



SOLID STATE DEVICES, INC.

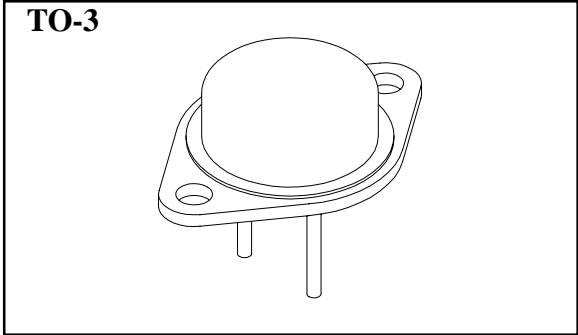
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DESIGNER'S DATA SHEET

- FEATURES:**
- Low RDS (on) and High Transconductance
 - Excellent High Temperature Stability
 - Fast Switching Speed
 - Intrinsic Rectifier
 - Hermetically Sealed Package
 - TX, TXV, and Space Level Screening Available

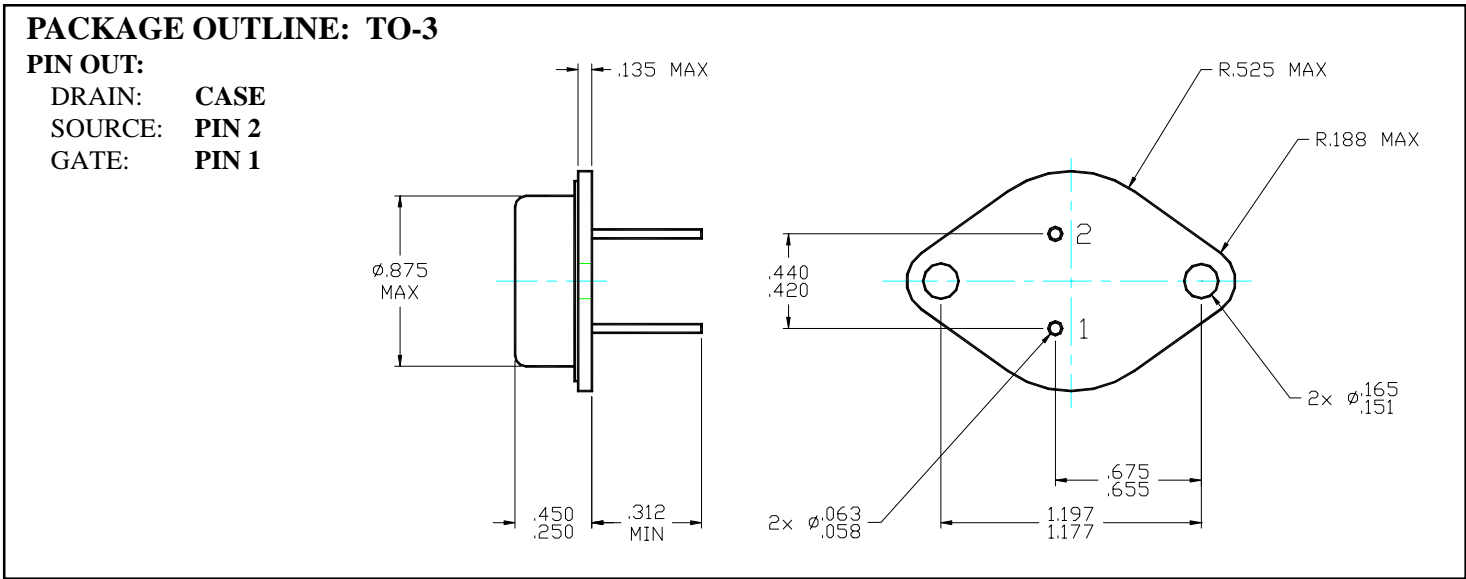
SFF15N80/3

**15 AMPS
 800 VOLTS
 0.60 Ω
 N-CHANNEL
 POWER MOSFET**



MAXIMUM RATINGS

| CHARACTERISTIC | SYMBOL | VALUE | UNIT |
|--------------------------------------|------------------------------------|-------------|-------|
| Drain to Source Voltage | V _{DSS} | 800 | Volts |
| Gate to Source Voltage | V _{GS} | ±20 | Volts |
| Continuous Drain Current | I _D | 15 | Amps |
| Operating and Storage Temperature | T _{op} & T _{stg} | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 0.42 | °C/W |
| Total Device Dissipation @ TC = 25°C | P _D | 300 | Watts |



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

DATA SHEET #: FT0006C

SFF15N80/3



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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 = 3mA) | | BV_{DSS} | 800 | - | - | V |
| Drain to Source ON State Resistance (V _{GS} = 10 V, I _D = 7.5A) | | R_{DS(on)} | - | - | 0.65 | Ω |
| Gate Threshold Voltage (V _{DS} = V _{GS} , I _D = 4mA) | | V_{GS(th)} | 2.0 | - | 4.5 | V |
| Zero Gate Voltage Drain Current (V _{DS} = 640V, V _{GS} = 0V) | T _A = 25°C T _A = 125°C | I_{DSS} | - - | - - | 250 1000 | μA |
| Gate to Source Leakage Forward (V _{GS} = ±20V, V _{DS} = 0V) | | I_{GSS} | - | - | ±100 | nA |
| Input Capacitance | V _{GS} = 0 Volts | C_{iss} | 3965 | - | 4870 | pF |
| Output Capacitance | V _{DS} = 25 Volts | C_{oss} | 315 | - | 395 | |
| Reverse Transfer Capacitance | f = 1 MHz | C_{rss} | 73 | - | 120 | |
| Total Gate Charge | V _{GS} = 10 V | Q_g | - | 128 | 155 | nC |
| Gate to Source Charge | V _{DS} = 400V | Q_{gs} | - | 30 | 45 | |
| Gate to Drain Charge | I _D = 7.5A | Q_{gd} | - | 55 | 80 | |
| Turn on Delay Time | V _{GS} = 10V | t_{d (on)} | - | 20 | 50 | nsec |
| Rise Time | V _{DD} = 400V | t_r | - | 33 | 50 | |
| Turn off Delay Time | I _D = 7.5A | t_{d (off)} | - | 63 | 100 | |
| Fall Time | R _G = 2 Ω | t_f | - | 32 | 50 | |
| Diode Forward Voltage (I _S = 15A, V _{GS} = 0V, T _J = 25°C) | | V_{SD} | - | - | 1.50 | V |
| Diode Reverse Recovery Time | I _F = 15A, V _R = 100V di/dt = 100A/μsec | t_{rr} | - | - | 800 | nsec |

NOTES: