

**RF Power Field-Effect Transistor**  
**300 W, 50 V, 175 MHz N-Channel Broadband MOSFET**

Rev. V1

### Features

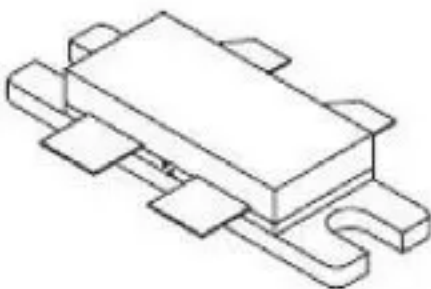
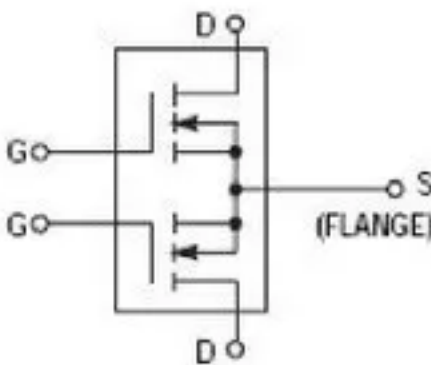
Guaranteed Performance at 175 MHz, 50 V:

- Output Power — 300 W
- Gain — 14 dB (16 dB Typ)
- Efficiency — 50%
- Low Thermal Resistance — 0.35°C/W
- Ruggedness Tested at Rated Output Power
- Nitride Passivated Die for Enhanced Reliability

### Description and Applications

Designed for broadband commercial and military applications at frequencies to 175 MHz. The high power, high gain and broadband performance of this device makes possible solid state transmitters for FM broadcast or TV channel frequency bands.

### Package Outline



CASE 375-04, STYLE 2

### MAXIMUM RATINGS

| Rating                                                                                 | Symbol    | Value       | Unit                         |
|----------------------------------------------------------------------------------------|-----------|-------------|------------------------------|
| Drain-Source Voltage                                                                   | $V_{DS}$  | 125         | Vdc                          |
| Drain-Gate Voltage                                                                     | $V_{DGO}$ | 125         | Vdc                          |
| Gate-Source Voltage                                                                    | $V_{GS}$  | $\pm 40$    | Vdc                          |
| Drain Current — Continuous                                                             | $I_D$     | 40          | Adc                          |
| Total Device Dissipation @ $T_C = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$ | $P_D$     | 500<br>2.85 | Watts<br>W/ $^\circ\text{C}$ |
| Storage Temperature Range                                                              | $T_{stg}$ | -65 to +150 | $^\circ\text{C}$             |
| Operating Junction Temperature                                                         | $T_J$     | 200         | $^\circ\text{C}$             |

### THERMAL CHARACTERISTICS

| Characteristic                       | Symbol          | Max  | Unit               |
|--------------------------------------|-----------------|------|--------------------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 0.35 | $^\circ\text{C/W}$ |

**NOTE — CAUTION** — MOS devices are susceptible to damage from electrostatic charge. Reasonable precautions in handling and packaging MOS devices should be observed.