation Restance     100 MΩ minimum (500V DC megger)       Dielectric Strength     Between contact and coil     5,000V AC, 1 minute       Between contacts of the arme pole     1,000V AC, 1 minute     1,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes     N0 contact: 200 m/s², NC contact: 100 m/s²       Electrical Life     Damage Limits     1,000 m/s²       Kechanical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)       Storage Humidity     5 to 85%RH (no condensation)	Release Time	e (at 20°C)	excluding contact bounce time)			
Insulation Resistance     100 MΩ minimum (500V DC megger)       Dielectric Strength     Between contact and coil Between contacts of the same pole     5,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Damage Limits     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes       Damage Limits     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes       Damage Limits     1,000 m/s²       Electrical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)       Storage Temperature     -40 to +85°C (no freezing)       Storage Humidity     5 to 85%RH (no condensation)						
Between contact and coil     5,000V AC, 1 minute       Dielectric Strength     Between contacts of the same pole     1,000V AC, 1 minute       Between contacts of the different poles     3,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Shock     Operating Extremes     N0 contact: 200 m/s², NC contact: 100 m/s²       Between contacts of the different poles     1,000 m/s²       Resistance     Damage Limits     1,000 m/s²       Between contacts     AC load: 100,000 operations minimum (operating frequency 1,800 per hour)       DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     -40 to +70°C (no freezing)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)     5 to 85%RH (no condensation)	Impulse With	stand Voltage	10,000V AC (between contact and coil)			
Dielectric Strength     Between contacts of the same pole     1,000V AC, 1 minute       Between contacts of the different poles     3,000V AC, 1 minute     3,000V AC, 1 minute       Vibration Resistance     Operating Extremes     10 to 55 Hz, amplitude 0.75 mm       Damage Limits     10 to 55 Hz, amplitude 0.75 mm       Shock Resistance     Operating Extremes     N0 contact: 200 m/s², NC contact: 100 m/s²       Damage Limits     1,000 m/s²       Electrical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)       Storage Temperature     -40 to +85°C (no freezing)       Storage Humidity     5 to 85%RH (no condensation)	Insulation Re	sistance	100 MΩ minimum (500V DC megger)			
Delectric Strength   same pole   1,000V AC, 1 minute     Strength   Between contacts of the different poles   3,000V AC, 1 minute     Vibration Resistance   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Damage Limits   10 to 55 Hz, amplitude 0.75 mm     Shock Resistance   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Damage Limits   1,000 m/s²     Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)     Storage Humidity   5 to 85%RH (no condensation)		Between contact and coil	5,000V AC, 1 minute			
Between contacts of the different poles   3,000V AC, 1 minute     Vibration Resistance   Operating Extremes   10 to 55 Hz, amplitude 0.75 mm     Shock Resistance   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Damage Limits   1,000 m/s²     Resistance   Damage Limits   1,000 m/s²     Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour) DC load: 200 million operations minimum (operating frequency 1,800 oper hour) DC load: 20 million operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)			1,000V AC, 1 minute			
Resistance   Damage Limits   10 to 55 Hz, amplitude 0.75 mm     Shock   Operating Extremes   N0 contact: 200 m/s², NC contact: 100 m/s²     Resistance   Damage Limits   1,000 m/s²     Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Humidity   5 to 85%RH (no condensation)	ouongui		3,000V AC, 1 minute			
Shock Resistance     Operating Extremes     N0 contact: 200 m/s², NC contact: 100 m/s²       Besistance     Damage Limits     1,000 m/s²       Electrical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 1,800 oper hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)       Storage Temperature     -40 to +85°C (no freezing)       Storage Humidity     5 to 85%RH (no condensation)	Vibration	Operating Extremes	10 to 55 Hz, amplitude 0.75 mm			
Resistance     Damage Limits     1,000 m/s <sup>2</sup> Electrical Life     AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)       Mechanical Life     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)       Operating Temperature (100% rated voltage)     -40 to +70°C (no freezing)       Operating Humidity     5 to 85%RH (no condensation)       Storage Humidity     5 to 85%RH (no condensation)	Resistance	Damage Limits	10 to 55 Hz, amplitude 0.75 mm			
Electrical Life   AC load: 100,000 operations minimum (operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 1,800 oper hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 1,800 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)     Storage Humidity   5 to 85%RH (no condensation)	Shock	Operating Extremes	NO contact: 200 m/s <sup>2</sup> , NC contact: 100 m/s <sup>2</sup>			
Electrical Life(operating frequency 1,800 per hour) DC load: 200,000 operations minimum (operating frequency 1,800 per hour)Mechanical LifeAC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)Operating Temperature (100% rated voltage)-40 to +70°C (no freezing)Operating Humidity5 to 85%RH (no condensation)Storage Temperature -40 to +85°C (no freezing)-40 to +85°C (no freezing)Storage Humidity5 to 85%RH (no condensation)	Resistance	Damage Limits	1,000 m/s <sup>2</sup>			
Electrical Life   DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     Mechanical Life   AC load: 10 million operations minimum (operating frequency 1,800 operations per hour)     DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)   DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)     Storage Humidity   5 to 85%RH (no condensation)						
DC load: 200,000 operations minimum (operating frequency 1,800 per hour)     AC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature 9 Storage Humidity   5 to 85%RH (no condensation)	Flectrical Life	2				
Mechanical LifeAC load: 10 million operations minimum (operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)Operating Temperature (100% rated voltage)-40 to +70°C (no freezing)Operating Humidity5 to 85%RH (no condensation)Storage Temperature -40 to +85°C (no freezing)5 to 85%RH (no condensation)	2.000.000.2.00					
Mechanical Life(operating frequency 18,000 operations per hour) DC load: 20 million operations minimum (operating frequency 18,000 operations per hour)Operating Temperature (100% rated voltage)-40 to +70°C (no freezing)Operating Humidity5 to 85%RH (no condensation)Storage Temperature -40 to +85°C (no freezing)-40 to +85°C (no freezing)Storage Humidity5 to 85%RH (no condensation)						
Mechanical Life   DC load: 20 million operations minimum (operating requency 18,000 operations per hour)     Operating Temperature (100% rated voltage)   -40 to +70°C (no freezing)     Operating Humidity   5 to 85%RH (no condensation)     Storage Temperature   -40 to +85°C (no freezing)     Storage Humidity   5 to 85%RH (no condensation)						
Operating Temperature (100% rated voltage) -40 to +70°C (no freezing)   Operating Humidity 5 to 85%RH (no condensation)   Storage Temperature -40 to +85°C (no freezing)   Storage Humidity 5 to 85%RH (no condensation)	Mechanical L	life				
(100% rated voltage) -40 to +70°C (no freezing)   Operating Humidity 5 to 85%RH (no condensation)   Storage Temperature -40 to +85°C (no freezing)   Storage Humidity 5 to 85%RH (no condensation)			(operating frequency 18,000 operations per hour)			
Storage Temperature -40 to +85°C (no freezing)   Storage Humidity 5 to 85%RH (no condensation)			-40 to +70°C (no freezing)			
Storage Humidity 5 to 85%RH (no condensation)	Operating Hu	midity	5 to 85%RH (no condensation)			
	Storage Tem	perature	-40 to +85°C (no freezing)			
Weight (approx.) 19g	Storage Hum	idity	· · · · · · · · · · · · · · · · · · ·			
	Weight (appr	ox.)	19g			

## **Applicable Sockets**

Style	Part No.	Ordering No.	Package Quantity
Standard Screw Terminal	SJ2S-05B	SJ2S-05B	1
Finger-safe Screw Terminal	SJ2S-07L	SJ2S-07L	1
PC Board	SJ2S-61	SJ2S-61PN10	10
Terminal	SJ2S-61	SJ2S-61PN50	50

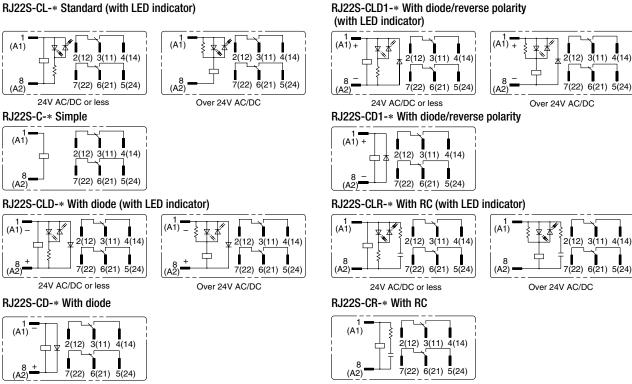


All dimensions in mm.

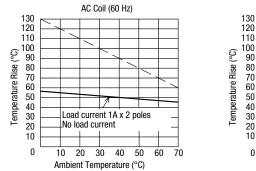
## Internal Connection (bottom view)

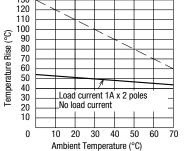
28.8

#### RJ22S-CL-\* Standard (with LED indicator)



#### **Operating Temperature and Coil Temperature Rise**





AC Coil (50 Hz)

• The slanted dashed line indicates the allowable temperature rise for the coil at different ambient temperatures. • The above temperature rise curves show the characteristics when 100% of the rated coil voltage is applied.

DC Coil 130 120 110 100 90 80 Temperature Rise (°C) 70 60 50 40 30 20 Load current 1A x 2 poles 10 -No load current 0 10 20 30 40 50 60 70 Ambient Temperature (°C)

