



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF330-28

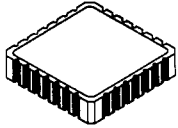
**5.5 AMP
400 VOLTS
1.1Ω
N-CHANNEL
POWER MOSFET**

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



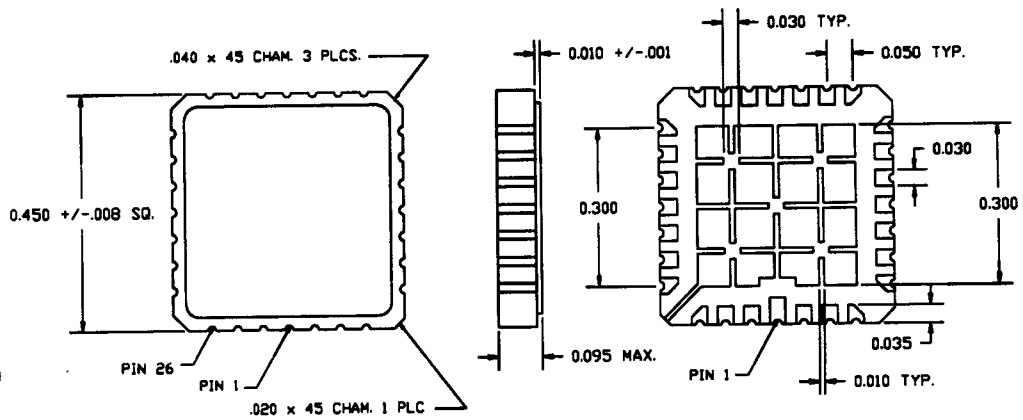
MAXIMUM RATINGS

| 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 _R | 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

