



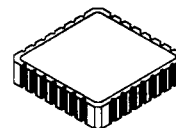
PRELIMINARY

SOLID STATE DEVICES, INC14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**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: IRF220 Types

SFF220-28

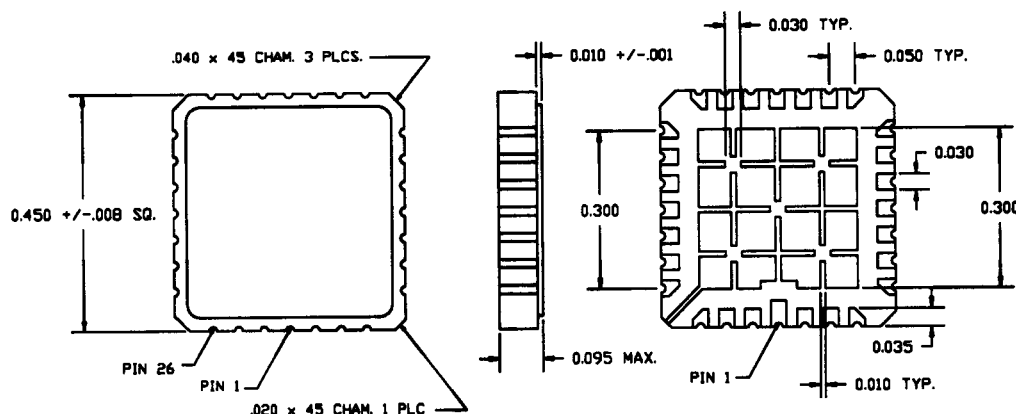
5 AMP
200 VOLTS
0.8 Ω
N-CHANNEL
POWER MOSFET

28 PIN CLCC**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	200	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current @ TC=25°C Continuous Drain Current @ TA=25°C	I _D	5.0 0.8	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case Thermal Resistance, Junction to Ambient	R _{θJC} R _{θJA}	10 120	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C Total Device Dissipation @ TA=25°C	P _D	12.5 9.5 1.0	Watts

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 #: F00125 A**MED**

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}	200	230	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =60% Rated ID)		R_{DS(on)}	---	0.7	0.8	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I_{D(on)}	5.0	6.0	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V_{GS(th)}	2.0	3.3	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =50% rated ID)		g_{fs}	1.3	2.5	---	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}	---	11 5.0 6.0	15 8 10	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% rated ID R _G =50Ω	t_{d(on)} t_r t_{d(off)} t_f	---	20 30 50 30	40 60 100 60	nsec
Diode Forward Voltage (I _S =rated ID, V _{GS} =0 V, T _J =25°C)		V_{SD}	---	1.0	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated ID di/dt=100 A/μsec	t_{rr} Q_{RR}	---	350 2.3	---	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}	---	450 150 40	600 300 80	pF

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