

Conductive Plastic Motion Transducer Elements (KIT), Up to 1000 mm



FEATURES

- Measurement range 25 mm to 1000 mm
- High accuracy $\pm 1\%$ down to $\pm 0.025\%$
- Good repeatability
- Simple and flexible mounting
- Essentially infinite resolution
- Made in two separate parts:
 - the sensing element
 - the wiper
- Special designs available on request
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

The LMF is a reduced bulk, precision motion transducer, designed for easy integration into equipment.

QUICK REFERENCE DATA

| | |
|------------------|---|
| Sensor type | LINEAR, conductive plastic |
| Output type | Solder pads |
| Market appliance | Industrial |
| Dimensions | L x 15 mm x 1.6 mm (with L = TET + 18 mm) |

ELECTRICAL SPECIFICATIONS

| | | |
|--|---|--|
| Theoretical electrical angle (TEA = E) | From 25 mm to 1000 mm in increments of 25 mm | |
| Independent linearity (over TET) | $\leq \pm 1\%$; $\leq \pm 0.1\%$ | |
| On request | $\leq \pm 0.05\%$ for $E \geq 100$ mm | $\leq \pm 0.025\%$ for $E \geq 200$ mm |
| Actual electrical travel (AET) | AET = TET + 2 mm | |
| Ohmic value | From 400 Ω /cm to 2 k Ω /cm | |
| Resistance tolerance at 20 °C | $\pm 20\%$ | |
| Repeatability | $\leq 0.01\%$ | |
| Maximum power rating | 0.05 W/cm at 40 °C | 0 W at 85 °C |
| Wiper current | Recommended: a few μ A - 1 mA max. (continuous) | |
| Load resistance | Minimum $10^3 \times R_T$ | |
| Insulation resistance | ≥ 1000 M Ω , 500 V _{DC} | |
| Dielectric strength | ≥ 750 V _{RMS} , 50 Hz | |

MECHANICAL SPECIFICATIONS

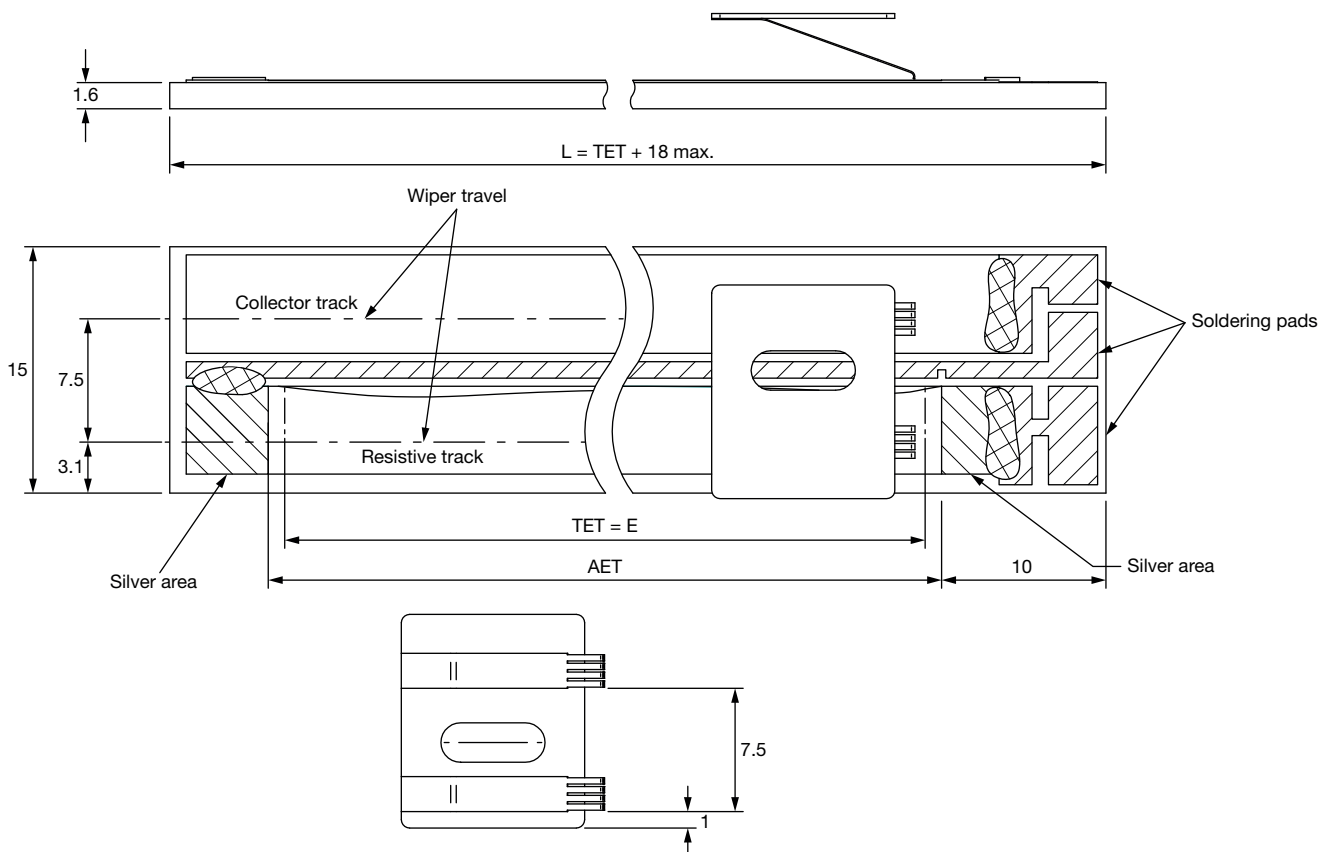
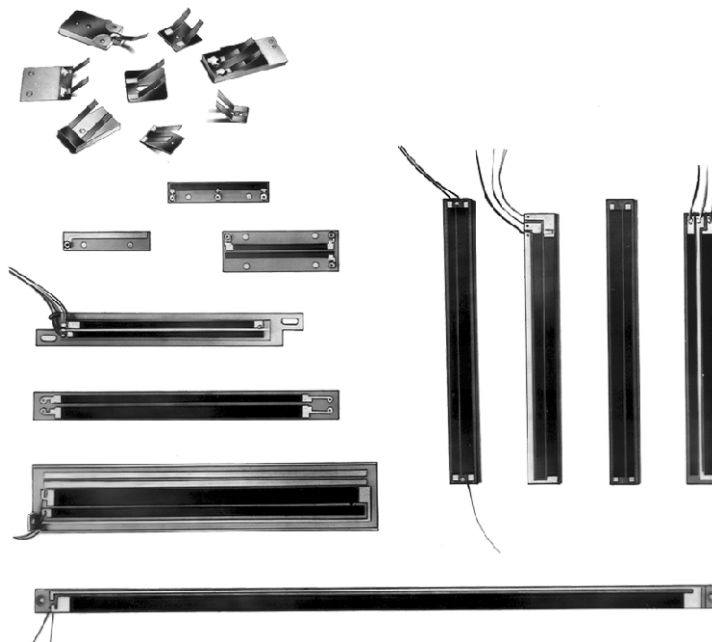
| | |
|-----------------------|-------------------------------|
| Support of element | Fiberglass epoxy |
| On request | Plastic molding |
| Wiper (non insulated) | Precious metal multifinger |
| On request | Insulated |
| Terminals | Soldering pads |
| On request | By wires |
| Fixing | Glued: double face Isotac |
| On request | Screwed: holes in the support |

PERFORMANCE

| | |
|-------------------|---|
| Operating life | 25 million cycles typical/1 Hz/T° = 20 °C \pm 5 °C/80 % TET |
| Temperature range | -55 °C to +125 °C |

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability

DIMENSIONS in millimeters, general tolerance ± 0.5 mm

EXAMPLES OF SPECIAL DESIGNS


**ORDERING INFORMATION / DESCRIPTION**

| KIT SERIES | LM MODEL | F CONDUCTOR | 3 THEORETICAL ELECTRICAL TRAVEL | D LINEARITY | 103 OHMIC VALUE | W2851 MODIFICATIONS | e. LEAD FINISH |
|---------------|-------------|-----------------------------|--|---|---|--|-------------------|
| | | F: plastic S: serigraphy | Times 25 mm | A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$ F: $\pm 0.025\%$ | First 2 digits are significant numbers 3rd digit indicates number of zeros | W2851 : up to 575 mm max. length Wxxxx : special feature code number for length > 575 mm | |

SAP PART NUMBERING GUIDELINES

| LMF | 3 | D | 103 | W2851 |
|-------|-----|-----------|-------------|------------------|
| MODEL | TET | LINEARITY | OHMIC VALUE | SPECIAL FEATURES |



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