

Product Specification SheetModel: MS2909MS2900Chassis-Mount Pulse Shaper (Pulse Isolator) with Isolated Dual Output

## DESCRIPTION

The MS2909 is a pulse shaper (pulse isolator) that converts pulse train signals into mutually isolated dual channel pulse train signals.

- $\nabla$  A multi-slot chassis provides ease of maintenance and high-density mounting.
- $\nabla$  Input, output 1, output 2, and power circuits are all isolated from each other.
- $\bigtriangledown$  Equipped with a fuse on the DC power line as standard.

## **ORDERING INFORMATION**

Ordering Code

MS2909-	100-	800-	
	[1]	[2]	[3]

## **SPECIFICATIONS**

POWER SECTION		
Power	24V DC±10%	
Requirement		
Power	Better than $\pm 0.1\%$ of span per 10%	
Sensitivity	change in supply voltage	
Power Line Fuse	300mA fuse	
Current	50mA max.	
Consumption	(w/ transmitter power supply: 80mA max.)	

INPUT SECTION	48 65 (mm)		
Input	Dry contact or open collector ······ OP		
(Specify a code in the field [1].)	(Pull-up: Approx. 12V, $3.3k\Omega$ )		
the heid [1].)	■ AC voltage pulse (0.1 to 100Vp-p) AP (□□□)		
	(Threshold voltage: Approx. 0.06Vp-p)		
	Specify the peak-to-peak value of		
	input voltage in parentheses. ■ DC voltage pulse ·····		
	$\cdots DP (\Box - \Box / \Box)$		
	$\Box A \Box B$		
	(Standard threshold voltage: Approx. 2.5V)		
	<ul> <li>Specify an input voltage range at A.</li> <li>If you require a non-standard threshold voltage, specify the value at B.</li> <li>4–20mA DC pulse ······IP (Threshold current: Approx. 8mA)</li> </ul>		
Maximum Input	50kHz		
Frequency			
Input Resistance	Voltage input: $1M\Omega$ min. with power		
	(Standard, 5V input) $10k\Omega$ min. without power		
	Current input: $250\Omega$ (Standard for 4 to		
	20mA)		
Allowable Input Voltage	DC voltage input: 30V DC max., continuous.		
voltage	DC current input: 40mA DC max.,		
	continuous.		
	AC voltage input: 200Vp-p AC max.,		
	continuous (up to $\pm 100V$ with reference to 0V)		
Input Pulse Width	20µs min.		
Transmitter	Output voltage:		
Power Supply (Optional)	■ 24V DC (±10%), 2-wire type (specify shunt resistor value) ····· 2E1		
(Specify a code in	$\blacksquare 12V DC (\pm 10\%), 2-wire type$		
the field [3].)	(specify shunt resistor value) ····· 2E4		
	■ 24V DC (±10%), 3-wire type ····· 3E1		
	■ 12V DC (±10%), 3-wire type ····· 3E4 Maximum current: 30mA		
	Maximum current. JUIIA		

### OUTPUT SECTION

Output	Output 1 / Output 2 ·····Code	
(Specify a code in	■ TTL level / TTL level ······ TT	
the field [2].)	(Maximum output: 5mA, 3.5V)	
	■ Open collector / open collector ···· OP	
	(Maximum rating: 30V, 50mA)	
	Note: Combinations of two outputs are	
	only available as shown above.	
	■ Other voltage pulses VP	
	Specify between 5 and 12V.	

#### PERFORMANCE

Isolation	Isolation between input, output 1, output
	2, and power.
Insulation	$100M\Omega$ min. (@ 500V DC) between
Resistance	input, output 1, output 2, and power.
Dielectric	Input / [Output 1, Output 2, Power]:
Strength	1500V AC for 1 minute (Cutoff current:
	0.5mA)
	Output 1 / Output 2 / Power: 500V AC for
	1 minute (Cutoff current: 0.5mA)
Surge Withstand	Tested as per ANSI/IEEE C37.90.1-1989.
Capability	
Operating	Ambient temperature: 0 to 55°C
Environment	Humidity: 5 to 90% RH (non-condensing)
Storage	-10 to 60°C
Temperature	

PHYSICAL	
Installation	Mounted in an optional chassis (RC2900).
Wiring	Wired to an optional chassis (RC2900).
External	$W17.5 \times H48 \times D65 mm$
Dimensions	
Weight	Approx. 70g

## MATERIAL

Housing	ABS resin (UL 94V-0)
PC Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)
Potting Agent	Polyurethane

# **BLOCK DIAGRAM AND CONNECTION DIAGRAM**

