PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF75N10N
SFF75N10P

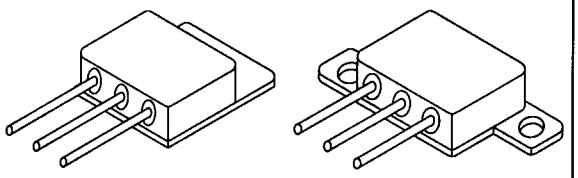
Designer's Data Sheet

75 AMP
100 VOLTS
0.025 Ω
N-CHANNEL
POWER MOSFET

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 package
- TX, TXV and Space Level screening available
- Replaces: IXTH75N10 Types

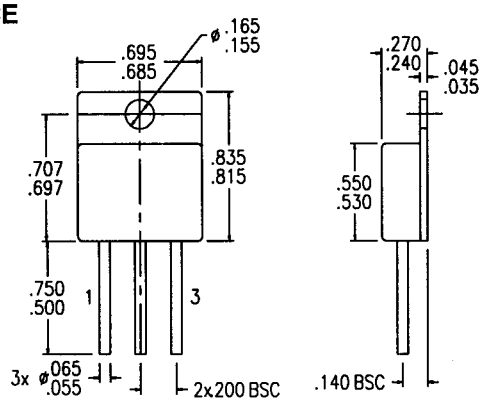
TO-258 **TO-259**



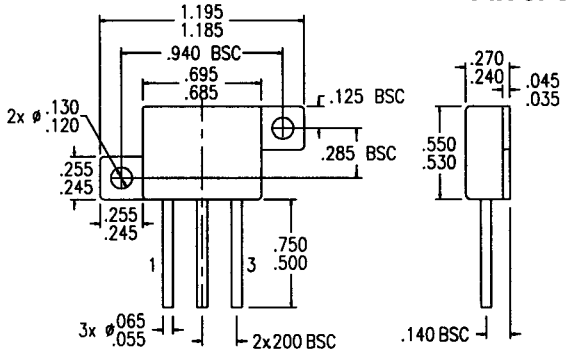
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	100	Volts
Gate to Source Voltage	V_{GS}	±20	Volts
Continuous Drain Current	I_D	75	Amps
Operating and Storage Temperature	T_{op} & T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.83	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P_D	150 114	Watts
Repetitive Avalanche Energy	E_{AR}	30	mJ

PACKAGE OUTLINE: TO-258 (N)
PIN OUT:
PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: GATE



PACKAGE OUTLINE: TO-259 (P)
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 #: F00157 C

MED

SFF75N10N
SFF75N10P

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ELECTRICAL CHARACTERISTICS @ T_J=25°C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250μA)		**BV_{DSS}**	100	---	---	**V**
Drain to Source on State Resistance (VGS=10 V)	ID=37.5A ID=75 A	**$R_{DS(on)}$**	--- ---	--- ---	0.025 0.030	**Ω**
On State Drain Current (VDS >ID(on) X RDS(on) Max, VGS=10 V		**$I_{D(on)}$**	75	---	---	**A**
Gate Threshold Voltage (VDS≥VGS, ID=4mA)		**$V_{GS(th)}$**	2.0	---	4.0	**V**
Forward Transconductance (VDS >ID(on) X RDS(on) Max, IDS=50% rated ID)		**g_{fs}**	25	30	---	**S(℧)**
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		**I_{DSS}**	--- ---	--- ---	250 1000	**μA**
Gate to Source Leakage Forward **Gate to Source Leakage Reverse**	At rated VGS	**I_{GSS}**	--- ---	--- ---	+200 -200	**nA**
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	VGS=10 Volts 50% rated VDS 50% Rated ID	**Q_g** **Q_{gs}** **Q_{gd}**	--- --- ---	160 16 50	260 70 160	**nC**
Turn on Delay Time **Rise Time** **Turn Off Delay Time** **Fall Time**	VDD=50% rated VDS 50% rated ID RG=6.2Ω VGS=10V	**$t_{d(on)}$** **t_r** **$t_{d(off)}$** **t_f**	--- --- --- ---	30 35 100 40	40 100 120 80	**nsec**
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)		**V_{SD}**	---	1.3	1.75	**V**
Diode Reverse Recovery Time **Reverse Recovery Charge**	TJ=25°C IF=10 A di/dt=100 A/μsec	**t_{rr}** **Q_{RR}**	--- ---	120 ---	200 ---	**nsec** **μC**
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f= 1 MHz	**C_{iss}** **C_{oss}** **C_{rss}**	--- --- ---	4500 1600 800	--- --- ---	**pF**