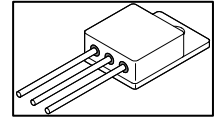


TECHNICAL DATA
DATA SHEET 271, REV. A

**HERMETIC POWER MOSFET
N-CHANNEL**



DESCRIPTION: 200 VOLT, 0.105 OHM, 27.4 A MOSFET IN A HERMETIC TO-254 PACKAGE.

(add suffix S for up-screening to JTX Level – 2N7225S)

MAXIMUM RATINGS

ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

| RATING | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|---|------------------|------|------|------------|---------------------------|
| GATE TO SOURCE VOLTAGE | V_{GS} | - | - | ± 20 | Volts |
| CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C=25^\circ\text{C}$ $V_{GS}=10\text{V}, T_C=100^\circ\text{C}$ | I_D | - | - | 27.4 17 | Amps |
| PULSED DRAIN CURRENT @ $T_C=25^\circ\text{C}$ | I_{DM} | - | - | 110 | Amps |
| OPERATING AND STORAGE TEMPERATURE | T_{OP}/T_{STG} | -55 | - | 150 | $^\circ\text{C}$ |
| TERMAL RESISTANCE JUNCTION TO CASE | $R_{\theta JC}$ | - | - | 0.83 | $^\circ\text{C}/\text{W}$ |
| TOTAL DEVICE DISSIPATION @ $T_C=25^\circ\text{C}$ | P_D | - | - | 150 | Watts |

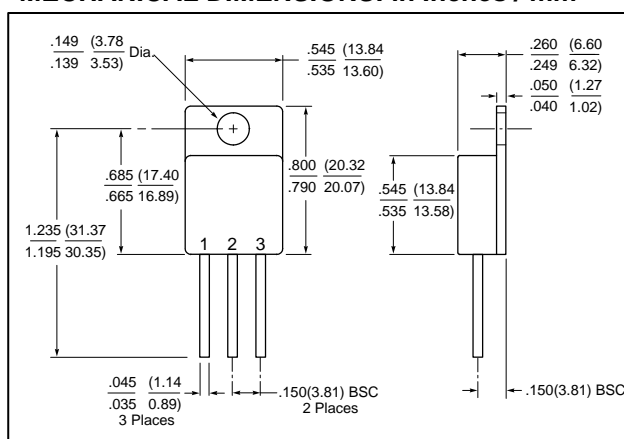
ELECTRICAL CHARACTERISTICS

| | | | | | |
|--|------------------------|-----|-------------|----------------|-----------------------|
| DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS}=0\text{V}, I_D=1.0\text{mA}$ | BV_{DSS} | 200 | - | - | Volts |
| DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS}=10\text{V}, I_D=17\text{A}$ $V_{GS}=10\text{V}, I_D=27.4\text{A}$ | $R_{DS(ON)}$ | - | - | 0.100 0.105 | Ω |
| GATE THRESHOLD VOLTAGE $V_{DS}=V_{GS}, I_D=250\mu\text{A}$ | $V_{GS(th)}$ | 2.0 | - | 4.0 | Volts |
| FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS}=17\text{A}$ | g_{fs} | 9.0 | - | - | $\text{S}(1/\Omega)$ |
| ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS}=0.8 \times \text{Max. Rating}, V_{GS}=0\text{V}$ $V_{DS}=0.8 \times \text{Max. Rating}$ $V_{GS}=0\text{V}, T_J=125^\circ\text{C}$ | I_{DSS} | - | - | 25 250 | μA |
| GATE TO SOURCE LEAKAGE FORWARD @ RATED GATE TO SOURCE LEAKAGE REVERSE V_{GS} | I_{GSS} | - | - | 100 -100 | nA |
| TOTAL GATE CHARGE $V_{GS}=10\text{VOLTS}$ | Q_g | 55 | - | 115 | nC |
| GATE TO SOURCE CHARGE V_{DS} 50% RATED | Q_{gs} | 8.0 | - | 22 | |
| GATE TO DRAIN CHARGE RATED I_D | Q_{gd} | 30 | - | 60 | |
| TURN ON DELAY TIME $V_{DD}=100\text{V}$ | $t_{d(ON)}$ | - | - | 35 | nsec |
| RISE TIME RATED I_D | t_r | - | - | 190 | |
| TURN OFF DELAY TIME $R_G=2.35\Omega$ | $t_{d(ON)}$ | - | - | 170 | |
| FALL TIME | t_f | - | - | 130 | |
| DIODE FORWARD VOLTAGE $T_J=25^\circ\text{C}, I_S=27.4\text{A},$ $V_{GS}=0\text{V}$ | V_{SD} | - | - | 1.9 | Volts |
| DIODE REVERSE RECOVERY TIME REVERSE RECOVERY CHARGE $T_J=25^\circ\text{C}$ $I_f = \text{RATED ID}$ $di/dt = 100\text{A/sec}$ | t_{rr} Q_{rr} | - | - | 950 9.0 | nsec μC |
| INPUT CAPACITANCE OUTPUT CAPACITANCE $V_{GS}=0\text{VOLTS}$ $V_{DS}=25\text{VOLTS}$ | C_{iss} C_{oss} | - | 3500 700 | - | pF |

| | | | | | | |
|------------------------------|-----------|------------------|--|-----|--|--|
| REVERSE TRANSFER CAPACITANCE | f = 1 MHz | C _{rss} | | 110 | | |
|------------------------------|-----------|------------------|--|-----|--|--|

SENSITRON
DATA SHEET 271, REV. A

MECHANICAL DIMENSIONS: in Inches / mm



TO-254

PINOUT TABLE

| DEVICE TYPE | PIN 1 | PIN 2 | PIN 3 |
|--------------------------------------|-------|--------|-------|
| N-CHANNEL MOSFET IN A TO-254 PACKAGE | DRAIN | SOURCE | GATE |

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