

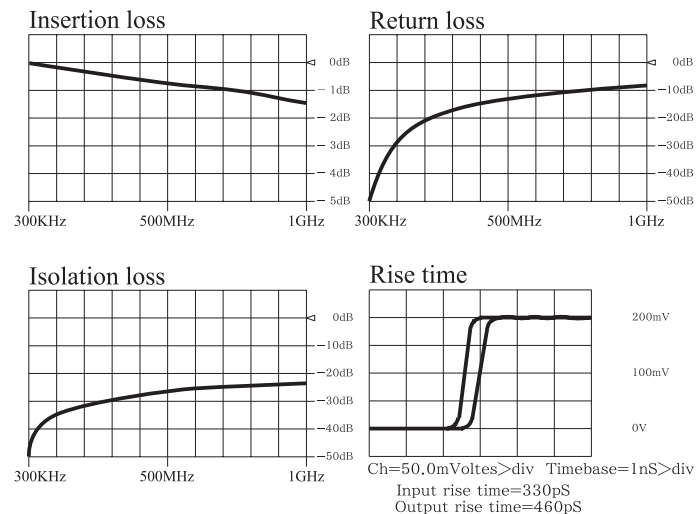
Miniature Reed Relays (1)



This series is the standardized product in the Sanyu PCB relays product line. This product line comes in 1 Form A 2 Form A , 1 Form C and mercury contact arrangements. These relays have characteristics to high RF performance, low capacitance, high insulation resistance and small package easy to design inch pitches.

- High RF performance
- Impedance matching
- High insulation resistance up to 10^{11}
- Electric Magnetic Shield

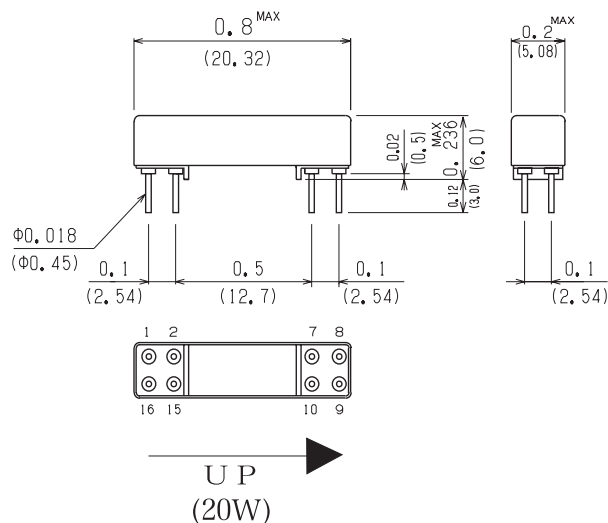
20D-1A12N1



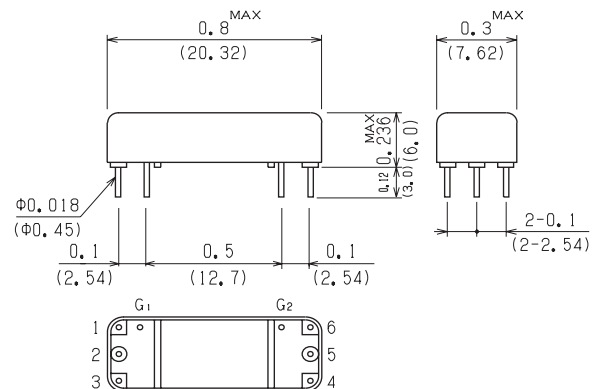
Mechanical Dimensions

All dimensions are measured in inches (millimeters).

20D-1A□2(8)1
20D-1C□2(8)0
20W-1A□2(8)0
21Z-1A□2(8)0



20D-2A□2(8)1





20□ Series			Model Number			Model Number			Model Number			Model Number			Model Number			
			20D-1A□□2□1			20D-2A□□2□1			20D-1C□□2□0			20W-1A□□2□0			20Z-1A□□2□0			
Parameters		Test Condition	Units	1 Form A			2 Form A			1 Form C			1 Form A			1 Form A		
Coil Specifications																		
Nominal coil voltage			VDC	5	12	24	5	12	24	5	12	24	5	12	24	5	12	
Coil resistance		±10% at20°C	Ω	160	600	1800	150	600	2000	120	600	1800	70	330	1200	50	300	
Operating voltage		15°C~35°C	VDC Max	3.6	9.6	19.2	3.6	9.6	19.2	3.6	9.6	19.2	3.6	9.6	19.2	3.6	9.6	
Release voltage		15°C~35°C	VDC Min	0.7	1.2	2.4	0.7	1.2	2.4	0.7	1.2	2.4	0.7	1.2	2.4	0.7	1.2	
Contact Ratings																		
Switching voltage		Peak AC resistance	Volts	100			100			30			500			500		
Switching current		Max. DC/Peak AC resistance	Amps	0.5			0.5			0.2			1.0			0.5		
Carry current		Max. DC/Peak AC resistance	Amps	1.0			1.0			0.5			2.0			2.0		
Contact rating		Max. DC/Peak AC resistance	Watts	10			10			3			50			50		
Life expectancy		1V, 10mA	×10 ⁶ cycles	1000			1000			50			1000			300		
Contact resistance		Maximum initial	mΩ	150			150			150			100			100		
Contact resistance stability		Maximum initial	mΩ	5.0			5.0			5.0			5.0			5.0		
Relay Specifications																		
Insulation resistance		Between all isolated pins at 100V 20°C 40%RH	Ω	10 ¹¹			10 ¹¹			10 ¹⁰			10 ¹⁰			10 ¹⁰		
Capacitance			pF-Max															
Across open contacts		Shield guarding		0.2			0.1			0.7			0.1			0.1		
Contact to Shield		Contacts open, :Make-shield :Break-shield		1.2			1.3			1.7			2.0			2.0		
Open contact to coil		Shield floating																
		Shield guarding : Make-Coil :Break-Coil		0.6			0.5			0.6			0.6			0.6		
Dielectric strength		Between contacts	VDC	200			200			200			1000			1000		
		Contacts to shield		500			500			500			1000			1000		
Operating time (Including. bounce)		At nominal coil voltage, 100Hz Square wave	msec	0.35			0.5			1.5			2.5			1.2		
Release time		Diode suppression	msec	0.25			0.5			2.0			2.5			1.2		
Environmental Ratings			Schematics Top view															
Mesurement reference conditons																		
Temp. : 15°C~35°C Humidity : 25%~85%RH																		
Atmospheric pressure : 860~1060hPa																		
Storage temp. : -40°C~+80°C																		
: -30°C~+80°C (20W, 20Z)																		
Operating temp : -20°C~+60°C																		
: -10°C~+60°C (20W, 20Z)																		
The operating and Release Voltage and the coil resistance are specified at 20°C. These values change approximately 0.4%/°C change in the ambient temperature.																		
Vibration : 20Gs to 2000Hz																		
Shock : 50Gs																		

Notes :

- Values are specified with a resistive load being applied. A contact protective circuit is required for C and L Type loads.
- The values for the operating time and release time however, are when the rated coil voltage is applied and a clamp diode is attached.
- Model 20D-1A□□2D1 : Diode is connected to pin 15 (+) and pin 9 (-).
Model 20D-2A□□2D1 : Diode is connected to pin 3 (+) and pin 4 (-).
Model 20D-1C□□2D0 : Diode is connected to pin 2 (+) and pin 7 (-).
Model 20W-1A□□2D0, 20Z-1A□□2D0:Diode is connected to pin 16 (+) and pin 9 (-).
Correct coil polarity must be followed.
- The 20W Series model have Hg wet contacts, are position sensitive, and must be mounted with in 30° of the vertical plane. See the schematic.

ORDERING CODE

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(1) (2) (3) (4) (5) (6)

Example 20D-1A12N1 Represents Series 20D with 1Form A, Dry Reed (Rhodium), Coil Voltage 5V and Coaxial Shield.

(1) Reed Switch Type	(3) Contact Form	(5) Diode Options
D-Dry Reed	A-Form A	N-No Diode
W-Hg Wet	C-Form C	D-With Diode
Z-Hg Wet All Position		
(2) Number of capsule	(4) Coil Voltage	(6) Insulation Resistance
1-1 capsule	1-5VDC	0-10 ¹⁰
2-2 capsules	2-12VDC	1-10 ¹¹
	3-24VDC (20Z N/A)	