

SFF130/3

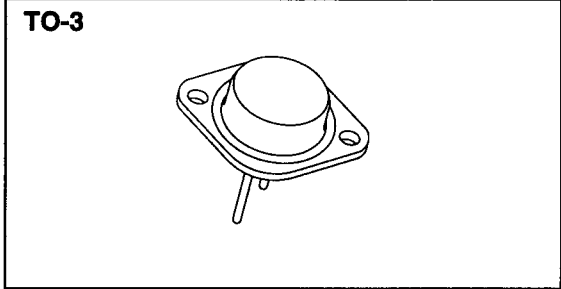
14849 Firestone Boulevard · La Mirada, CA 90638
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

Designer's Data Sheet

**14 AMP
 100 VOLTS
 0.16 Ω
 N-CHANNEL
 POWER MOSFET**

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
- Available in both hot case and isolated versions
- Ideal for low power applications
- TX, TXV and Space Level screening available
- Replaces: IRF130 Types



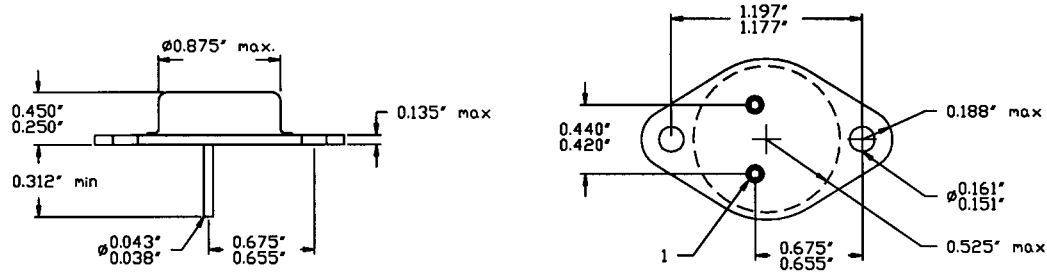
MAXIMUM RATINGS

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	14 9	Amps
Operating and Storage Temperature	T _{OP} & T _{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TA=25°C	P _D	25 19	Watts
Single Pulse Avalanche Energy	E _{AS}	75	mJ
Repetitive Avalanche Energy	E _{AR}	7.5	mJ

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 #: F00307 A

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PRELIMINARY



SOLID STATE DEVICES, INC

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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)	BVDSS	100	---	---	V	
Temperature Coefficient of Breakdown Voltage	$\frac{\Delta BVDSS}{\Delta T_J}$	---	130	---	mV/°C	
Drain to Source on State Resistance (VGS=10 V) ID=9A ID=14A	RDS(on)	---	0.14	0.18 0.21	Ω	
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)	ID(on)	14	---	---	A	
Gate Threshold Voltage (VDS=VGS, ID=250μA)	VGS(th)	2	2.8	4	V	
Forward Transconductance (VDS > ID(on) X RDS(on) Max, IDS=9A)	gfs	4.6	7	--	S(T _J)	
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	μA	
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	12 1.5 .5	17 3.7 7.0	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS 50% rated ID RG=7.5Ω	td(on) tr td(off) tf	---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25° C)	VSD	---	1	1.5	V	
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=10A di/dt=100 A/μsec	trr QRR	---	120 0.58	300 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	Ciss Coss Crss	---	650 250 44	---	pF

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

