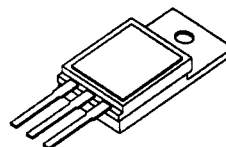




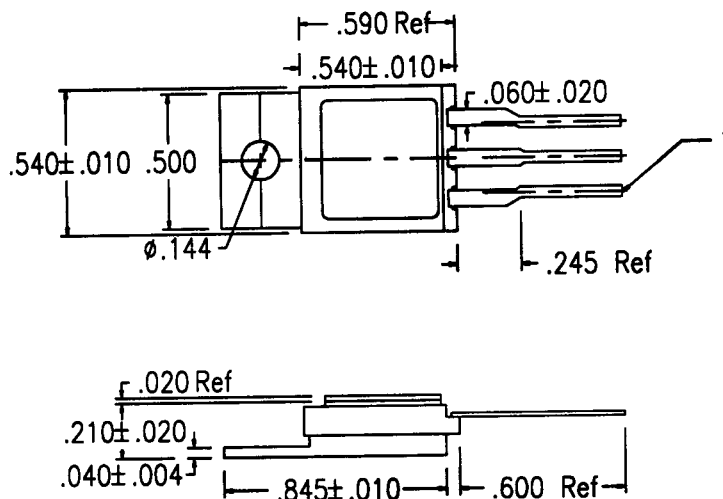
PRELIMINARY

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

**SFF9240C****-11 AMP  
-200 VOLTS  
0.50Ω  
P-CHANNEL  
POWER MOSFET****TO-254C****MAXIMUM RATINGS**

| CHARACTERISTIC                                                           | SYMBOL          | VALUE       | UNIT  |
|--------------------------------------------------------------------------|-----------------|-------------|-------|
| Drain to Source Voltage                                                  | V <sub>DS</sub> | -200        | Volts |
| Gate to Source Voltage                                                   | V <sub>GS</sub> | ±20         | Volts |
| Continuous Drain Current                                                 | I <sub>D</sub>  | -11         | Amps  |
| Operating and Storage Temperature                                        | Top & Tstg      | -55 to +150 | °C    |
| Thermal Resistance, Junction to Case                                     | RθJC            | 1.7         | °C/W  |
| Total Device Dissipation @ TC=25°C<br>Total Device Dissipation @ TC=55°C | P <sub>D</sub>  | 74<br>56    | Watts |

**PACKAGE OUTLINE: CERAMIC TO-254****PIN OUT:****PIN 1: DRAIN  
PIN 2: SOURCE  
PIN 3: GATE****NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.**DATA SHEET #: FP0005 A****MED**

**SFF9240C**

PRELIMINARY

**SSDI****SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25 °C (Unless Otherwise Specified)**

| <b>RATING</b>                                                                                                        |                                                       | <b>SYMBOL</b>                                                                                         | <b>MIN</b> | <b>TYP</b>           | <b>MAX</b>           | <b>UNIT</b>              |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------|----------------------|----------------------|--------------------------|
| <b>Drain to Source Breakdown Voltage</b><br>(VGS=0 V, ID=-250μA)                                                     |                                                       | <b>BV<sub>DSS</sub></b>                                                                               | -200       | ---                  | ---                  | <b>V</b>                 |
| <b>Drain to Source on State Resistance</b><br>(VGS= -10 V, ID= -6 A)                                                 |                                                       | <b>R<sub>DS(on)</sub></b>                                                                             | ---        | 0.35                 | 0.50                 | <b>Ω</b>                 |
| <b>On State Drain Current</b><br>(VDS > ID(on) X RDS(on) Max, VGS= -10 V)                                            |                                                       | <b>ID(on)</b>                                                                                         | -11        | ---                  | ---                  | <b>A</b>                 |
| <b>Gate Threshold Voltage</b><br>(VDS=VGS, ID=-250μA)                                                                |                                                       | <b>VGS(th)</b>                                                                                        | -2.0       | ---                  | -4.0                 | <b>V</b>                 |
| <b>Forward Transconductance</b><br>(VDS ≥ ID(on) X RDS(on) max., IDS= -6.0 A)                                        |                                                       | <b>g<sub>fs</sub></b>                                                                                 | 4          | 6                    | ---                  | <b>S(Ω)</b>              |
| <b>Zero Gate Voltage Drain Current</b><br>(VDS=max rated voltage, VGS=0 V)<br>(VDS=80% rated VDS, VGS=0 V, TA=125°C) |                                                       | <b>I<sub>DSS</sub></b>                                                                                | ---        | ---                  | -250<br>-1000        | <b>μA</b>                |
| <b>Gate to Source Leakage Forward</b><br><b>Gate to Source Leakage Reverse</b>                                       | VGS= ±20V                                             | <b>I<sub>GSS</sub></b>                                                                                | ---        | ---                  | -100<br>100          | <b>nA</b>                |
| <b>Total Gate Charge</b><br><b>Gate to Source Charge</b><br><b>Gate to Drain Charge</b>                              | VGS= -15 Volts<br>80% rated VDS<br>ID= -22 A          | <b>Q<sub>g</sub></b><br><b>Q<sub>gs</sub></b><br><b>Q<sub>gd</sub></b>                                | ---        | 38<br>8.0<br>21      | 90<br>---            | <b>nC</b>                |
| <b>Turn on Delay Time</b><br><b>Rise Time</b><br><b>Turn Off Delay Time</b><br><b>Fall Time</b>                      | VDD= -100 V<br>ID= -6 A<br>RG= 4.7Ω                   | <b>t<sub>d(on)</sub></b><br><b>t<sub>r</sub></b><br><b>t<sub>d(off)</sub></b><br><b>t<sub>f</sub></b> | ---        | 13<br>45<br>29<br>29 | 30<br>15<br>18<br>12 | <b>nsec</b>              |
| <b>Diode Forward Voltage</b><br>(IS= -11 A, VGS=0 V, T <sub>J</sub> =25°C)                                           |                                                       | <b>VSD</b>                                                                                            | ---        | ---                  | -4.6                 | <b>V</b>                 |
| <b>Diode Reverse Recovery Time</b><br><b>Reverse Recovery Charge</b>                                                 | T <sub>J</sub> =150°C<br>IF=-11 A<br>di/dt=100 A/ sec | <b>t<sub>rr</sub></b><br><b>Q<sub>RR</sub></b>                                                        | ---        | 270<br>2.0           | ---                  | <b>nsec</b><br><b>μC</b> |
| <b>Input Capacitance</b><br><b>Output Capacitance</b><br><b>Reverse Transfer Capacitance</b>                         | VGS=0 Volts<br>VDS= -25 Volts<br>f= 1 MHz             | <b>C<sub>iss</sub></b><br><b>C<sub>oss</sub></b><br><b>C<sub>rss</sub></b>                            | ---        | 1100<br>375<br>150   | 1300<br>450<br>250   | <b>pF</b>                |

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