MEAS DETECTOR ASSEMBLY
EPM-5000 SERIES

SMT optical sensor component

- Dual Drive
- Pulse Oximetry Component
- Clear Epoxy
- Reflow Solderable

Low oxygen level can put a strain on cell functioning including the heart and brain. This is critical in acute medical situations like post-op recovery. TE Connectivity’s (TE) Surface Mounted Technology (SMT) optical components provide leading accuracy in oxygen level detection.

With more than 27 years of proven reliability and expertise, TE has designed SMT sensors with best-in-class flexibility to accommodate multiple wavelength options.

Our ability to provide both components and complete sensor packages makes us a leading choice for pulse oximetry applications that require high degrees of precision, durability and performance.

The EPM-5000 detector assembly uses a silicon planar diffused photodiode specially designed for medical applications. It features high efficiency and fast response. The EPM-5001 detector assembly is spectrally matched to emitter assemblies ELM-5001, and ELM-5002.
Features
- Fast Response
- Matched to 660nm Emitter
- High Efficiency
- Clear Epoxy Lens
- Compact Package
- Active Area: 8.07mm²

Applications
- Pulse Oximetry
- SpO₂ Finger/Ear Reusable Probes
- SpO₂ Disposable Strip or Butterfly Probes

Dimensions (unit: mm)

Specifications and Ratings

<table>
<thead>
<tr>
<th>Parameter @ 25°C</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown Voltage</td>
<td>V_R</td>
<td>If=100μA</td>
<td>33</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>V_F</td>
<td>If=100μA</td>
<td>0.7</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Shunt Resistance</td>
<td>R_SH</td>
<td>@10V</td>
<td>100</td>
<td></td>
<td></td>
<td>Q</td>
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<tr>
<td>Max. Power Diss.</td>
<td></td>
<td></td>
<td>150</td>
<td></td>
<td></td>
<td>mW</td>
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<tr>
<td>Junction Cap.</td>
<td>C_J</td>
<td>V_R=0V</td>
<td>70</td>
<td></td>
<td></td>
<td>pF</td>
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<tr>
<td>Responsivity</td>
<td></td>
<td>680nm</td>
<td>0.42</td>
<td></td>
<td></td>
<td>A / W</td>
</tr>
<tr>
<td>Rise / Fall Time</td>
<td>T_R</td>
<td>V_R=0V, R_L=50Ω</td>
<td>350</td>
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<td>nsec</td>
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<tr>
<td>Dark Current</td>
<td></td>
<td>10V</td>
<td>30</td>
<td></td>
<td></td>
<td>nA</td>
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</table>
NOTES:

Operation Temperature: -20 to 80°C

Storage Temperature: -30 to 80°C

Moisture Protection: Components must be baked at 120°C for 72 hours before use and used up within 8 hours after baking

Reflow soldering temperature: Max. Temperature Range: 230 – 250°C.

Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Model</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>Detector Assembly; SMT Optic; 8.07 mm²</td>
<td>EPM-5001</td>
<td>10104019-20</td>
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</table>

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