#### Silicon N-Channel MOS FET

# HITACHI

ADE-208-347A 2nd. Edition

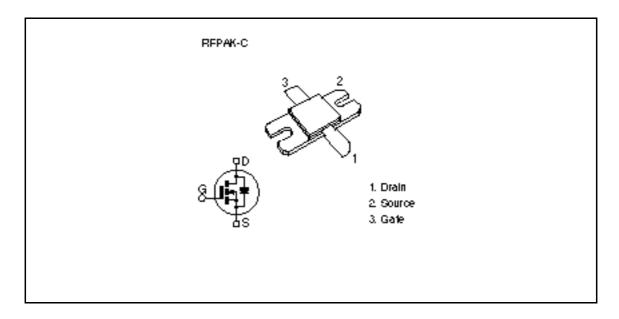
#### **Application**

UHF power amplifier

#### **Features**

- High power output, high gain, high efficiency PG = 10 dB, Pout = 60 W, D = 55% typ (f = 860 MHz)
- · Compact package

#### **Outline**





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

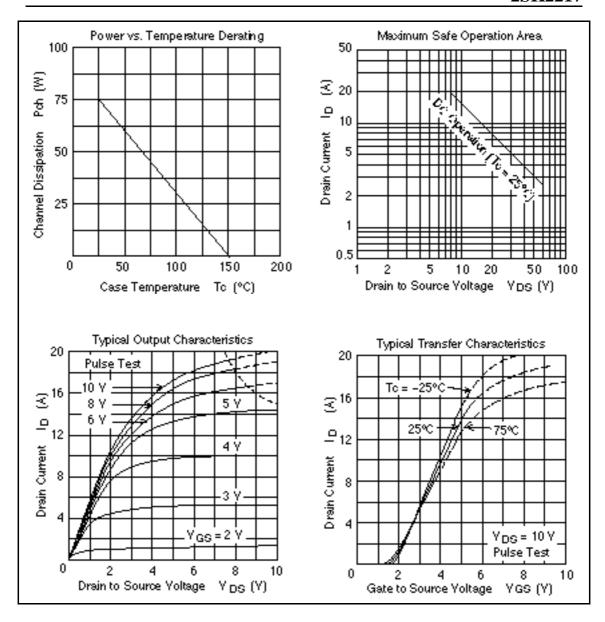
| Item                    | Symbol         | Ratings     | Unit |  |
|-------------------------|----------------|-------------|------|--|
| Drain to source voltage | $V_{	t DSS}$   | 60          | V    |  |
| Gate to source voltage  | $V_{\sf GSS}$  | ±10         | V    |  |
| Drain current           | I <sub>D</sub> | 10          | Α    |  |
| Channel dissipation     | Pch*1          | 75          | W    |  |
| Channel temperature     | Tch            | 150         | °C   |  |
| Storage temperature     | Tstg           | -55 to +150 | °C   |  |

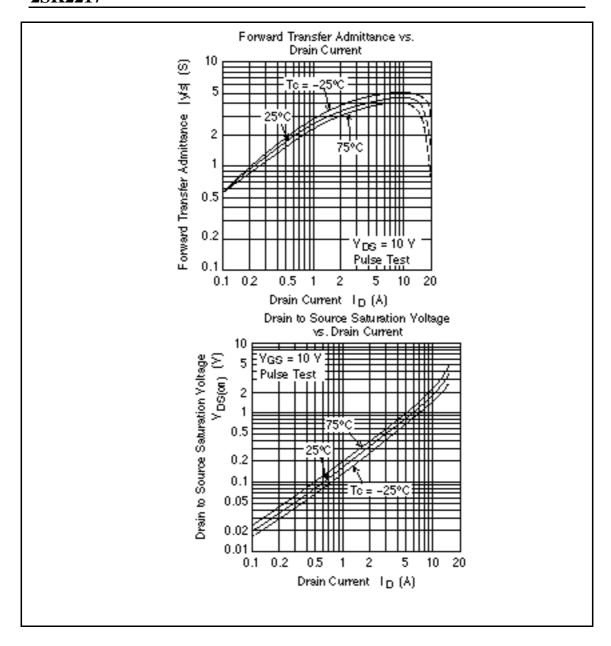
Note: 1. Value at  $T_c = 25^{\circ}C$ 

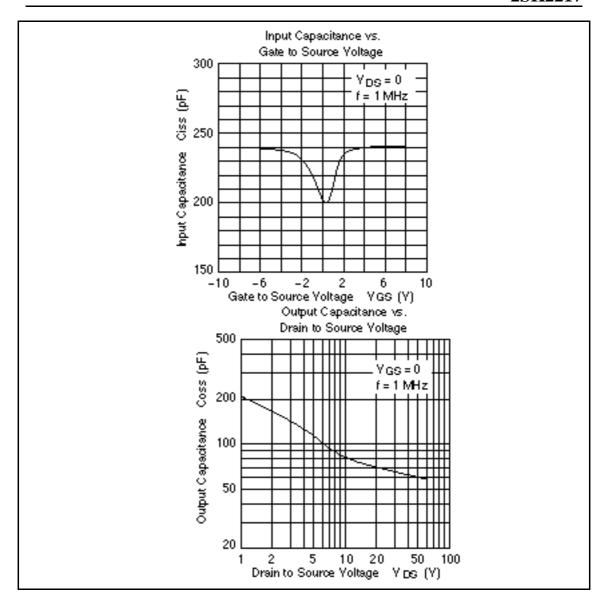
## Electrical Characteristics ( $T_C = 25^{\circ}C$ )

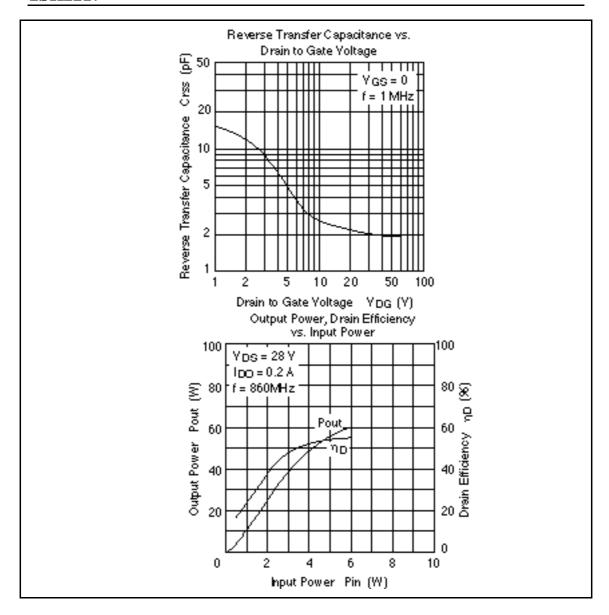
| Item                          | Symbol           | Min | Тур | Max | Unit | Test conditions                                   |
|-------------------------------|------------------|-----|-----|-----|------|---|
| Drain leakage current         | I <sub>DSS</sub> | _   | _   | 1   | mA   | $V_{DS} = 60 \text{ V}, V_{GS} = 0$               |
| Gate leakage current          | I <sub>GSS</sub> | _   | _   | ± 3 | μΑ   | $V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$           |
| Gate to source cutoff voltage | $V_{GS(off)}$    | 0.3 | _   | 1.6 | V    | $V_{DS} = 10 \text{ V}, I_{D} = 1 \text{ mA}$     |
| Drain to source voltage       | $V_{DS(on)}$     | _   | 1.2 | 2.5 | V    | $V_{GS} = 10 \text{ V}, I_{D} = 5 \text{ A}^{*1}$ |
| Forward transfer admittance   | y <sub>fs</sub>  | 3.0 | 4.0 | _   | S    | $V_{DS} = 10 \text{ V}, I_{D} = 5 \text{ A}^{*1}$ |
| Input capacitance             | Ciss             | _   | 250 | _   | pF   | $V_{GS} = 5 \text{ V}, V_{DS} = 0$<br>f = 1MHz    |
| Output capacitance            | Coss             | _   | 85  | _   | pF   | $V_{DS} = 10V, V_{GS} = 0$<br>f = 1MHz            |
| Output power                  | P <sub>out</sub> | 40  | 60  | _   | W    | $V_{DS} = 28 \text{ V}, I_{DO} = 0.2 \text{ A}$   |
| Drain efficiency              | D                | _   | 55  | _   | %    | f = 860 MHz, Pin = 6 W                            |

Note: 1. Pulse Test



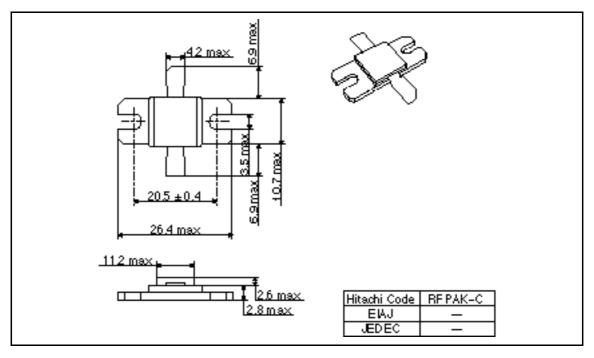






## **Package Dimensions**

Unit: mm



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