



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF130G

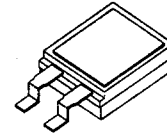
14 AMP  
100 VOLTS  
0.18 Ω  
N-CHANNEL  
POWER MOSFET

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 surface mount package
- Low inductance package
- TX, TXV and Space Level screening available
- Replaces: IRF130 Types

CERPACK



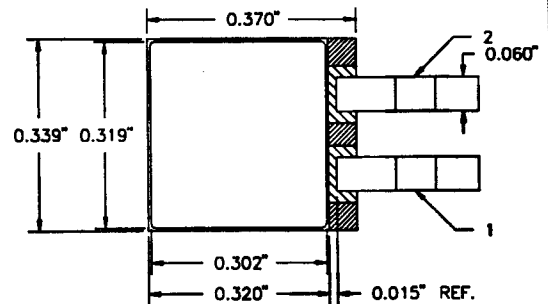
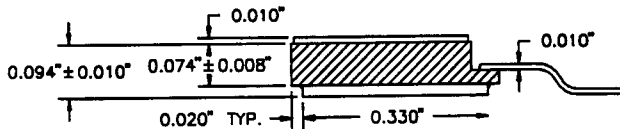
MAXIMUM RATINGS:

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	100	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	14 9	Amps
		@TC=25°C @TC=100°C	
Operating and Storage Temperature	T <sub>op</sub> & T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	2.8	°C/W
Total Device Dissipation @ TC=25°C	P <sub>D</sub>	44	Watts
Total Device Dissipation @ TC=55°C		34	
Single Pulse Avalanche Energy	E <sub>AS</sub>	75	mJ
Repetitive Avalanche Energy	E <sub>AR</sub>	7.5	mJ

PACKAGE OUTLINE: CERPACK

PIN OUT:

PIN 1: SOURCE  
PIN 2: GATE  
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 #: F00021 B

MED

**SFF130G**

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**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25° C (Unless Otherwise Specified)**

RATING	SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V <sub>GS</sub> =0 V, I <sub>D</sub> =250μA)	BV <sub>DSS</sub>	100	---	---	V
Temperature Coefficient of Breakdown Voltage	$\frac{\Delta BV_{DSS}}{\Delta T_j}$	---	0.13		V/°C
Drain to Source on State Resistance (V <sub>GS</sub> =10 V) I <sub>D</sub> =9 A I <sub>D</sub> =14 A	R <sub>DS(on)</sub>		0.13 0.14	0.18 0.21	Ω
Gate Threshold Voltage (V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA)	V <sub>GS(th)</sub>	2	2.8	4	V
Forward Transconductance (V <sub>DS</sub> > I <sub>D(on)</sub> X R <sub>DS(on)</sub> Max, I <sub>DS</sub> =9 A)	g <sub>fs</sub>	4.6	7	--	S(Ω)
Zero Gate Voltage Drain Current (V <sub>DS</sub> =80% rated voltage, V <sub>GS</sub> =0 V) (V <sub>DS</sub> =80% rated V <sub>DS</sub> , V <sub>GS</sub> =0 V, T <sub>A</sub> =125° C)	I <sub>DSS</sub>	---	---	25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	I <sub>GSS</sub>	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	Q <sub>g</sub> Q <sub>gs</sub> Q <sub>gd</sub>	12 1.5 5	20 ---	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	t <sub>d(on)</sub> t <sub>r</sub> t <sub>d(off)</sub> t <sub>f</sub>	---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (I <sub>S</sub> =rated I <sub>D</sub> , V <sub>GS</sub> =0 V, T <sub>J</sub> =25° C)	V <sub>SD</sub>	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	t <sub>rr</sub> Q <sub>RR</sub>	---	120 0.7	300 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	C <sub>iss</sub> C <sub>oss</sub> C <sub>rss</sub>	---	650 250 44	---	pF

SAFE OPERATING AREA (S.O.A.)  
 T<sub>C</sub> = 25 C, D.C. CONDITION

