### FEATURES
- **BROAD BAND INTERNALLY MATCHED FET**
- **HIGH POWER**
  
P1dB = 45.5dBm at 5.85GHz to 6.75GHz
- **HIGH GAIN**
  
G1dB = 8.0dB (Min.) at 5.85GHz to 6.75GHz
- **LOW INTERMODULATION DISTORTION**
  
IM3 = -45dBc at Pout = 35.0dBm
  
Single Carrier Level
- **HERMETICALLY SEALED PACKAGE**

### RF PERFORMANCE SPECIFICATIONS \( (Ta = 25^\circ C) \)

<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 Gain Compression Point | P1dB         | VDS = 10V  
IDSset = 8.0A  
f = 5.85 to 6.75GHz | dBm    | 45.0  | 45.5  | —    |
| Power Gain at 1dB Gain Compression Point | G1dB         |                                            | dB     | 8.0   | —     | —    |
| Drain Current                        | IDS1         |                                            | A      | 8.0   | 9.0   |      |
| Gain Flatness                        | \( \Delta G \) |                                            | dB     | —     | —     | ±0.8 |
| Power Added Efficiency               | \( \eta_{add} \) |                                            | %      | —     | —     | 39   |
| 3rd Order Intermodulation Distortion | IM3          | Two Tone Test  
Po = 35.0dBm, \( \Delta f = 5\text{MHz} \)  
(Single Carrier Level) | dBc    | -42   | -45   | —    |
| Drain Current                        | IDS2         | (VDS X IDS + Pin – P1dB) X Rth(c-c)        | A      | 8.0   | 9.0   |      |
| Channel Temperature Rise             | \( \Delta T_{ch} \) |                                            | °C     | —     | —     | 100  |

Recommended Gate Resistance(Rg): 28 \( \Omega \)

### ELECTRICAL CHARACTERISTICS \( (Ta = 25^\circ C) \)

<table>
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<th>UNIT</th>
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<th>TYP.</th>
<th>MAX.</th>
</tr>
</thead>
</table>
| Transconductance                     | \( gm \) | VDS = 3V  
IDS = 10.5A  | S     | —     | 6.5   | —    |
| Pinch-off Voltage                    | VGSoff | VDS = 3V  
IDS = 140mA  | V     | -1.0  | -2.5  | -4.0 |
| Saturated Drain Current              | IDSS   | VDS = 3V  
VGS = 0V  | A     | —     | 20    | —    |
| Gate-Source Breakdown Voltage        | VGSO   | IGS = -420\( \mu \)A  | V     | -5    | —     | —    |
| Thermal Resistance                   | Rth(c-c) | Channel to Case | °C/W | 1.0   | 1.3   | —    |

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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>20</td>
</tr>
<tr>
<td>Total Power Dissipation (Tc= 25°C)</td>
<td>PT</td>
<td>W</td>
<td>115.4</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>

PACKAGE OUTLINE (2-16G1B)

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

- Vds = 10 V
- Ids = 8 A
- Pin = 36.5 dBm

Output Power vs. Input Power

- f = 6.75 GHz
- Vds = 10 V
- Ids = 8 A

Po (dBm)

ηadd (%)
Power Dissipation vs. Case Temperature

IM3 vs. Output Power Characteristics

V_{DS} = 10 V
I_{DS} = 8 A
f = 6.75GHz
Δf = 5MHz