



Elektrotechnik Karl-Heinz Mauz GmbH

VM-1105A3-SMD (Artikel-Nr. 860270)

EKULIT

1. Environmental Requirements

- | | | |
|-----|------------------------------|---------------|
| 1-1 | Operating temperature ranges | -30°C ~ +70°C |
| 1-2 | Storage temperature ranges | -40°C ~ +85°C |

2. Mechanical Requirements

A detailed mechanical drawing for the motor shall be provided with dimensions and tolerances.

- | | | |
|-----|---|-----------------------|
| 2-1 | Pull out strength of counterweight and shaft | 30 N Min |
| 2-2 | Shaft End Play | 0.3 mm Max |
| 2-3 | Counterweight Tungsten alloy of specific gravity | 17.0-g/cc Min |
| 2-4 | Mechanical noise of motor with operating volts applied
(Background noise 28dB maximum
Measured distance 10 cm, see Appendix 1.) | 50 dB Max A-weighting |

3. Electrical Requirements

Principle measurement 5°C~35°C; relative humidity 30%~90%.

For abnormalities, 20°C ± 2°C, 65% ± 5%. Measurements with test jig

- | | | |
|-----|------------------------------|---|
| 3-1 | Operating voltage | 3.0 V DC |
| 3-2 | Operating voltage range | 2.6V ~ 3.6 V |
| 3-3 | Load current | 85 mA Max. |
| 3-4 | Starting current | 100 mA Max. |
| 3-5 | Starting load voltage (Min.) | 2.6 V (Slowly rotate the counterweight to allow it to "walk" around 360°) |
| 3-6 | Insulation resistance | Measured between terminal and frame with 50 volts DC, 1MΩ minimum. |
| 3-7 | Terminal resistance | 34.0±3.0Ω (2/3 between poles) |
| 3-8 | Load speed | 10500±2500 rpm |

4. Environmental requirements and testing.

- | | | |
|-----|----------------|--|
| 4-1 | Vibration Test | Under packed condition and a vibration range of 1.5mm cycle, subjecting to continuous change of speed of 2mins & above, 3mins and below.
Should meet item 3 even in an additional of 30mins when each min is a vibration of 1200 to 3300 times. |
| 4-2 | Drop Test | Inserting motor into a dummy (100g) and Drop 6 sides, 2m from a concrete & metal surfaces thus can meet item 3. |

Adresse: **Felix-Wankel-Str. 35 • 73760 Ostfildern/Nellingen**

Tel: **+49-711/3414023**

Fax: **+49-711/3414024**

E-mail: **info@ekulit.de** Web site: **www.EKULIT.de**



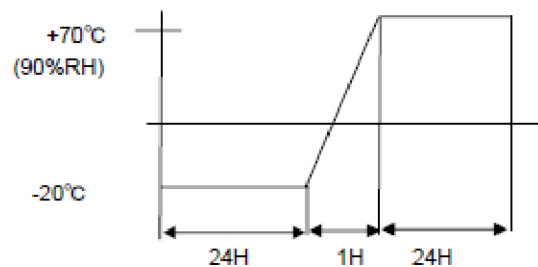
Elektrotechnik Karl-Heinz Mauz GmbH

VM-1105A3-SMD (Artikel-Nr. 860270)

EKULIT

4-3 Storage Test

Temperature cycle (without presence of water droplets on the motor)



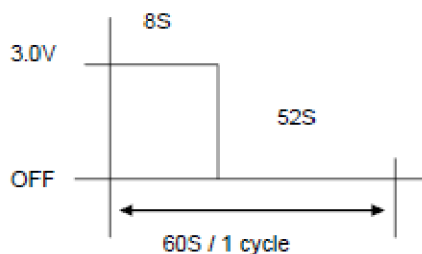
After exposure for 24hours and the performance can meet item 3.

4-4 Counterweight High Temperature Test

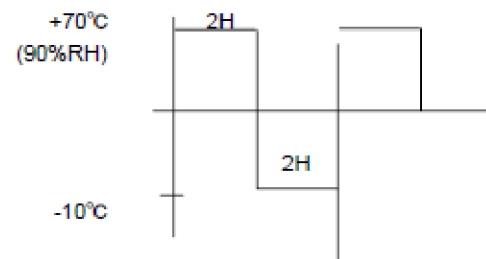
No obvious erodibility at 60°C 90%RH in 250hours.

4-5 Life Test

(A) Cycle



(B) Temperature Tolerance



(C) High temperature exposure 60°C, 20%RH

(D) Standard verification

(1) Against initial rate when standard Voltage is more than +30% / -20%.

(2) Against initial rate when standard current rate is more than +30% / -20%.

5. Marking of the parts

Following markings must be placed in parts whenever possible in order listed:

1. Version marking
2. Manufacturing date code
3. Part number.

Marking of the part number must be agreed separately and it must be defined in supplier specification or in supplier drawing.

Adresse: Felix-Wankel-Str. 35 • 73760 Ostfildern/Nellingen

Tel: +49-711/3414023

Fax: +49-711/3414024

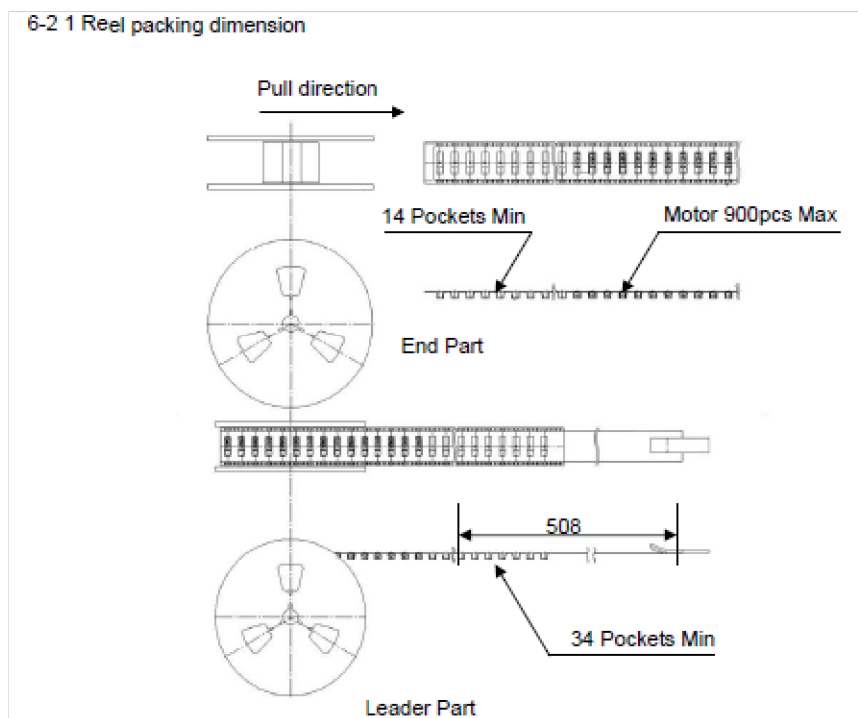
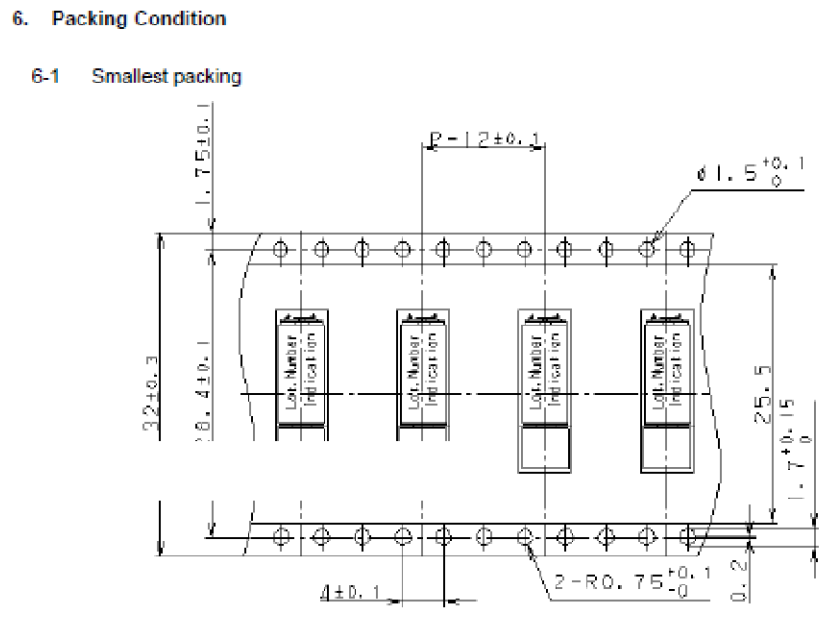
E-mail: info@ekulit.de Web site: www.EKULIT.de



Elektrotechnik Karl-Heinz Mauz GmbH

VM-1105A3-SMD (Artikel-Nr. 860270)

EKULIT



Adresse: Felix-Wankel-Str. 35 • 73760 Ostfildern/Nellingen

Tel: +49-711/3414023

Fax: +49-711/3414024

E-mail: info@ekulit.de Web site: www.EKULIT.de

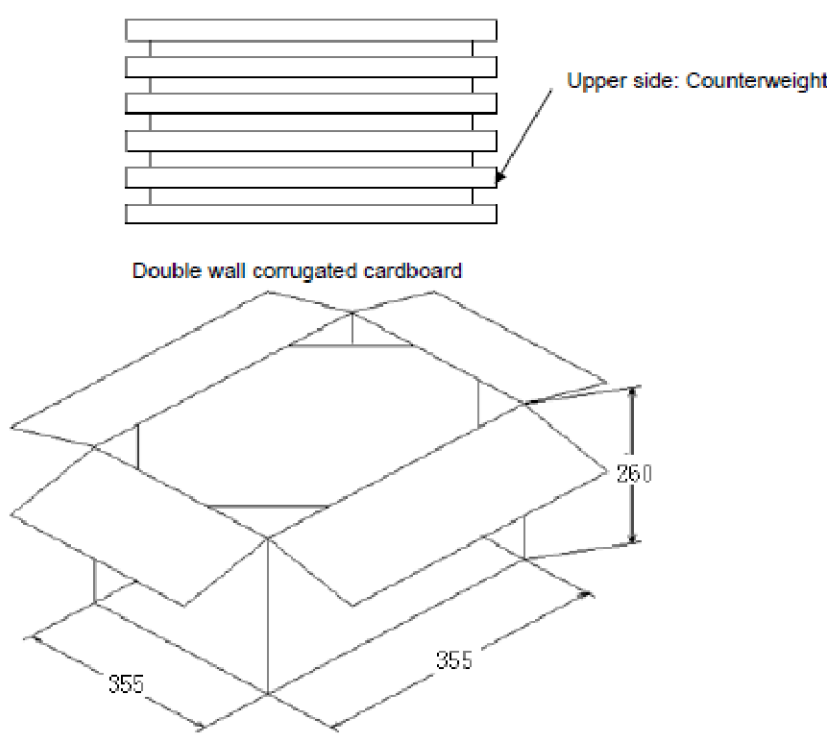
Elektrotechnik Karl-Heinz Mauz GmbH

VM-1105A3-SMD (Artikel-Nr. 860270)

EKULIT

6-3 Final packing.

900pcs/reel X 6reel=5,400pcs



Upper side: Counterweight

Double wall corrugated cardboard

355 355 250

7. **Warranty**
30 month from the date of receipt
(Motor has to be rotated at least once within 12 month from the date of receipt)

8. **Handling**

8-1 Low molecule silicon compound, which is included in silicon products, may cause electrical failure. Verify sufficiently when you use silicon products.

8-2 Verify sufficiently that adhesives or seals do not outgas corrosive gases that harm the motor. Cyano adhesive or sulfur gases will cause the motor failure. Also, if an adhesive is used to install

VM-1105A3-SMD (Artikel-Nr. 860270)

EKULIT

the motor, ensure the adhesive does not flow into motor (especially bearing part.)

- 8-3 Ambient temperature and humidity during motor operation affect performance and product life. Do not store motor in locations subject to high temperatures and high humidity or in corrosive gas environment. Below are recommended storage conditions. Temperature: 5°C ~ +35°C, humidity: 30% ~ 90%.

9. Critical characteristics

Need CPK control in production

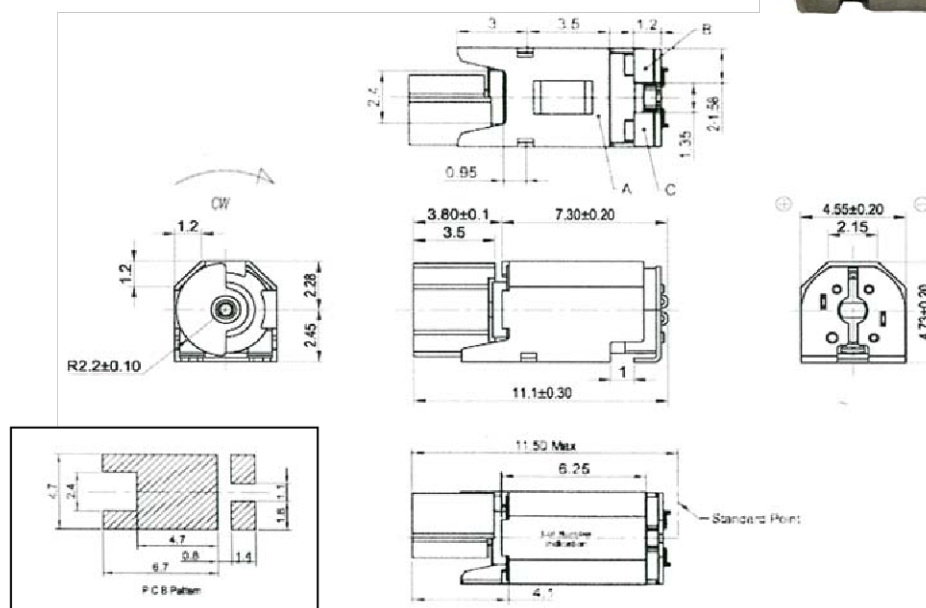
- 9-1 Dimensions with numbering in drawing appendix 2
- 9-2 Current rating at specified rotating speed
- 9-3 Operating speed at rated voltage
- 9-4 Starting current at rated voltage
- 9-5 Min. starting voltage

10. Others

- 10-1 Whatever item not stated in this specification will not be guaranteed.
- 10-2 Do not locking the motor with current applied for long time, which may cause the motor to overheat and short circuit.
- 10-3 Do not exert pressure by pushing the current terminals towards the direction of the internal motor.
- 10-4 Out-going inspection data will be attached (n-35) for
 - Load speed
 - Load current
 - Starting current
 - Starting voltage



Drawing:



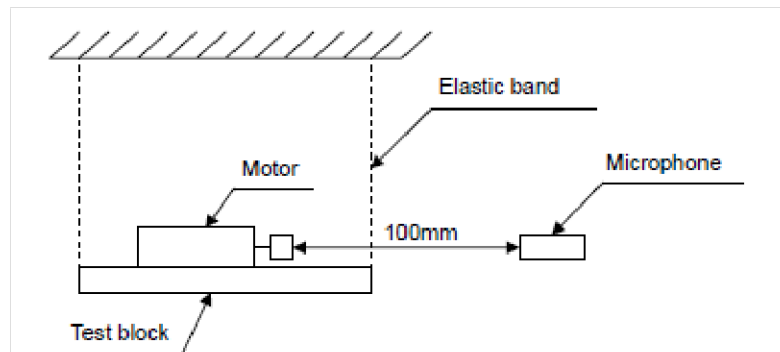


Figure 1.

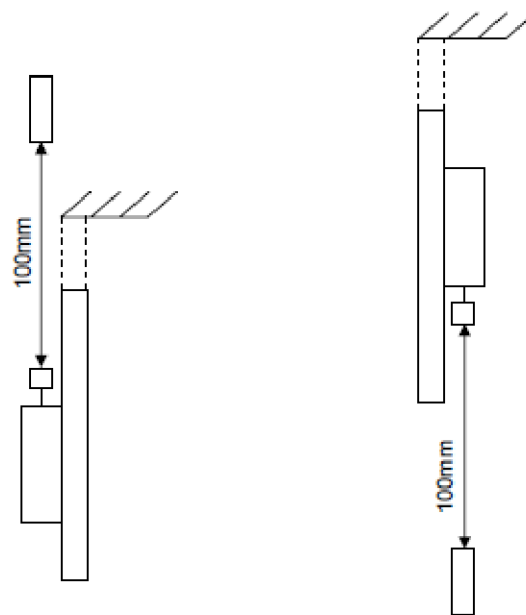


Figure 2.

Figure 3.