

SFF230-28

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

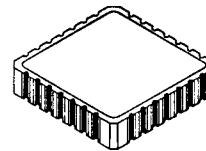
Designer's Data Sheet

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: IRF230 Types

**9 AMP
 200 VOLTS
 0.40Ω
 N-CHANNEL
 POWER MOSFET**

28 PIN CLCC



MAXIMUM RATINGS

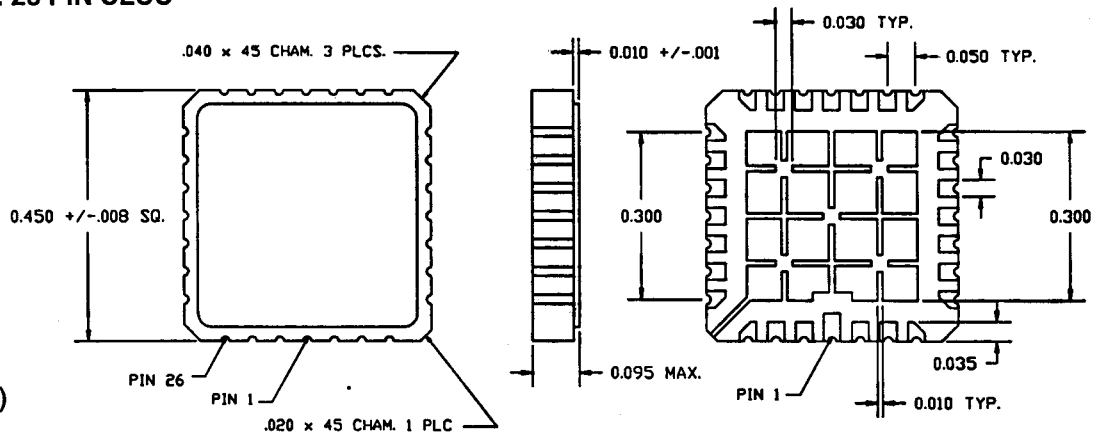
CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	200	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current @ TC=25°C Continuous Drain Current @ TA=25°C	I _D	9 ---	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C.
Thermal Resistance, Junction to Case Thermal Resistance, Junction to Ambient	R _{θJC} R _{θJA}	6 120	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C Total Device Dissipation @ TA=25°C	P _D	20 15 1	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)



SFF230-28

PRELIMINARY

**SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**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	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D = 5 A)		R _{DS(on)}	---	0.25	0.4**	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I _{D(on)}	9	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	2	---	4	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} = 5 A)		g _{fs}	3.0	6	---	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} I _D = 12 A	Q _g Q _{gs} Q _{gd}	---	30 10 9	39 ---	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% rated I _D R _G = 15Ω	t _{d(on)} t _r t _{d(off)} t _f	---	---	30 50 50 40	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V _{SD}	---	---	2.0	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =150°C I _F =rated I _D di/dt=100 A/μsec	t _{rr} Q _{RR}	---	450 3.0	---	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}	---	600 250 80	800 450 150	pF

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

NOTES:

* Rating based on size of chip. Device rating may vary depending on mounting and heatsink conditions. Consult SSDI Marketing department for thermal derating details.

** Due to package resistance; all Source/Drain pins must be connected on the PC Board in order to obtain the lowest R_{DS(on)} possible.