

**SFF10N100/3**

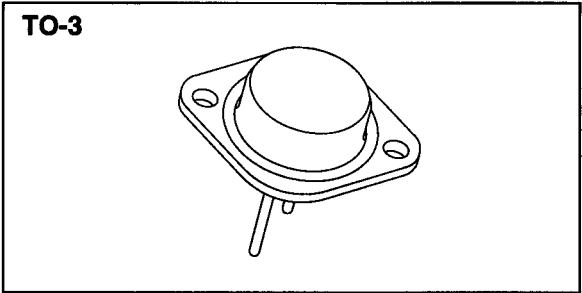
14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

**Designer's Data Sheet**

**FEATURES:**

- Rugged construction with polysilicon 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
  - Ceramic Seals for improved hermeticity
  - Hermetically sealed power package
  - TX, TXV and Space Level screening available
- Replaces: IXTH10N100 Types

**10 AMP  
1000 VOLTS  
1.2 Ω  
N-CHANNEL  
POWER MOSFET**



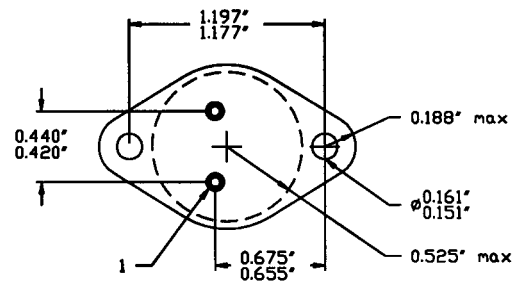
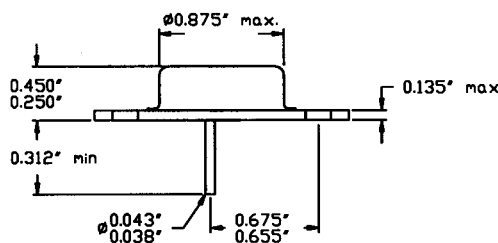
**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	1000	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	10	Amps
Operating and Storage Temperature	T <sub>op</sub> & T <sub>stg</sub>	-55 to +175	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	0.5	°C/W
Total Device Dissipation @ TC=25°C	P <sub>D</sub>	250	Watts
Total Device Dissipation @ TC=55°C		190	

**PACKAGE OUTLINE:TO-3**

**PIN OUT:**

**PIN 1: GATE  
PIN 2: SOURCE  
CASE: DRAIN**



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

**DATA SHEET #: F00187 B**

**MED**

**SFF10N100/3**

PRELIMINARY

**SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @  $T_J=25^\circ\text{C}$  (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=3mA)		BVDSS	1000	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=50% Rated ID)		RDS(on)	---	1.05	1.2	$\Omega$
On State Drain Current (VDS = 15V, VGS=10 V)		ID(on)	10	---	---	A
Gate Threshold Voltage (VDS $\geq$ VGS, ID=4mA)		VGS(th)	2.0	---	4.5	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=50% rated ID)		gfs	5	8	---	S( $\tau$ )
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		IDSS	---	---	250 1000	$\mu$ A
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS	IGSS	---	---	+100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS=10 Volts 50% rated VDS Rated ID	Qg Qgs Qgd	---	110 20 40	155 45 80	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS 50% rated ID RG=6.2 $\Omega$ VGS=10V	td(on) tr td(off) tf	---	30 20 110 40	50 50 130 50	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)		VSD	---	---	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ=25°C IF=rated ID di/dt=100 A/ $\mu$ sec	trr QRR	---	850 ---	1200 ---	nsec $\mu$ C
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	Ciss Coss Crss	---	4000 310 70	---	pF

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