



PRELIMINARY

SOLID STATE DEVICES, INC

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

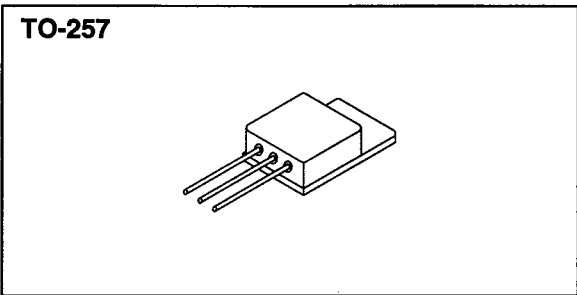
SFF9130J

**-11 AMP
 -100 VOLTS
 0.30 Ω
 P-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
- TX, TXV and Space Level Screening available
- Replaces: IRF9130 Types



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 @TC=25°C @TC=100°C	I _D	-11 -7	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	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	EAS	81	mJ
Repetitive Avalanche Energy	EAR	7.5	mJ

PACKAGE OUTLINE: TO-257

PIN OUT:
 PIN 1: DRAIN
 PIN 2: SOURCE
 PIN 3: GATE

Dimensions shown in drawing:
 Top width: .150, .420, .410
 Pin 1 diameter: 3x ∅.035, .140
 Pin 1 length: 1.132, 1.032
 Pin 2 length: .537, .527
 Pin 3 length: .665, .645
 Pin 2 diameter: 2 x 100 BSC
 Pin 3 diameter: .120 BSC
 Pin 2 offset: .200, .190
 Pin 3 offset: .045, .035
 Pin 2 width: .430, .410

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

DATA SHEET #: FP0023 C

MED

SFF9130J

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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=1mA)	BVDSS	-100	---	---	V
Temperature Coefficient of Breakdown Voltage	$\frac{\Delta BVDSS}{\Delta T_J}$	---	87	---	mV/C
Drain to Source on State Resistance (VGS= -10 V) ID=7A ID=11A	RDS(on)		---	0.30 0.35	Ω
Gate Threshold Voltage (VDS=VGS, ID= -250 μ A)	VGS(th)	-2.0		-4.0	V
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=7 A)	gfs	3.0	5.0	---	S(τ)
Zero Gate Voltage Drain Current (VDS=80% max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)	IDSS	---	---	-25 250	μ 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 ID= -11 A Qg Qgs Qgd	15 1 2	26 3 14	29 7.1 21	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=11A RG= 7.5 Ω td(on) tr td(off) tf	---	15 10 30 12	60 140 140 140	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25° C)	VSD	---	---	-4.7	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=10 A di/dt=100 A/ μ sec trr QRR	---	125 ---	250 3	nsec μ C
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS= -25 Volts f= 1 MHz Ciss Coss Crss	---	860 350 125	---	pF

SAFE OPERATING AREA (S.O.A.)
 TC = 25 C, D.C. CONDITION

