



PRELIMINARY

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

SFF9240/3

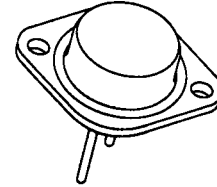
**-11 AMP
-200 VOLTS
0.50Ω
P-CHANNEL
POWER MOSFET**

Designer's Data Sheet

FEATURES:

- Rugged construction with poly silicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed
- TX, TXV and Space Level Screening available
- Replaces: IRF9240 Types

TO-3



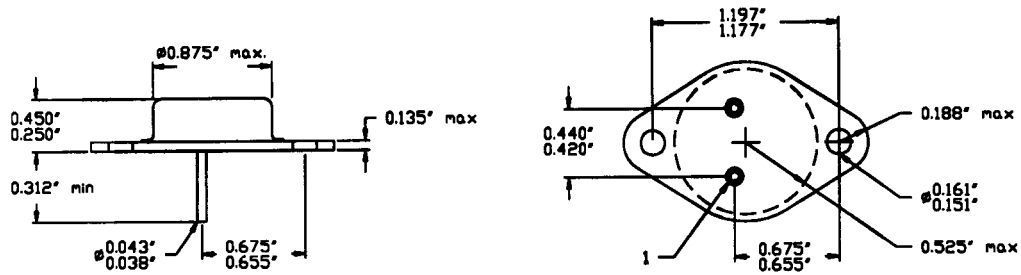
MAXIMUM RATINGS

| CHARACTERISTIC | SYMBOL | VALUE | UNIT |
|--------------------------------------|------------------------------------|-------------|-------|
| Drain to Source Voltage | V _{DS} | -200 | Volts |
| Gate to Source Voltage | V _{GS} | ±20 | Volts |
| Continuous Drain Current | I _D | -9.3 | Amps |
| Operating and Storage Temperature | T _{OP} & T _{STG} | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 1.0 | °C/W |
| Total Device Dissipation @ TC=25°C | P _D | 125 | Watts |
| Total Device Dissipation @ TC=55°C | | 95 | |

PACKAGE OUTLINE: TO-3

PIN OUT:

**PIN 1: SOURCE
PIN 2: GATE
CASE DRAIN**



| | | |
|--|-------------------------------|------------|
| NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release. | DATA SHEET #: FP0009 A | MED |
|--|-------------------------------|------------|

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| ELECTRICAL CHARACTERISTICS @ T_J=25 °C (Unless Otherwise Specified) | | | | | | |
|--|---|---|------------|----------------------|----------------------|--------------------------|
| RATING | | SYMBOL | MIN | TYP | MAX | UNIT |
| Drain to Source Breakdown Voltage (VGS=0 V, ID=-250µA) | | BV_{DSS} | -200 | --- | --- | V |
| Drain to Source on State Resistance (VGS= -10 V, ID= -6 A) | | R_{DS(on)} | --- | 0.35 | 0.50 | Ω |
| On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS= -10 V) | | ID(on) | -11 | --- | --- | A |
| Gate Threshold Voltage (VDS=VGS, ID=-250µA) | | VGS(th) | -2.0 | --- | -4.0 | V |
| Forward Transconductance (VDS ≥ ID(on) X RDS(on) max., IDS= -6.0 A) | | gfs | 4 | 6 | --- | S(Ω) |
| Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C) | | IDSS | --- | --- | -250 -1000 | µA |
| Gate to Source Leakage Forward Gate to Source Leakage Reverse | VGS= ±20V | IGSS | --- | --- | -100 100 | nA |
| Total Gate Charge Gate to Source Charge Gate to Drain Charge | VGS= -15 Volts 80% rated VDS ID= -22 A | Qg Qgs Qgd | --- | 38 8.0 21 | 90 --- | nC |
| Turn on Delay Time Rise Time Turn Off Delay Time Fall Time | VDD= -100 V ID= -6 A RG= 4.7Ω | td(on) tr td(off) tf | --- | 13 45 29 29 | 30 15 18 12 | nsec |
| Diode Forward Voltage (IS= -11 A, VGS=0 V, T _J =25°C) | | VSD | --- | --- | -4.6 | V |
| Diode Reverse Recovery Time Reverse Recovery Charge | T _J =150°C IF=-11 A di/dt=100 A/ sec | trr QRR | --- | 270 2.0 | --- | nsec µC |
| Input Capacitance Output Capacitance Reverse Transfer Capacitance | VGS=0 Volts VDS= -25 Volts f= 1 MHz | Ciss Coss Crss | --- | 1100 375 150 | 1300 450 250 | pF |

SAFE OPERATING AREA (S.O.A.)
 TC = 25 °C, D.C. CONDITION

