

SFF130/59

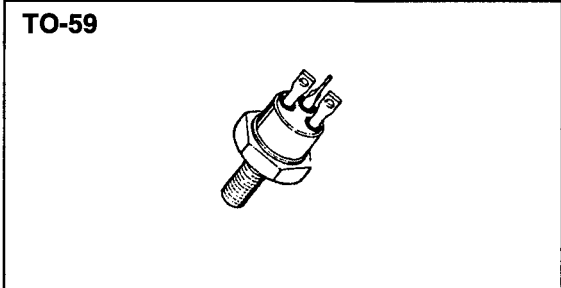
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Designer's Data Sheet

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**



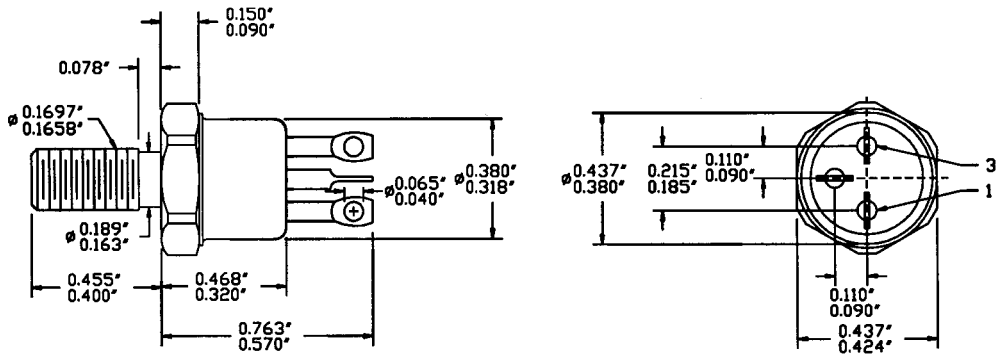
MAXIMUM RATINGS

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

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SFF130/59

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
Temperature Coefficient of Breakdown Voltage	$\frac{\Delta BV_{DSS}}{\Delta T_j}$	---	0.13	---	V/°C
Drain to Source on State Resistance ID = 9A (VGS=10 V) 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, T _J =25° C)	VSD	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =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	---

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

