



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF330-28

**5.5 AMP
400 VOLTS
1.1Ω
N-CHANNEL
POWER MOSFET**

Designer's Data Sheet

FEATURES:

- Rugged construction with polysilicon 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
- Ceramic Seals for improved hermeticity
- Hermetically sealed surface mount package
- TX, TXV and Space Level screening available
- Replaces: IRF330 Types

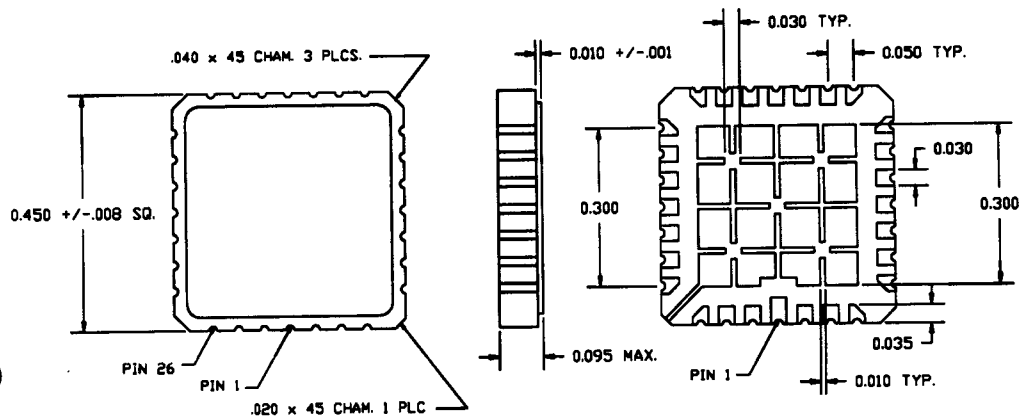
28 PIN CLCC

MAXIMUM RATINGS			
CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	400	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current	I _D	5.5	Amps
Operating and Storage Temperature	T _{OP} & T _{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	6	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	120	°C/W
Total Device Dissipation @ TC=25°C	P _D	21	Watts
Total Device Dissipation @ TC=55°C		15	
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 #: F00127 A

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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}	400	440	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =60% Rated ID)	R _{DS(on)}	---	1.0	1.1	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)	I _{D(on)}	5.5	---	---	A
Gate Threshold Voltage (V _{DS} = 10 V, V _{GS} , I _D =250μA)	V _{GS(th)}	2.0	3.2	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =60% rated ID)	g _{fs}	2.9	4.3	---	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =max rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125°C)	I _{DSS}	---	---	250 1000	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 80% rated V _{DS} Rated ID Q _g Q _{gs} Q _{gd}	---	23 3.1 12	55 4.6 18	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =40% rated V _{DS} 50% rated I _D R _G =12Ω R _D =36Ω t _{d(on)} t _r t _{d(off)} t _f	---	11 19 37 16	17 29 56 24	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)	V _{SD}	---	---	1.6	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated I _D di/dt=100 A/μsec t _{rr} Q _{RR}	140 0.93	310 2.0	660 4.3	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}	---	620 100 21	---	pF

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

