PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF230J

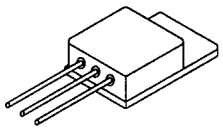
9 AMP
200 VOLTS
0.40Ω
N-CHANNEL
POWER MOSFET

Designer's Data Sheet

FEATURES:

- Rugged construction with poly silicon 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
- Hermetically sealed package
- TX, TXV and Space Level screening available
- Replaces: IRF230 Types

TO-257



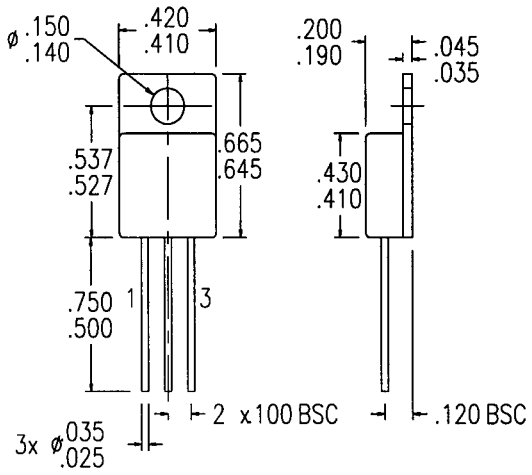
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	200	Volts
Gate to Source Voltage	V_{GS}	±20	Volts
Continuous Drain Current @ 25°C @ 100°C	I_D	9 6	Amps
Operating and Storage Temperature	T_{op} & T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P_D	50 38	Watts
Single Pulse Avalanche Energy	E_{AS}	54	mJ
Repetitive Avalanche Energy	E_{AR}	7.5	mJ

PACKAGE OUTLINE: TO-257

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 #: F00013 B

MED

PRELIMINARY

SFF230J

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

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=1mA)		BV_{DSS}	200	---	---	V
Drain to Source on State Resistance (VGS=10 V)	@6A @9A	$R_{DS(on)}$	---	0.25	0.40 0.49	Ω
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta Tj}$	---	0.29	---	V/°C
Gate Threshold Voltage (VDS=VGS, ID=250μA)		$V_{GS(th)}$	2	---	4	V
Forward Transconductance (VDS >ID(on) X RDS(on) Max, IDS= 6 A)		g_{fs}	3.0	6	---	S(℧)
Zero Gate Voltage Drain Current (VDS=80% max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		I_{DSS}	--- ---	--- ---	25 250	μA
Gate to Source Leakage Forward **Gate to Source Leakage Reverse**	At rated VGS	I_{GSS}	--- ---	--- ---	100 -100	nA
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	VGS=10 Volts 50% rated VDS ID= 9 A	Q_g Q_{gs} Q_{gd}	16 --- 8	30 3 9	39 5.7 25	nC
Turn on Delay Time **Rise Time** **Turn Off Delay Time** **Fall Time**	VDD=50% rated VDS ID= 9A RG= 7.5Ω	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	--- --- --- ---	--- --- --- ---	35 80 60 40	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)		V_{SD}	---	---	1.4	V
Diode Reverse Recovery Time **Reverse Recovery Charge**	TJ=25°C IF= 9 A di/dt≤100 A/μsec	t_{rr} Q_{RR}	--- ---	450 3.0	500 6	nsec μC
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f= 1 MHz	C_{iss} C_{oss} C_{rss}	--- --- ---	600 250 80	--- --- ---	pF