



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

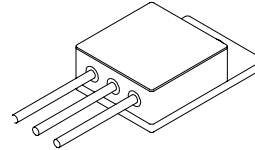
SFF75N06M SFF75N06Z

**75 AMP
60 VOLTS
15mΩ
N-CHANNEL
POWER MOSFET**

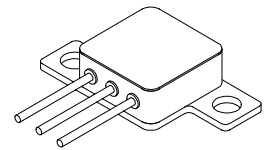
FEATURES:

- Advanced high-cell density withstands high energy
- Very low conduction and switching losses
- Fast recovery drain-to-source diode with soft recovery
- Rugged construction with poly silicon gate
- Ultra 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 package
- TX, TXV and Space Level screening available

TO-254 (M)



TO-254Z (Z)



MAXIMUM RATINGS

| CHARACTERISTIC | SYMBOL | VALUE | UNIT |
|--------------------------------------|------------------------------------|-------------------|-------|
| Drain to Source Voltage | V _{DS} | 60 | Volts |
| Drain to Gate Voltage (RGS = 1.0 mΩ) | V _{DG} | 60 | Volts |
| Gate to Source Voltage | V _{GS} | ± 20 | Volts |
| Continuous Drain Current | I _D | 56 ^{1/2} | Amps |
| Operating and Storage Temperature | T _{op} & T _{stg} | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 1 | °C/W |
| Total Device Dissipation | P _D | @ TC = 25°C | 125 |
| | | @ TC = 55°C | 95 |

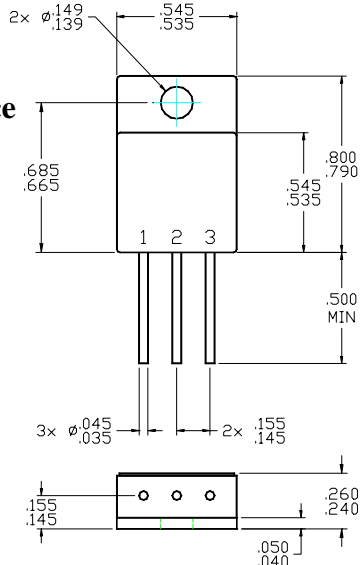
CASE OUTLINE: TO-254 (Suffix M)

Pin Out:

Pin 1: Drain

Pin 2: Source

Pin 3: Gate



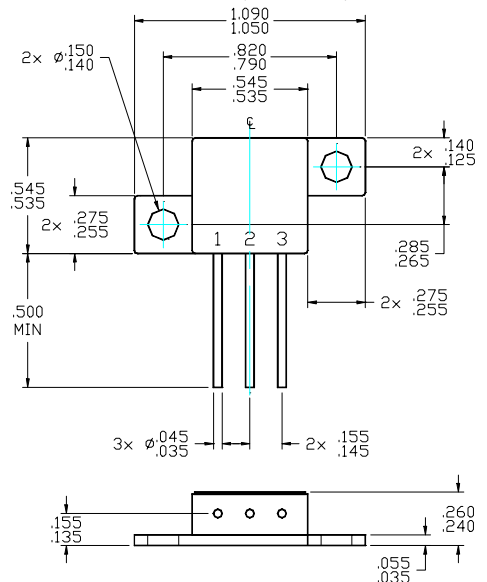
CASE OUTLINE: TO-254Z (Suffix Z)

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.
 SCDs for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: F00311B

SFF75N06M
SFF75N06Z



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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 =250μA) | BV_{DSS} | 60 | - | - | V | |
| Drain to Source on State Resistance (V _{GS} =10 V, T _c =150°C) | R_{DS(on)} | - | 13 15 19 | - | mΩ | |
| On State Drain Current (V _{DS} > I _{D(on)} x R _{DS(on)} Max, V _{GS} =10 V) | I_{D(on)} | 75 | - | - | A | |
| Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA) | V_{GS(th)} | 2 | - | 4.0 | V | |
| Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =60% rated I _D) | g_{fs} | 15 | 35 | - | Smho | |
| Zero Gate Voltage Drain Current (V _{DS} =80% rated voltage, V _{GS} =0V) (V _{DS} =80% rated V _{DS} , V _{GS} =0V, T _A =125°C) | I_{DSS} | - | - | 250 1000 | 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 V 50% rated V _{DS} Rated I _D | Q_g Q_{gs} Q_{gd} | - | 80 13 40 | 120 17 64 | nC |
| Turn on Delay Time Rise Time Turn off Delay Time Fall Time | V _{DD} =50% rated V _{DS} 50% rated I _D R _G =6.2Ω | t_{d(on)} t_r t_{d(off)} t_f | - | 20 35 65 40 | 27 66 100 60 | nsec |
| Diode Forward Voltage (I _S =rated I _D , V _{GS} =0V, T _J =25°C) | | V_{SD} | - | 1.47 | 1.4 | V |
| Diode Reverse Recovery Time Reverse Recovery Charge | T _J =25°C I _F =10 di/dt=100A/μsec | t_{rr} Q_{RR} | - | 70 | 150 | nsec |
| Input Capacitance Output Capacitance Reverse Transfer Capacitance | V _{GS} =0 Volts V _{DS} =25 Volts f=1 MHz | C_{iss} C_{oss} C_{rss} | - | 2600 700 260 | 2900 1100 275 | pF |

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

NOTES:

1/ Maximum current limited by package, die rated at 75A.