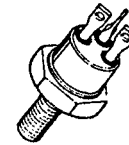




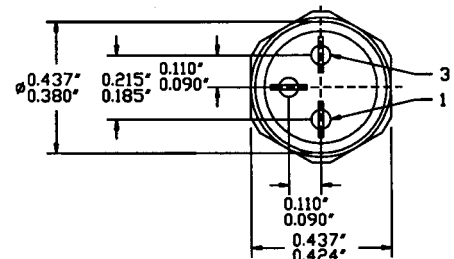
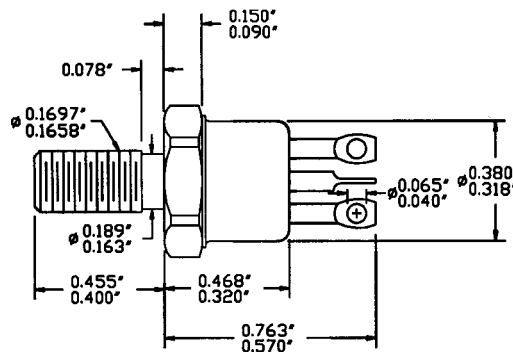
PRELIMINARY

SOLID STATE DEVICES, INC14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**SFF130/59****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 stud package
- TX, TXV and Space Level screening available
- Replaces: IRF130 Types

**14 AMP
100 VOLTS
0.16 Ω
N-CHANNEL
POWER MOSFET****TO-59****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}	3.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	35 27	Watts

PACKAGE OUTLINE: TO-59**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 #: F00027 B****MED**

SFF130/59

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ELECTRICAL CHARACTERISTICS @ $T_J=25^\circ\text{C}$ (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		$\frac{\Delta BVDSS}{\Delta Tj}$	---	0.13	---	V/°C
Drain to Source on State Resistance (VGS=10 V) ID = 9A ID = 14A		RDS(on)	---	0.13 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=60% rated ID)		gfs	4.6	7	---	S(Ω)
Zero Gate Voltage Drain Current (VDS=80% 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	20 --- ---	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID= 14A 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, TJ=25°C)		VSD	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ=25°C IF=rated ID di/dt=100 A/ sec	trr QRR	--- ---	120 0.7	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.)
 $T_C = 25^\circ\text{C}$, D.C. CONDITION
