



PRELIMINARY

SOLID STATE DEVICES, INC

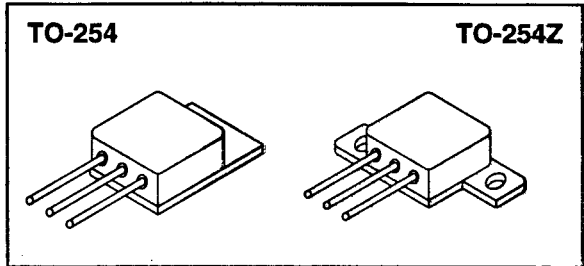
14849 Firestone Boulevard · La Mirada, CA 90638
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

SFF9130M
SFF9130Z

-11 AMP
100 VOLTS
0.30 Ω
P-CHANNEL
POWER MOSFET

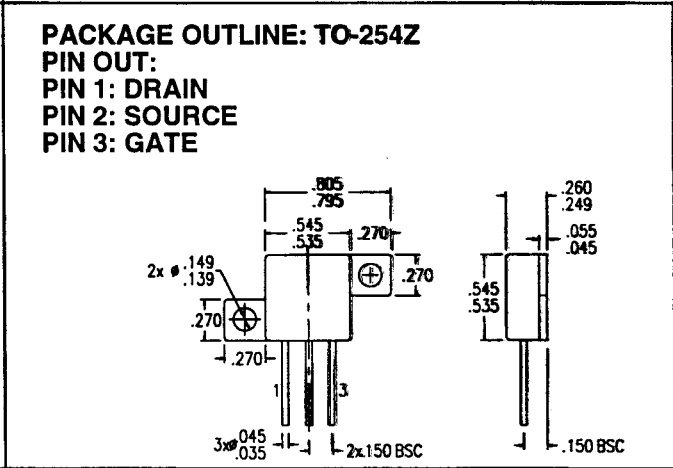
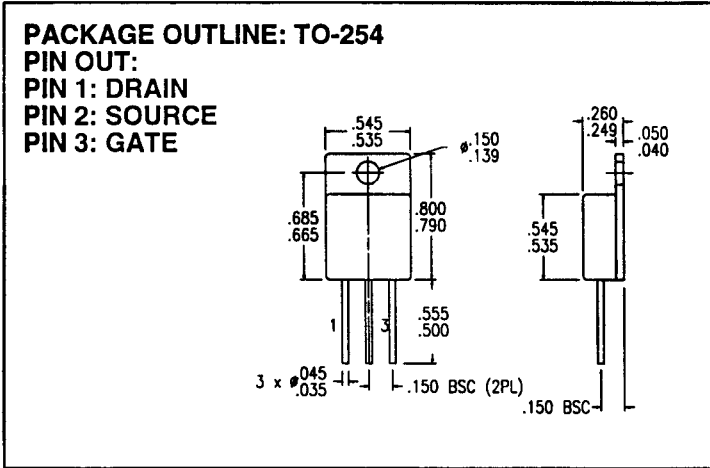
Designer's Data Sheet

- 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: IRF9130 Types



MAXIMUM RATINGS

| CHARACTERISTIC | SYMBOL | VALUE | UNIT |
|--|------------------------------------|-------------|-------|
| Drain to Source Voltage | V _{DS} | -100 | Volts |
| Gate to Source Voltage | V _{GS} | ±20 | Volts |
| Continuous Drain Current @TC=25°C @TC=100°C | I _D | -11 -7 | Amps |
| Operating and Storage Temperature | T _{op} & T _{stg} | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 2 | °C/W |
| Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C | P _D | 63 48 | Watts |
| Single Pulse Avalanche Energy | E _{AS} | 81 | mJ |
| Repetitive Avalanche Energy | E _{AR} | 7.5 | mJ |



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 #: FP0025 D

MED

SFF9130M
SFF9130Z

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ELECTRICAL CHARACTERISTICS @ T_J=25°C (Unless Otherwise Specified)

| RATING | | SYMBOL | MIN | TYP | MAX | UNIT |
|---|---|---|--------------|----------------------|-------------------------|------------|
| Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =1mA) | | BV _{DSS} | -100 | --- | --- | V |
| Temperature Coefficient of Breakdown Voltage | | $\frac{\Delta BV_{DSS}}{\Delta T_J}$ | --- | 87 | --- | mV/°C |
| Drain to Source on State Resistance (V _{GS} = -10 V) | I _D =7A I _D =11A | R _{DS(on)} | | --- | 0.30 0.35 | Ω |
| Gate Threshold Voltage (V _{DS} =V _{GS} , I _D = -250μA) | | V _{GS(th)} | -2.0 | | -4.0 | V |
| Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =7 A) | | g _{fs} | 3.0 | 5.0 | --- | S(Ω) |
| Zero Gate Voltage Drain Current (V _{DS} =80% max rated voltage, V _{GS} =0 V) †V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125°C) | | I _{DSS} | --- | --- | -25 250 | μA |
| Gate to Source Leakage Forward Gate to Source Leakage Reverse | At rated V _{GS} | I _{GSS} | --- | --- | -100 100 | nA |
| Total Gate Charge Gate to Source Charge Gate to Drain Charge | V _{GS} = -10 Volts 50% rated V _{DS} I _D = -11 A | Q _g Q _{gs} Q _{gd} | 15 1 2 | 26 3 14 | 29 7.1 21 | nC |
| Turn on Delay Time Rise Time Turn Off Delay Time Fall Time | V _{DD} =50% rated V _{DS} I _D =11A R _G = 7.5Ω | t _{d(on)} t _r t _{d(off)} t _f | --- | 15 10 30 12 | 60 140 140 140 | nsec |
| Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C) | | V _{SD} | --- | --- | -4.7 | V |
| Diode Reverse Recovery Time Reverse Recovery Charge | T _J =25°C I _F =10 A di/dt=100 A/μsec | t _{rr} Q _{RR} | --- | 125 --- | 250 3 | nsec μC |
| Input Capacitance Output Capacitance Reverse Transfer Capacitance | V _{GS} =0 Volts V _{DS} = -25 Volts f= 1 MHz | C _{iss} C _{oss} C _{rss} | --- | 860 350 125 | --- | pF |