FEATURES

- BROAD BAND INTERNALLY MATCHED FET
- HIGH POWER
  P1dB= 39.5dBm at 5.9GHz to 6.4GHz
- HIGH GAIN
  G1dB= 10.0dB at 5.9GHz to 6.4GHz
- HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS  (Ta= 25°C)

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>SYMBOL</th>
<th>CONDITIONS</th>
<th>UNIT</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
</tr>
</thead>
</table>
| Output Power at 1dB           | P1dB   | VDS= 10V  
Gain Compression Point       |        |      |      |
|                               |        | IDSset= 1.8A  
Gain Compression Point        |        |      |      |
| Power Gain at 1dB             | G1dB   | f = 5.9 to 6.4GHz       | dBm    | 38.5 | 39.5 |      |
| Gain Flatness                 | ∆G    | VDS= 3V  
IDS= 1.8A  
f= 5.9 to 6.4GHz   | dB     |      |      |
| Power Added Efficiency        | ηadd  | VDS= 3V  
IDS= 1.8A  
f= 5.9 to 6.4GHz   | %      |      |      |
| 3rd Order Intermodulation     | IM3    | VDS= 3V  
IDS= 1.8A  
f= 5.9 to 6.4GHz   | dBC    | -44   | -47  |      |
| Distortion                    |        | Two Tone Test  
Po= 28.5dBm, ∆f= 5MHz  
(Single Carrier Level) |        |      |      |
| Drain Current                 | IDS2   | (VDS X IDS + Pin – P1dB)  
X Rth(c-c) | A     | 2.2   | 2.6  |      |
| Channel Temperature Rise      | ∆Tch   | °C |      |      |

Recommended Gate Resistance(Rg): 150 Ω

ELECTRICAL CHARACTERISTICS  (Ta= 25°C)

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<tr>
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<th>MAX.</th>
</tr>
</thead>
</table>
| Transconductance              | gm     | VDS= 3V  
IDS= 3.0A | S     |      | 1.8  |      |
| Pinch-off Voltage             | VGSoff | VDS= 3V  
IDS= 30mA | V     | -1.0 | -2.5 | -4.0 |
| Saturated Drain Current       | IDSS   | VDS= 3V  
VGS= 0V | A     |      | 5.2  |      |
| Gate-Source Breakdown Voltage | VGSO   | IGS= -100µA | V     | -5   |      |      |
| Thermal Resistance            | Rth(c-c)| Channel to Case         | °C/W  | 2.5  | 3.5  |      |

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### ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>SYMBOL</th>
<th>UNIT</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain-Source Voltage</td>
<td>VDS</td>
<td>V</td>
<td>15</td>
</tr>
<tr>
<td>Gate-Source Voltage</td>
<td>VGS</td>
<td>V</td>
<td>-5</td>
</tr>
<tr>
<td>Drain Current</td>
<td>IDS</td>
<td>A</td>
<td>7.0</td>
</tr>
<tr>
<td>Total Power Dissipation (Tc = 25°C)</td>
<td>PT</td>
<td>W</td>
<td>42.9</td>
</tr>
<tr>
<td>Channel Temperature</td>
<td>Tch</td>
<td>°C</td>
<td>175</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td>°C</td>
<td>-65 to +175</td>
</tr>
</tbody>
</table>

### HANDLING PRECAUTIONS FOR PACKAGE MODEL

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.
RF PERFORMANCE

Output Power vs. Frequency

![Graph showing output power vs. frequency with the following conditions:

- $V_{DS} = 10V$
- $I_{DS} \approx 2.2A$
- $P_{in} = 29.5$ dBm

Frequency (GHz) range from 5.7 to 6.6 with output power (Po) ranging from 37 to 42 dBm.]

Output Power vs. Input Power

![Graph showing output power vs. input power with the following conditions:

- $f = 6.15$ GHz
- $V_{DS} = 10V$
- $I_{DS} \approx 2.2A$

Input power (Pin) range from 23 to 33 dBm with output power (Po) and efficiency ($\eta_{add}$) curves.]

- $V_{DS} = 10V$
- $I_{DS} \approx 2.2A$
- $P_{in} = 29.5$ dBm
- $f = 6.15$ GHz
- $V_{DS} = 10V$
- $I_{DS} \approx 2.2A$
**Power Dissipation vs. Case Temperature**

- PT (W) vs. Tc (°C)

**IM3 vs. Output Power Characteristics**

- IM3 vs. Po (dBm), Single Carrier Level
- V_{DS} = 10V
- I_{DS} ≈ 2.2A
- f = 6.15GHz
- Δf = 5MHz