



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF130G

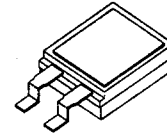
14 AMP
100 VOLTS
0.18 Ω
N-CHANNEL
POWER MOSFET

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



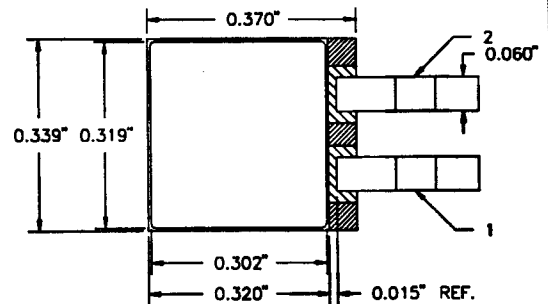
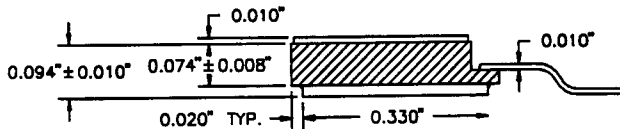
MAXIMUM RATINGS:

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

RATING	SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =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 (V _{GS} =10 V) ID=9 A ID=14 A	R _{DS(on)}		0.13 0.14	0.18 0.21	Ω
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)	V _{GS(th)}	2	2.8	4	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =9 A)	g _{fs}	4.6	7	--	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =80% 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	I _{GSS}	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	Q _g Q _{gs} Q _{gd}	12 1.5 5	20 ---	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	t _{d(on)} t _r t _{d(off)} t _f	---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25° C)	V _{SD}	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	t _{rr} Q _{RR}	---	120 0.7	300 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	C _{iss} C _{oss} C _{rss}	---	650 250 44	---	pF

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

