BS520

■ Features
1. Spectral sensitivity characteristics akin to that of human eye
2. Compact flat package
3. Low dark current (Id : MAX. $10^{-11}$ A at $V_R=1V$)
4. Infrared light cut-off type

■ Applications
1. AE (automatic exposure) system and ES (electronic shutter) system for cameras
2. Stroboscopes
3. Precise optical instruments

■ Absolute Maximum Ratings (Ta= 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse voltage</td>
<td>$V_R$</td>
<td>10</td>
<td>V</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>$T_{opr}$</td>
<td>-20 to + 60</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>$T_{stg}$</td>
<td>-30 to + 80</td>
<td>°C</td>
</tr>
<tr>
<td>°1 Soldering temperature</td>
<td>$T_{sol}$</td>
<td>260</td>
<td>°C</td>
</tr>
</tbody>
</table>

*1 For 5 seconds

■ Electro-optical Characteristics (Ta= 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>*2 Short circuit current</td>
<td>$I_{SC}$</td>
<td>$E_V = 100lx$</td>
<td>0.40</td>
<td>0.55</td>
<td>0.65</td>
<td>µA</td>
</tr>
<tr>
<td>°2 Short circuit current temperature coefficient</td>
<td>$\beta_T$</td>
<td>$E_V = 100lx$</td>
<td>-</td>
<td>0.02</td>
<td>0.06</td>
<td>% / °C</td>
</tr>
<tr>
<td>Dark current</td>
<td>$I_d$</td>
<td>$V_R= 1V$</td>
<td>-</td>
<td>$3 \times 10^{-12}$</td>
<td>$10^{-11}$</td>
<td>A</td>
</tr>
<tr>
<td>Dark current temperature coefficient</td>
<td>$\alpha_T$</td>
<td>$V_R= 1V$</td>
<td>-</td>
<td>4.0</td>
<td>5.0</td>
<td>times/ 10°C</td>
</tr>
<tr>
<td>Terminal capacitance</td>
<td>$C_t$</td>
<td>$V_k= 0, f= 100kHz$</td>
<td>-</td>
<td>600</td>
<td>1000</td>
<td>pF</td>
</tr>
<tr>
<td>Peak sensitivity wavelength</td>
<td>$\lambda_p$</td>
<td>-</td>
<td>500</td>
<td>560</td>
<td>600</td>
<td>nm</td>
</tr>
<tr>
<td>°3 Spectral sensitivity infrared radiation ratio</td>
<td>$\Delta I_R$</td>
<td>-</td>
<td>5</td>
<td>10</td>
<td>-</td>
<td>%</td>
</tr>
</tbody>
</table>

*2 $E_V$: Illuminance by CIE standard light source at tungsten lamp
*3 $\Delta I_R = \frac{I_{SC} (\mu >700nm)}{I_{SC}(entire wavelength)} \times 100\%$

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   - Test and measurement equipment
   - Industrial control
   - Audio visual equipment
   - Consumer electronics

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   - Traffic signals
   - Gas leakage sensor breakers
   - Alarm equipment
   - Various safety devices, etc.

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