3SK264

N-Channnel Dual Gate MOSFET
15V,30mA,PG=23dB,NF=1.1dB, CP4

Features

- Enhancement type
- Easy AGC (Cut off at VG2S=0V)
- Small noise figure
- Excels in cross modulation characteristics

Specifications

Absolute Maximum Ratings at Ta=25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain-to-Source Voltage</td>
<td>VDS</td>
<td></td>
<td>15</td>
<td>V</td>
</tr>
<tr>
<td>Gate1-to-Source Voltage</td>
<td>VG1S</td>
<td>±8</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Gate2-to-Source Voltage</td>
<td>VG2S</td>
<td>±8</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Drain Current</td>
<td>ID</td>
<td></td>
<td>30</td>
<td>mA</td>
</tr>
<tr>
<td>Allowable Power Dissipation</td>
<td>PD</td>
<td></td>
<td>200</td>
<td>mW</td>
</tr>
<tr>
<td>Channel Temperature</td>
<td>Tch</td>
<td></td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td></td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Package Dimensions

unit : mm (typ)
7014A-006

3SK264-5-TG-E

1 : Drain
2 : Source
3 : Gate1
4 : Gate2

Product & Package Information

- Package : CP4
- JEITA, JEDEC : SC-61, SC-82AB, SOT-143, SOT-343
- Minimum Packing Quantity : 3,000 pcs./reel

Packing Type: TG

Marking

Electrical Connection
Electrical Characteristics at Ta=25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain-to-Source Voltage</td>
<td>$V_{DS}$</td>
<td>$V_{G1S}=0V, V_{G2S}=0V, I_{DS}=100μA$</td>
<td>15</td>
<td>V</td>
</tr>
<tr>
<td>Gate1-to-Source Cutoff Voltage</td>
<td>$V_{G1S(off)}$</td>
<td>$V_{DS}=6V, V_{G2S}=4V, I_{D}=10μA$</td>
<td>0.7</td>
<td>V</td>
</tr>
<tr>
<td>Gate2-to-Source Cutoff Voltage</td>
<td>$V_{G2S(off)}$</td>
<td>$V_{DS}=6V, V_{G1S}=3V, I_{D}=10μA$</td>
<td>1.6</td>
<td>V</td>
</tr>
<tr>
<td>Gate1-to-Source Leakage Current</td>
<td>$I_{G1SS}$</td>
<td>$V_{G1S}=±6V, V_{G2S}=V_{DS}=0V$</td>
<td>±0.1</td>
<td>nA</td>
</tr>
<tr>
<td>Gate2-to-Source Leakage Current</td>
<td>$I_{G2SS}$</td>
<td>$V_{G2S}=±6V, V_{G1S}=V_{DS}=0V$</td>
<td>±0.1</td>
<td>nA</td>
</tr>
<tr>
<td>Zero-Gate Voltage Drain Current</td>
<td>$I_{DSX}$</td>
<td>$V_{DS}=6V, V_{G1S}=±1.5V, V_{G2S}=4V$</td>
<td>*5</td>
<td>mA</td>
</tr>
<tr>
<td>Forward Transfer Admittance</td>
<td>$</td>
<td>y_{fs}</td>
<td>$</td>
<td>$V_{DS}=6V, I=10mA, V_{G2S}=4V, f=1kHz$</td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>$C_{iss}$</td>
<td>$V_{DS}=6V, V_{G1S}=0V, V_{G2S}=4V, f=1MHz$</td>
<td>2.5</td>
<td>pF</td>
</tr>
<tr>
<td>Reverse Transfer Capacitance</td>
<td>$C_{rss}$</td>
<td>$V_{DS}=6V, V_{G1S}=0V, V_{G2S}=4V, f=1MHz$</td>
<td>0.015</td>
<td>pF</td>
</tr>
<tr>
<td>Power Gain</td>
<td>$P_{G}$</td>
<td>$V_{DS}=6V, I=10mA, V_{G2S}=4V, f=200MHz$</td>
<td>20</td>
<td>dB</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>$N_{F}$</td>
<td>$V_{DS}=6V, I=10mA, V_{G2S}=4V, f=200MHz$</td>
<td>1.1</td>
<td>dB</td>
</tr>
</tbody>
</table>

* : The 3SK264 is classified by $I_{DSX}$ as follows : (unit : mA)

<table>
<thead>
<tr>
<th>Rank</th>
<th>$I_{DSX}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5.0 to 12.0</td>
</tr>
</tbody>
</table>

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

PG, NF Specified Test Circuit

![Test Circuit Diagram]

Ordering Information

<table>
<thead>
<tr>
<th>Device</th>
<th>Package</th>
<th>Shipping</th>
<th>memo</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SK264-5-TG-E</td>
<td>CP4</td>
<td>3,000pcs./reel</td>
<td>Pb-Free</td>
</tr>
</tbody>
</table>

No.4901-2/4