RF Schottky Diodes for
High Frequency Detector,
Mixer or Power Leveling

General description
- Excellent RF Schottky Diodes available as single, double, triple and quad
- Various diode configurations (e.g. common anode, common cathode)
- All products have additional guard-ring diode integrated on chip for overvoltage protection
- RoHS compliant package portfolio including industry standard sizes
  (e.g. SOT3x3) and super thin-small-leadless-packages
  (e.g. world smallest diode package TSSLP2, 0.6*0.3*0.3mm³)
- Automotive (AECQ101) qualified

Target applications
Detector, mixer and power level for:
Wireless LAN detector, cellular phone, 24GHz radar system, video detector, ...

RF Mixer Diodes Performance Table & Product Highlights:
BAT24-02LS: Premium parasitic inductance combined with small capacitance values, best fit for high frequency up to 24GHz
BAT15x: Best-in-class RF mixer/detector diodes in various packages and configurations

<table>
<thead>
<tr>
<th>Family</th>
<th>$V_{R\max}$ [V]</th>
<th>$I_{F\max}$ [mA]</th>
<th>$C_T$ at 0V [pF]</th>
<th>$V_F$ [V] at 1mA</th>
<th>Package</th>
<th>Configuration¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAT15</td>
<td>4</td>
<td>110</td>
<td>0.26</td>
<td>230</td>
<td>TSLP2/SOD323/SOT323/TSLP4/SOT143</td>
<td>S/D/Q</td>
</tr>
<tr>
<td>BAT17</td>
<td>4</td>
<td>130</td>
<td>0.55</td>
<td>340</td>
<td>SOT23/SOT323/SOT143</td>
<td>S/D</td>
</tr>
<tr>
<td>BAT24</td>
<td>4</td>
<td>110</td>
<td>0.21</td>
<td>230</td>
<td>TSSLP2</td>
<td>S</td>
</tr>
</tbody>
</table>

RF Signal Detection and Power Leveling Diodes Performance Table & Product Highlights:
BAT62-02LS: Super tiny RF Schottky detector diode in leadless package (0.6*0.3*0.3mm³ only)
BAT63-02V: very low forward voltage combined with tiny package (1.6*0.8*0.55mm³ only)

<table>
<thead>
<tr>
<th>Family</th>
<th>$V_{R\max}$ [V]</th>
<th>$I_{F\max}$ [mA]</th>
<th>$C_T$ at 0V [pF]</th>
<th>$V_F$ [V]</th>
<th>$R_S$ [kΩ] @ V=0V</th>
<th>Package</th>
<th>Configuration¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAT62</td>
<td>40</td>
<td>20</td>
<td>0.35</td>
<td>580</td>
<td>2</td>
<td>SOT143/SOD323/SOT343/TSLP2/TSSLP2/SCD80/TSLP4</td>
<td>S/D</td>
</tr>
<tr>
<td>BAT63</td>
<td>3</td>
<td>100</td>
<td>0.65</td>
<td>190</td>
<td>1</td>
<td>SC79/SOT343</td>
<td>S/D</td>
</tr>
<tr>
<td>BAT68</td>
<td>8</td>
<td>130</td>
<td>0.75</td>
<td>318</td>
<td>1</td>
<td>SOT23/SOT323/SOT343/SOT363</td>
<td>S/D</td>
</tr>
</tbody>
</table>

¹) Configuration: S=Single, D=Dual, T=Triple, Q=Quad

Small Signal Discretes

www.infineon.com/schottkydiodes
Application Examples

**RF Schottky Diode**

**BAT24-02LS for 24GHz Radar Mixer Cell**

- LNA
- Balun
- BB/IF
- Balun
- Buffer Amplifier
- VCO

**Virtual battery using**

**BAT15, BAT24 or BAT63 family**

- RF Schottky Diode
- BAT24-02LS, BAT15 or BAT63 family

**High Frequency RF Detection using**

**BAT62 or BAT63 family**

- RF Schottky Diode
- BAT62 or BAT63 family

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