



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF9240M
SFF9240Z

Designer's Data Sheet

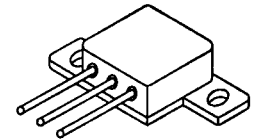
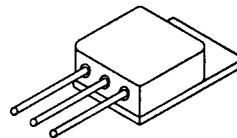
FEATURES:

- 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

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

TO-254

TO-254Z

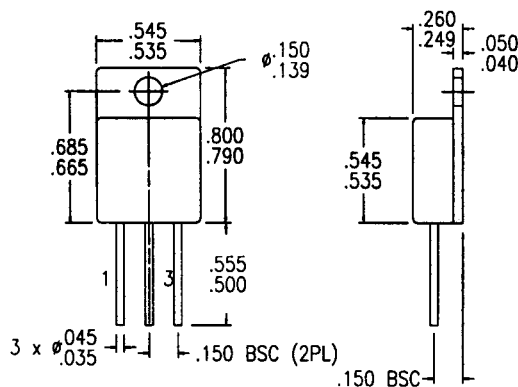


MAXIMUM RATINGS

| 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 | -11 | Amps |
| Operating and Storage Temperature | Top & Tstg | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 1.7 | °C/W |
| Total Device Dissipation @ TC=25°C | P _D | 74 | Watts |
| Total Device Dissipation @ TC=55°C | | 56 | |

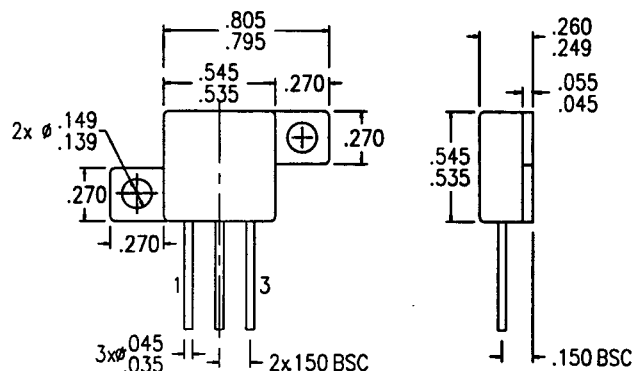
PACKAGE OUTLINE: TO-254

PIN OUT:
PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: GATE



PACKAGE OUTLINE: TO-254Z

PIN OUT:
PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: GATE



Available with Glass or Ceramic Seals. Contact Factory for details.

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: FP0003 C

MED

SFF9240M
SFF9240Z

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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) | | RDS(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) | | g _{fs} | 4 | 6 | --- | S(Ω) |
| Zero Gate Voltage Drain Current (VDS=80% 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= 10 Volts 80% rated VDS ID= -11 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= 7 A RG= 9.1Ω | td(on) tr td(off) tf | --- | 13 45 29 29 | 35 85 85 65 | 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 =25°C IF=-11 A di/dt=100 A/μsec | t _{rr} 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 |

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.