



SOLID STATE DEVICES, INC

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

Designer's Data Sheet

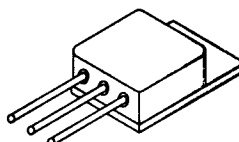
FEATURES:

- Rugged construction with poly silicon gate
- Low $R_{DS(on)}$ 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

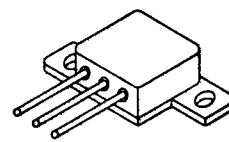
SFF9130M
SFF9130Z

-11 AMP
100 VOLTS
0.30 Ω
P-CHANNEL
POWER MOSFET

TO-254



TO-254Z



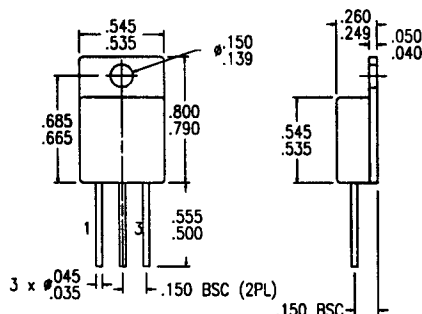
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	-100	Volts
Gate to Source Voltage	V_{GS}	± 20	Volts
Continuous Drain Current @ $TC=25^{\circ}C$ @ $TC=100^{\circ}C$	I_D	-11 -7	Amps
Operating and Storage Temperature	$T_{op} \text{ \& } T_{stg}$	-55 to +150	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	$^{\circ}C/W$
Total Device Dissipation @ $TC=25^{\circ}C$ Total Device Dissipation @ $TC=55^{\circ}C$	P_D	63 48	Watts
Single Pulse Avalanche Energy	E_{AS}	81	mJ
Repetitive Avalanche Energy	E_{AR}	7.5	mJ

PACKAGE OUTLINE: TO-254

PIN OUT:

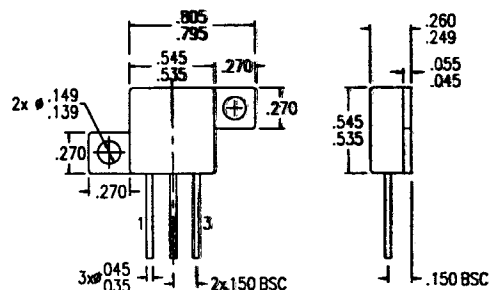
PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: GATE



PACKAGE OUTLINE: TO-254Z

PIN OUT:

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



Available with Glass or Ceramic Seals. Contact Factory for details.

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

DATA SHEET #: FP0025 D

MED

SFF9130M
SFF9130Z

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

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =1mA)		BV _{DSS}	-100	---	---	V
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta T_J}$	---	87	---	mV/°C
Drain to Source on State Resistance (V _{GS} = -10 V)	I _D =7A I _D =11A	R _{DS(on)}		---	0.30 0.35	Ω
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D = -250μA)		V _{GS(th)}	-2.0		-4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =7 A)		g _{fs}	3.0	5.0	---	S(V)
Zero Gate Voltage Drain Current (V _{DS} =80% max rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125°C)		I _{DSS}	---	---	-25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated V _{GS}	I _{GSS}	---	---	-100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} = -10 Volts 50% rated V _{DS} I _D = -11 A	Q _g Q _{gs} Q _{gd}	15 1 2	26 3 14	29 7.1 21	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} I _D =11A R _G = 7.5Ω	t _{d(on)} t _r t _{d(off)} t _f	---	15 10 30 12	60 140 140 140	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V _{SD}	---	---	-4.7	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =10 A di/dt=100 A/μsec	t _{rr} Q _{RR}	---	125 ---	250 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _{DS} = -25 Volts f= 1 MHz	C _{iss} C _{oss} C _{rss}	---	860 350 125	---	pF