

**SFF130-28**

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

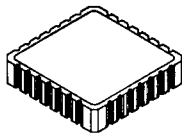
**Designer's Data Sheet**

**FEATURES:**

- Rugged construction with poly silicon gate
- Low 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
- TX, TXV and Space Level screening available
- Replaces: IRF130 Types

**14 AMP  
 100 VOLTS  
 0.16 Ω  
 N-CHANNEL  
 POWER MOSFET**

**28 PIN CLCC**



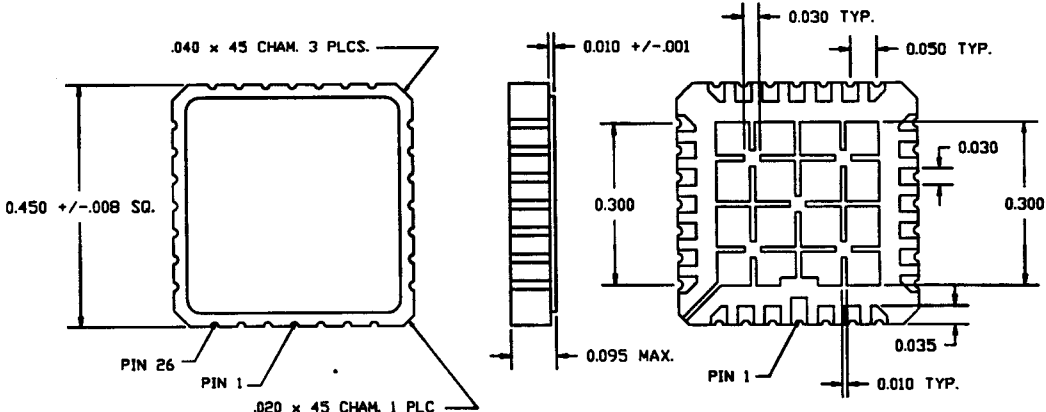
**MAXIMUM RATINGS:**

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 @ TC=25°C	I <sub>D</sub>	14	Amps
Continuous Drain Current @ TA=25°C		2.2	
Continuous Drain Current @ TC=100°C		9	
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>	6	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	120	
Total Device Dissipation @ TC=25°C	P <sub>D</sub>	21	Watts
Total Device Dissipation @ TC=55°C		6	
Total Device Dissipation @ TA=25°C		1	

**PACKAGE OUTLINE: 28 PIN CLCC**

**PIN OUT:**  
 SOURCE: 1, 15 & 28  
 DRAIN: 5 & 11  
 GATE: 2, 3, 13, 14

**NOTE:**  
 All Drain/Source Pins must be connected on the PC Board in order to maximize current capability and minimize RDS(on)



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

**DATA SHEET #: F00023 B**

**MED**

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PRELIMINARY

**SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25° C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=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 (VGS=10 V)	ID = 9A ID = 14A	R <sub>DS(on)</sub>	---	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 <sub>J</sub> =25° C)		VSD	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25° C IF=rated ID di/dt=100 A/μsec	t <sub>rr</sub> 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

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.