

**SFF10N100/3**

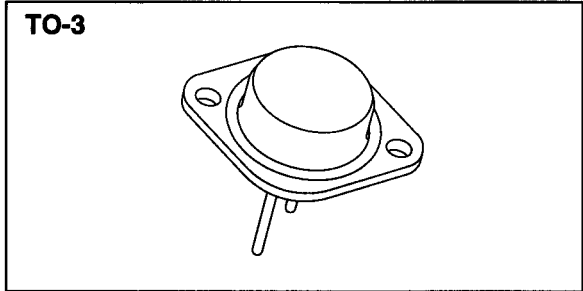
14849 Firestone Boulevard · La Mirada, CA 90638  
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

**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**



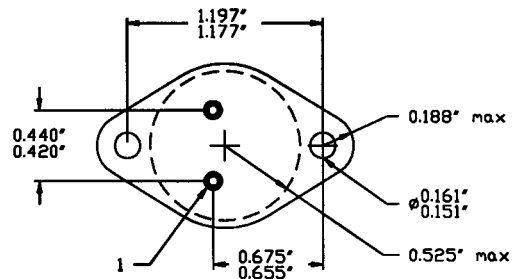
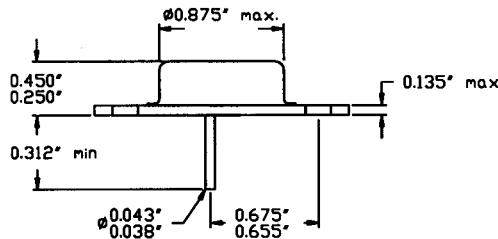
**MAXIMUM RATINGS**

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<sub>J</sub>=25°C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=3mA)		BV <sub>DSS</sub>	1000	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=50% Rated ID)		R <sub>DS(on)</sub>	---	1.05	1.2	Ω
On State Drain Current (VDS = 15V, VGS=10 V)		I <sub>D(on)</sub>	10	---	---	A
Gate Threshold Voltage (VDS≥VGS, ID=4mA)		V <sub>GS(th)</sub>	2.0	---	4.5	V
Forward Transconductance (VDS > I <sub>D(on)</sub> X R <sub>DS(on)</sub> Max, IDS=50% rated ID)		g <sub>fs</sub>	5	8	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		I <sub>DSS</sub>	---	---	250 1000	μA
Gate to Source Leakage Forward	At rated VGS	I <sub>GSS</sub>	---	---	+100 -100	nA
Gate to Source Leakage Reverse						
Total Gate Charge	VGS=10 Volts	Q <sub>g</sub>	---	110	155	nC
Gate to Source Charge	50% rated VDS	Q <sub>gs</sub>	---	20	45	
Gate to Drain Charge	Rated ID	Q <sub>gd</sub>	---	40	80	
Turn on Delay Time	VDD=50% rated VDS	t <sub>d(on)</sub>	---	30	50	nsec
Rise Time		t <sub>r</sub>	---	20	50	
Turn Off Delay Time	50% rated ID	t <sub>d(off)</sub>	---	110	130	
Fall Time	RG=6.2Ω VGS=10V	t <sub>f</sub>	---	40	50	
Diode Forward Voltage (IS=rated ID, VGS=0 V, T <sub>J</sub> =25°C)		V <sub>SD</sub>	---	---	1.5	V
Diode Reverse Recovery Time	T <sub>J</sub> =25°C	t <sub>rr</sub>	---	850	1200	nsec
Reverse Recovery Charge	I <sub>F</sub> =rated ID di/dt=100 A/μsec	Q <sub>RR</sub>	---	---	---	μC
Input Capacitance	VGS=0 Volts	C <sub>iss</sub>	---	4000	---	pF
Output Capacitance	VDS=25 Volts	C <sub>oss</sub>	---	310	---	
Reverse Transfer Capacitance	f= 1 MHz	C <sub>rss</sub>	---	70	---	

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