M Series Reed Relays

High Density Surface Mount

The M Series reed relay 1 Form A with excellent shielding and 4 GHz RF performance. This series relay was developed to significantly reduces the mounting area by approximately 50% while maintaining a maximum contact capacity of 10W. These high-density surface mount relays come in various packaging styles, including Gull-Wing and J-Lead.

– RF Performance up to 4 GHz
– Impedance 50Ω
– Axial leads on demand
– 1500 V upon request

Replace x with: **G for Gull-Wing, J for J-Lead**		**Mx-E103H** **Mx-E103-63**	**Mx-E105H** **Mx-E105-63**	**Mx-E112H** **Mx-E112-63**	**Standard = 4 GHz** **-63 = 6 GHz**
Parameters	Units	1 Form A			Test Conditions
Coil Specifications					
Nominal Coil Voltage	VDC	3.3	5.0	12.0	
Coil Resistance	Ω	70	110	550	±10% @ 20˚C
Operate Voltage	VDC Max	2.8	3.75	8.8	@20˚C
Release Voltage	VDC Min	0.5	0.7	1.2	@20˚C
Contact Ratings					
Switching Voltage	Volts	100			Max DC/Peak AC resistance
Switching Current	Amps	0.5			Max DC/Peak AC resistance
Carry Current	Amps	1.0			Max DC/Peak AC resistance(@30˚C)
Contact Rating	Watts	10			Max DC/Peak AC resistance
Life Expectancy	$x10^6$ Cycle	300			@ 1V 10mA
Contact Resistance	mΩ	150			Max initial @ operate voltage
Contact Resistance Stability	mΩ	5.0			Max initial @ operate voltage
Relay Specifications					
Insulation Resistance	Ω Min	10^{11}			Between all isolated pins @ 100V 20˚C 65%RH
Dielectric Strength (Static)	VDC Min	200			Between contacts
	VDC Min	250			Contacts to shield
	VDC Min	250			Contacts/shield to coil
Operate Time (Including Bounce)	msec Max	0.5			@ nominal coil voltage 100 Hz square wave
Release Time	msec Max	0.5			Diode suppression

Measurement Reference Conditions	**Environmental Ratings**
Temp: 15˚C to 35˚C Humidity: 25% to 75%RH Atmospheric Pressure: 860 to 1060hpa	Storage temp: -40˚C to +85˚C Operate temp: -20˚C to +60˚C Vibration: 20G's to 2000Hz Shock: 50G's Processing temp: 260˚C max for 60sec. dwell time

RoHS

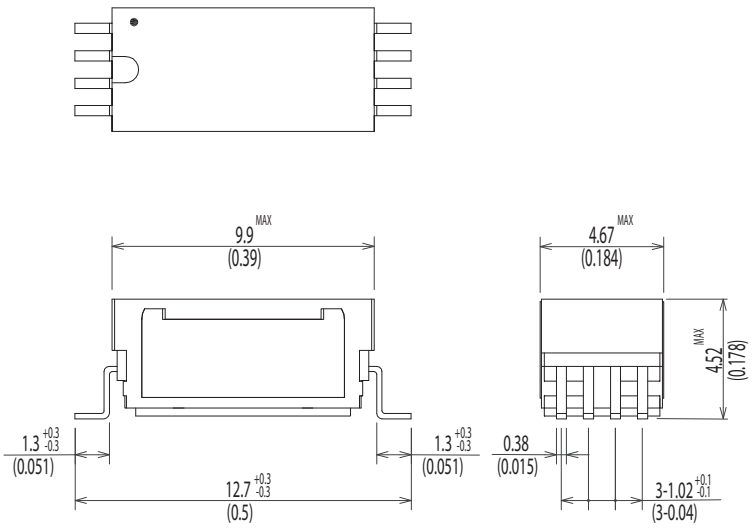
Version 01 21 Oct 2024
D. Stastny

M Series Reed Relays

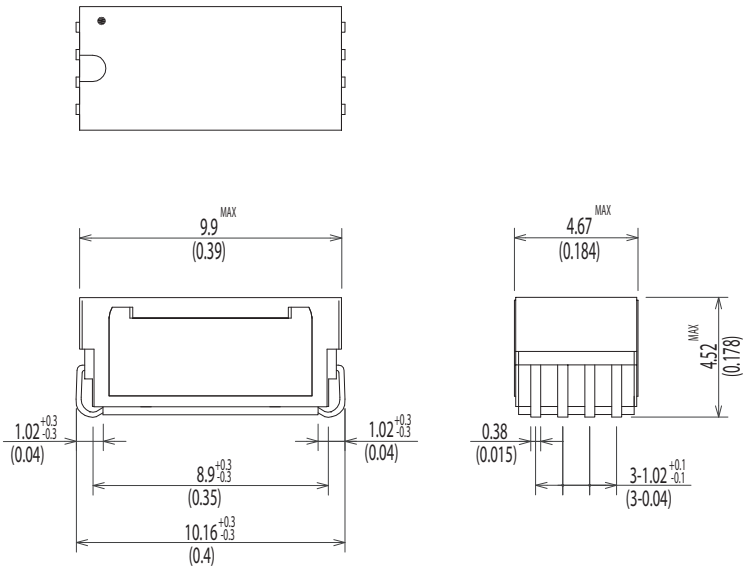
Dimensions

All Dimensions are mm (inch)

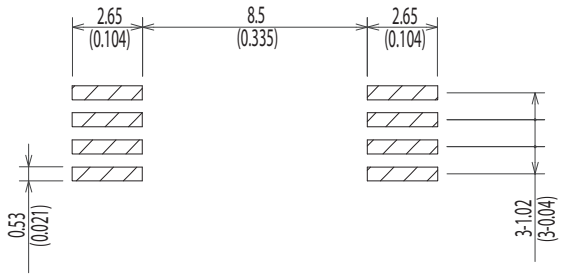
MG-E1xxH

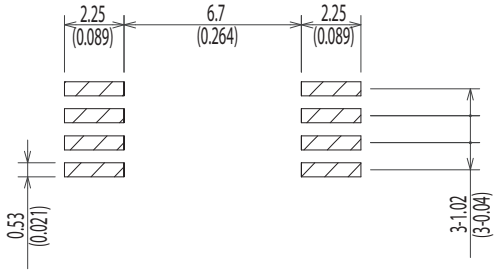


MJ-E1xxH



Land Pattern Recommendation

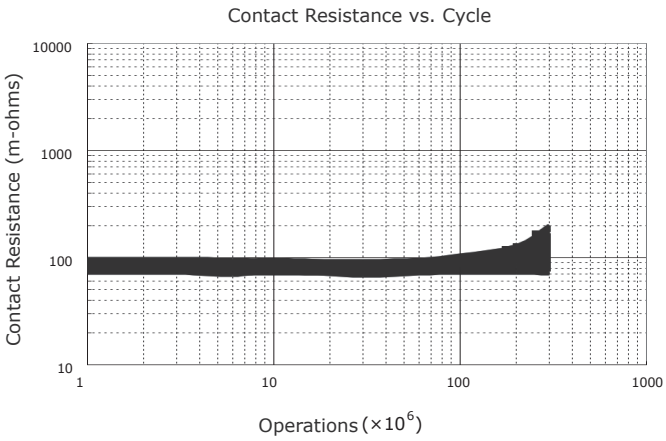


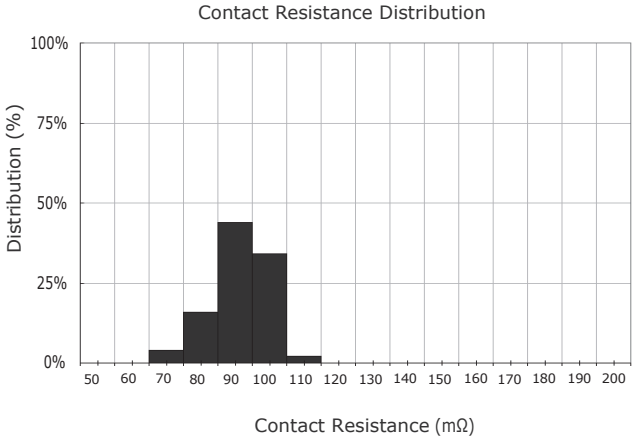


Version 01 21 Oct 2024
D. Stastny

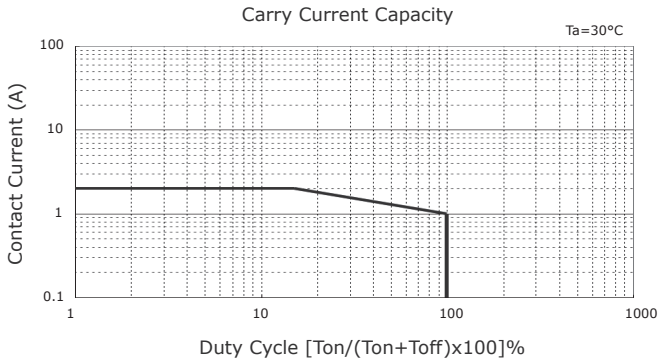
M Series Reed Relays

Contact Resistance

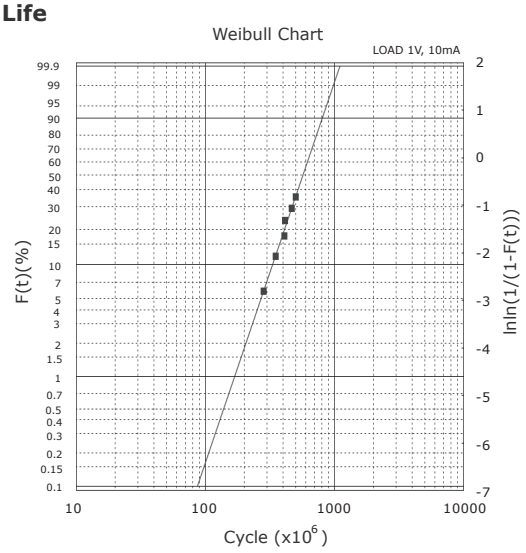




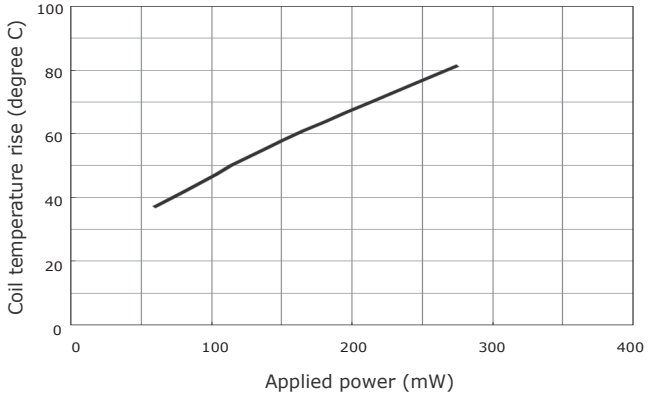
Carry Current

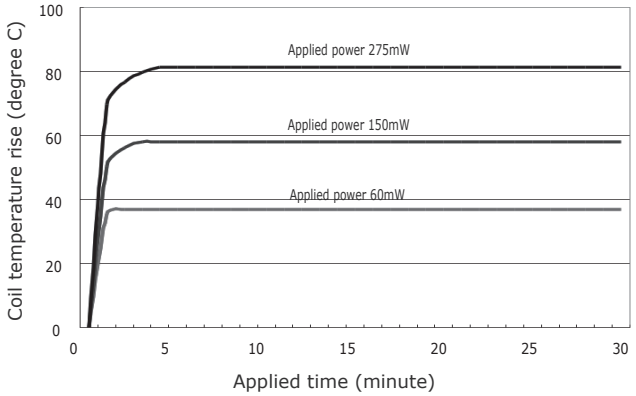


Life



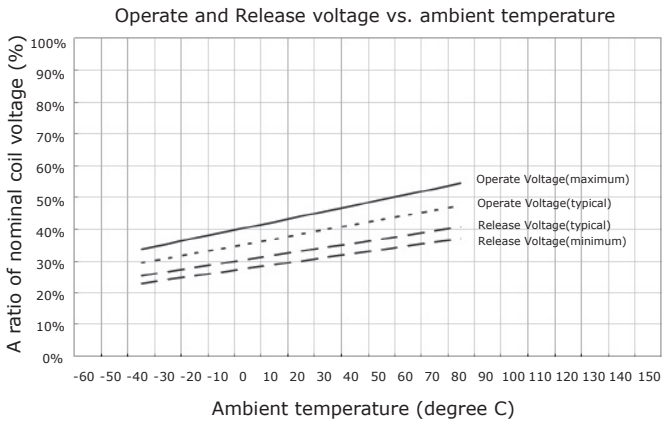
Coil Temperature Rise

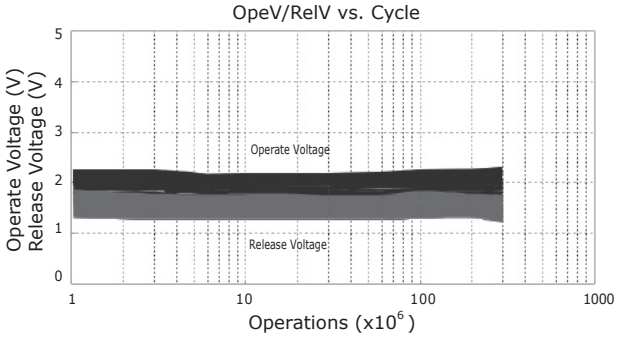


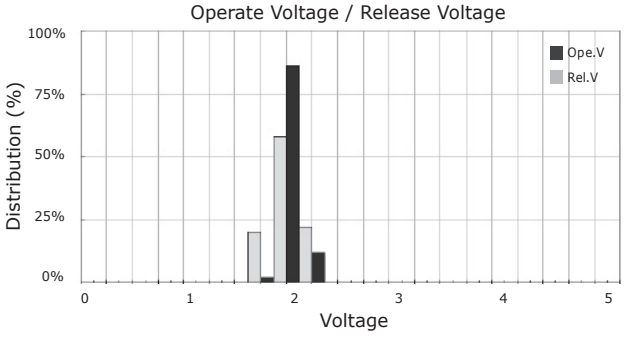


Version 01 21 Oct 2024
D. Stastny

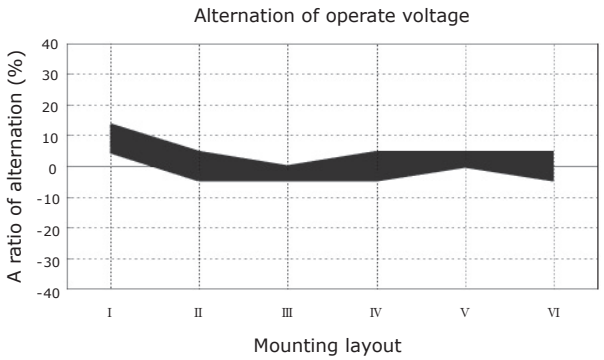
M Series Reed Relays

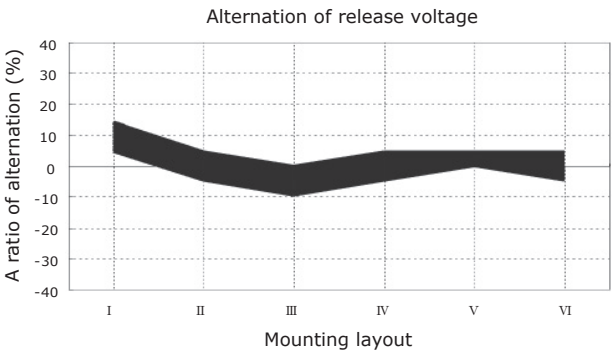


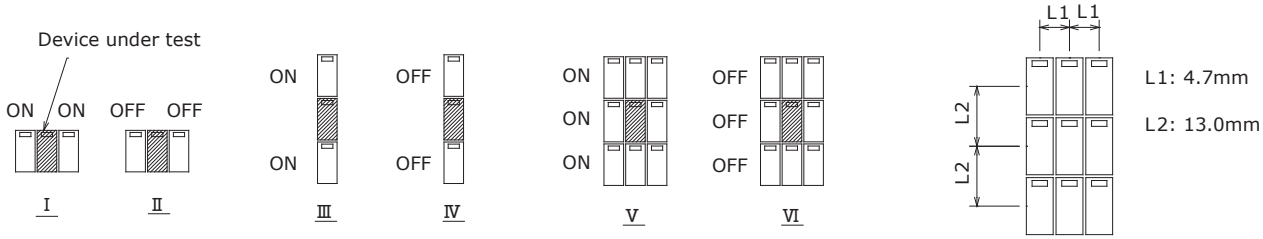




Magnetic Interference





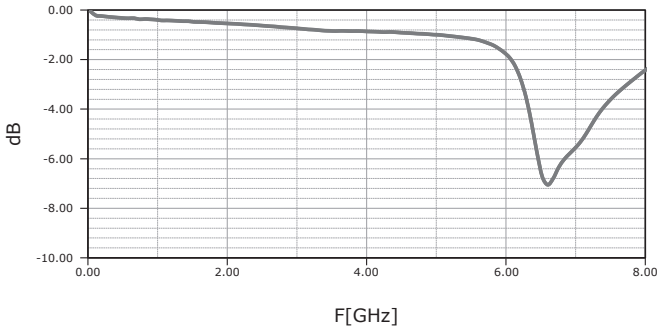


Version 01 21 Oct 2024
D. Stastny

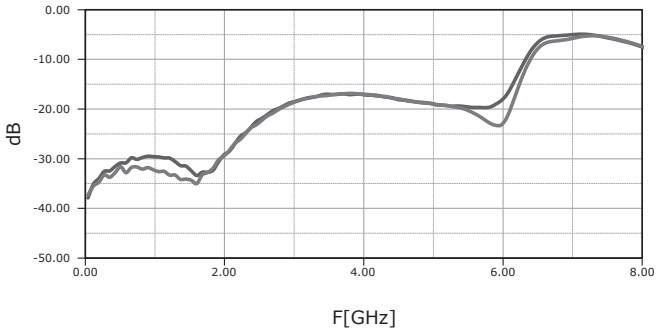
M Series Reed Relays

MG-E1xxH-63 (6 GHz)

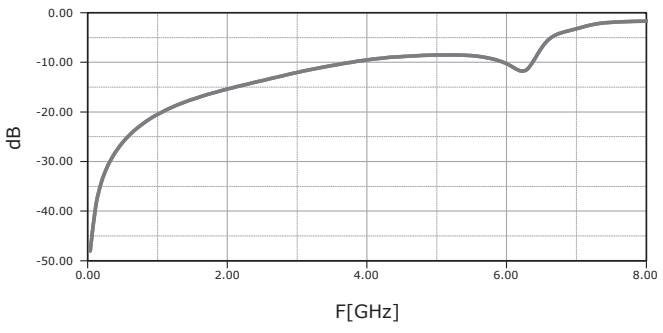
Insertion Loss



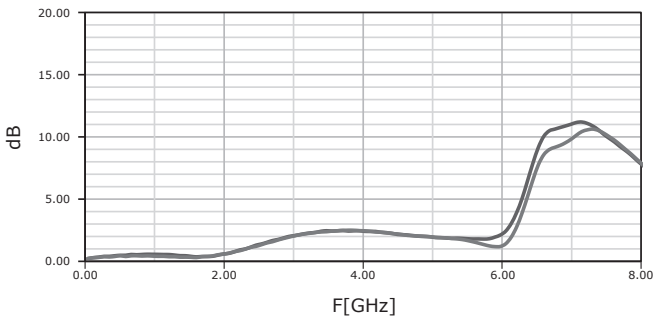
Return Loss



Isolation

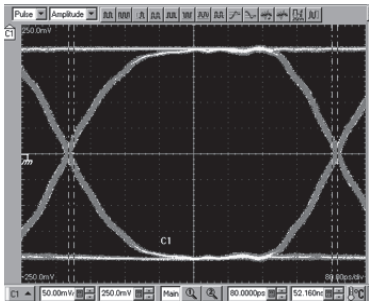


V.S.W.R.

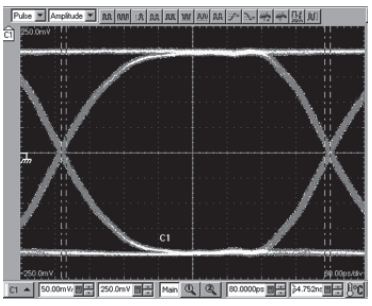


Eye Diagram

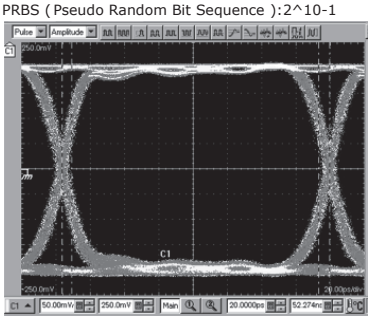
Thru_Fixture
Rise Time: ≒250ps , Bit Rate: 1.6Gb/s
PRBS (Pseudo Random Bit Sequence):2^10-1



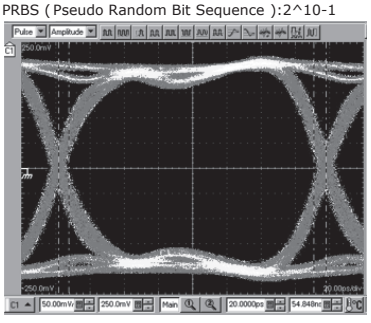
MG-E105 with Fixture
Rise Time: ≒250ps , Bit Rate: 1.6Gb/s
PRBS (Pseudo Random Bit Sequence):2^10-1



Thru_Fixture
Rise Time: ≒ 30ps , Bit Rate: 6.4Gb/s
PRBS (Pseudo Random Bit Sequence):2^10-1

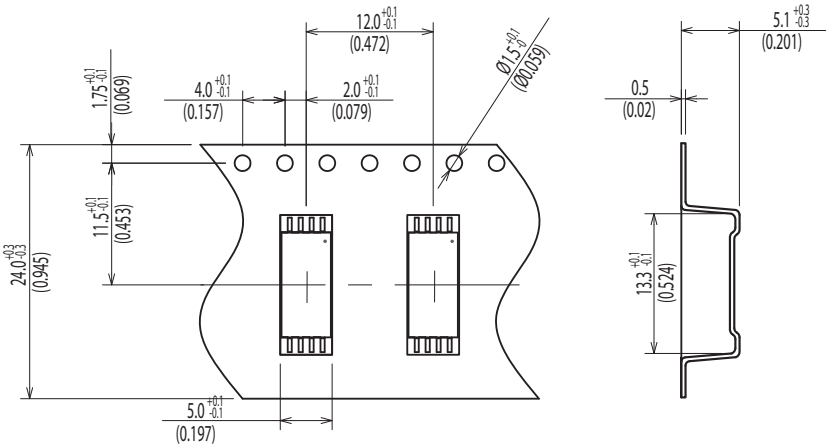


MG-E105 with Fixture
Rise Time: ≒ 30ps , Bit Rate: 6.4Gb/s
PRBS (Pseudo Random Bit Sequence):2^10-1

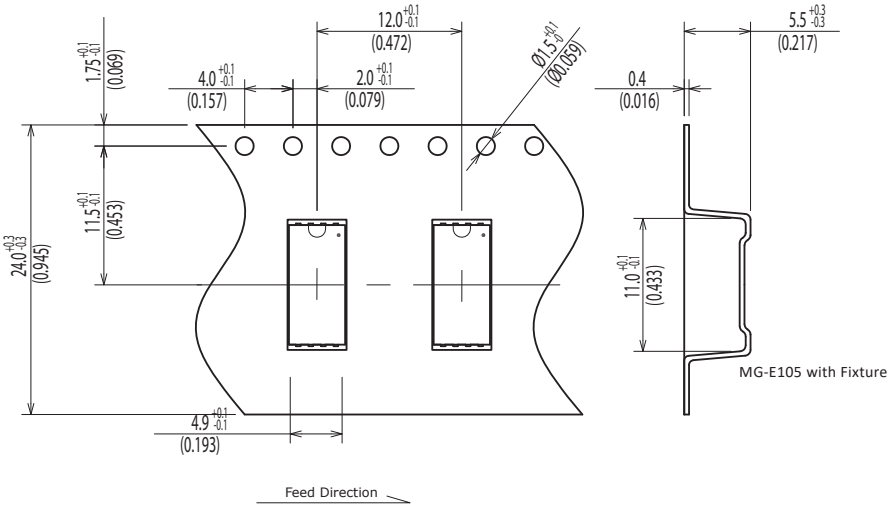


Version 01 21 Oct 2024
D. Stastny

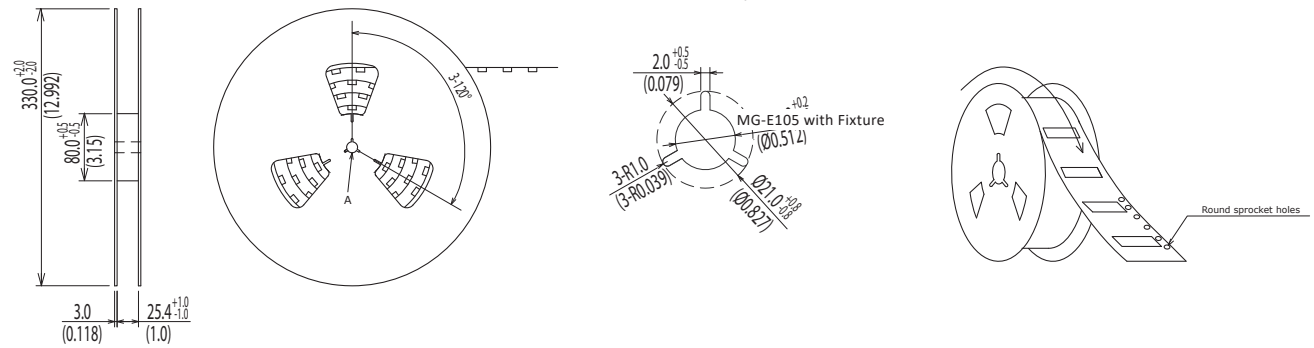
M Series Reed Relays



MG-E1xxH-xx



MJ-E1xxH-xx



Version 01 21 Oct 2024
D. Stastny