Silicon N-Channel MOS FET



ADE-208-346A 2nd. Edition

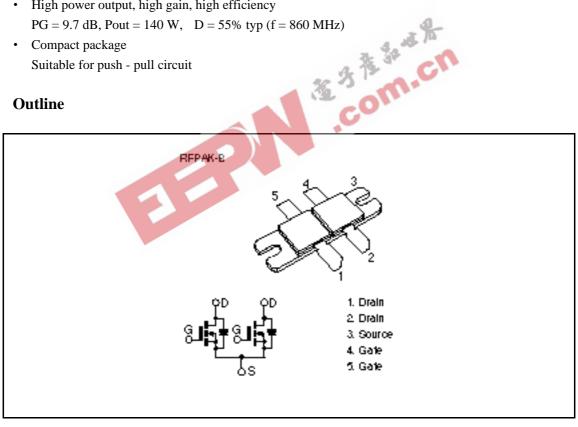
#### Application

UHF power amplifier

#### Features

- High power output, high gain, high efficiency PG = 9.7 dB, Pout = 140 W, D = 55% typ (f = 860 MHz)
- Compact package ٠ Suitable for push - pull circuit

#### Outline





## Absolute Maximum Ratings (Ta = $25^{\circ}$ C)

| Item                    | Symbol           | Ratings     | Unit |
|-------------------------|------------------|-------------|------|
| Drain to source voltage | V <sub>DSS</sub> | 60          | V    |
| Gate to source voltage  | V <sub>GSS</sub> | ±10         | V    |
| Drain current           | Ι <sub>D</sub>   | 20          | А    |
| Channel dissipation     | Pch*1            | 150         | W    |
| Channel temperature     | Tch              | 150         | °C   |
| Storage temperature     | Tstg             | -55 to +150 | °C   |

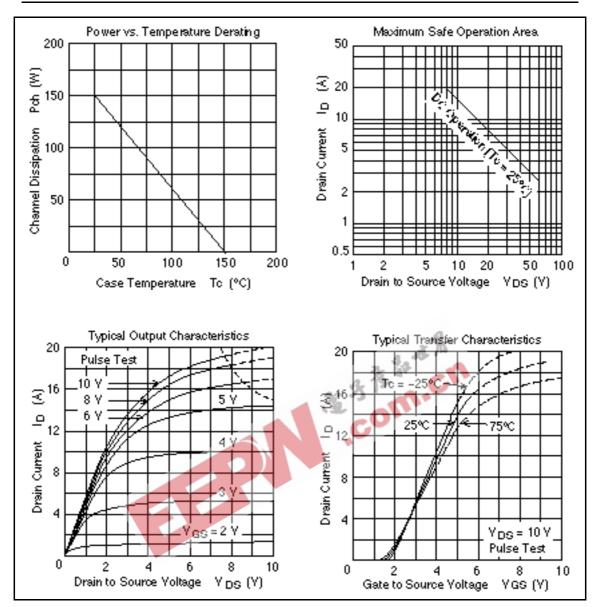
Note: 1. Value at  $T_c = 25^{\circ}C$ 

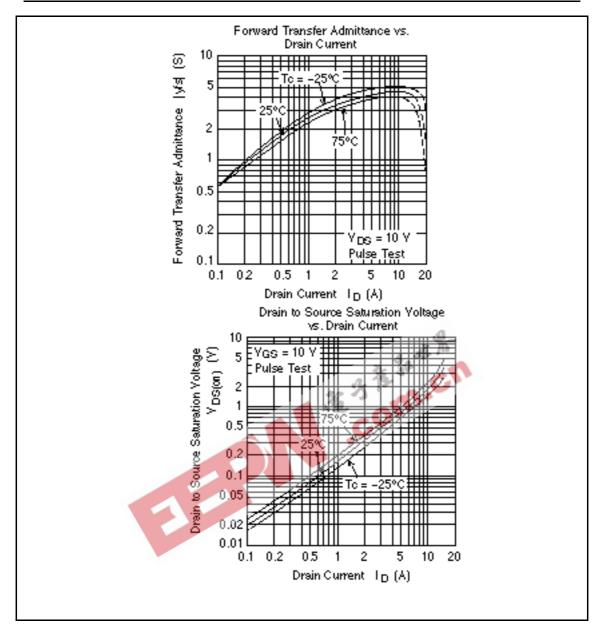
## **Electrical Characteristics** ( $T_c = 25^{\circ}C$ )

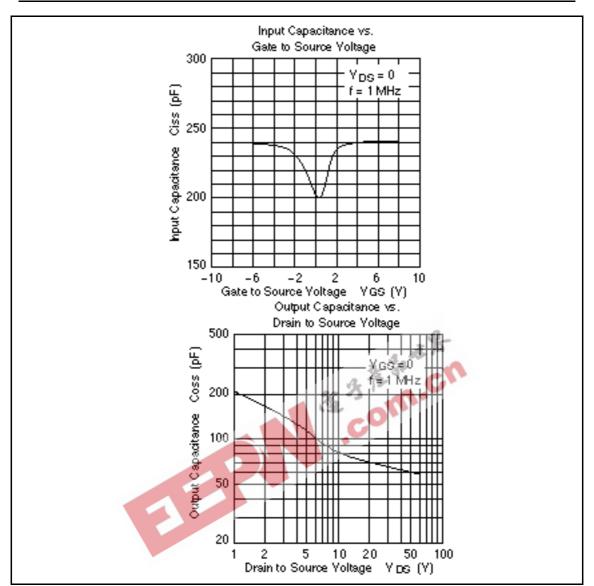
| Item                            | Symbol               | Min | Тур | Мах | Unit | Test conditions   |
|---------------------------------|----------------------|-----|-----|-----|------|---|
| Drain leakage current*1         | I <sub>DSS</sub>     | —   |     | 1   | mA   | $V_{\rm DS} = 60 \text{ V}, \text{ V}_{\rm GS} = 0$               |
| Gate leakage current*1          | I <sub>GSS</sub>     | _   | _   | ± 3 | μA   | $V_{GS} = \pm 10 \text{ V}, \text{ V}_{DS} = 0$                   |
| Gate to source cutoff voltage*1 | $V_{\text{GS(off)}}$ | 0.3 | _   | 1.6 | V    | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1 mA                     |
| Drain to source voltage*1       | $V_{\text{DS(on)}}$  | _   | 1.2 | 2.5 | V    | $V_{\rm GS}$ = 10 V, I <sub>D</sub> = 5 A <sup>*2</sup>           |
| Forward transfer admittance*1   | y <sub>fs</sub>      | 3.0 | 4.0 | -0  | S    | $V_{\rm DS} = 10 \text{ V}, \text{ I}_{\rm D} = 5 \text{ A}^{*2}$ |
| Input capacitance*1             | Ciss                 |     | 250 | G   | pF   | $V_{GS} = 5 V, V_{DS} = 0$<br>f = 1MHz                            |
| Output capacitance*1            | Coss                 | ÷,  | 85  | _   | рF   | $V_{DS} = 10V, V_{GS} = 0$<br>f = 1MHz                            |
| Output power                    | Pout                 | 100 | 140 | _   | W    | $V_{_{DS}} = 28 \text{ V}, \text{ I}_{_{DO}} = 0.4 \text{ A}$     |
| Drain efficiency                | D                    | —   | 55  | —   | %    | f = 860 MHz, Pin = 15 W   |
| Notes: 1 Shows / unit FET       |                      |     |     |     |      |   |

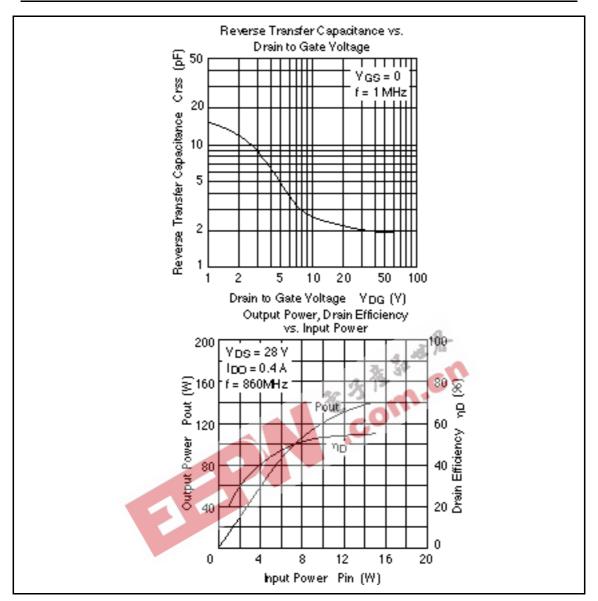
Notes: 1. Shows / unit FET

2. Pulse Test



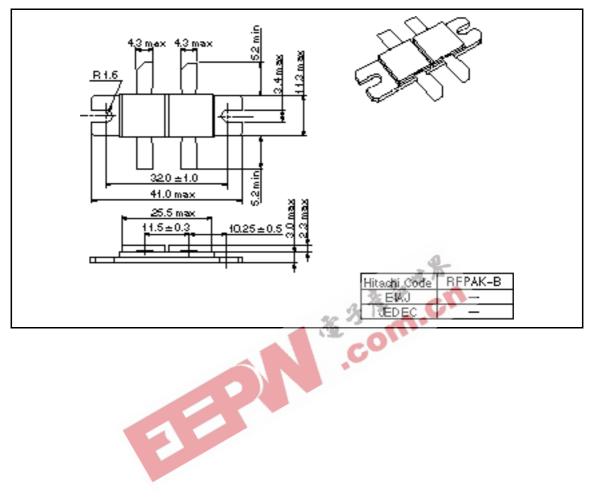






## Package Dimensions





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