



PRELIMINARY

SOLID STATE DEVICES, INC

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

**SFF9240-28**

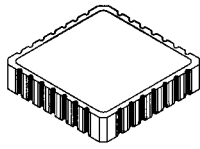
**Designer's Data Sheet**

**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
- TX, TXV and Space Level Screening available
- Replaces: IRF9240 Types

**-11 AMP  
-200 VOLTS  
0.50Ω  
P-CHANNEL  
POWER MOSFET**

**28 PIN CLCC**



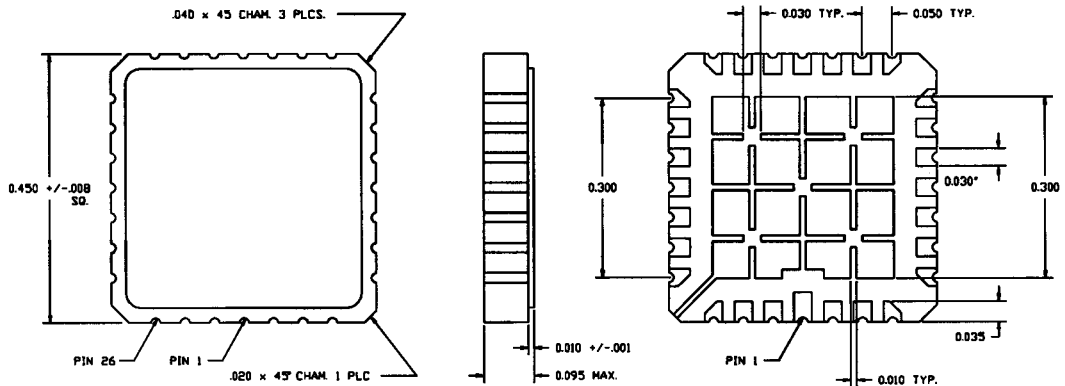
**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	-200	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	-11	Amps
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>	3.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P <sub>D</sub>	36 27	Watts

**PACKAGE OUTLINE: 28 PIN CLCC**

**PIN OUT:**

**SOURCE: 1, 15-28  
DRAIN: 5-11  
GATE: 2, 3, 13, 14**



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

**DATA SHEET #: FP0007 D**

**MED**

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**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25°C (Unless Otherwise Specified)**

RATING	SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V <sub>GS</sub> =0 V, I <sub>D</sub> =-250μA)	BV <sub>DSS</sub>	-200	---	---	V
Drain to Source on State Resistance (V <sub>GS</sub> = -10 V, I <sub>D</sub> = -6 A)	R <sub>DS(on)</sub>	---	0.35	0.50	Ω
On State Drain Current (V <sub>DS</sub> > I <sub>D(on)</sub> X R <sub>DS(on)</sub> Max, V <sub>GS</sub> = -10 V)	I <sub>D(on)</sub>	-11	---	---	A
Gate Threshold Voltage (V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250μA)	V <sub>GS(th)</sub>	-2.0	---	-4.0	V
Forward Transconductance (V <sub>DS</sub> ≥ I <sub>D(on)</sub> X R <sub>DS(on)</sub> max., I <sub>DS</sub> = -6.0 A)	g <sub>fs</sub>	4	6	---	S(τ)
Zero Gate Voltage Drain Current (V <sub>DS</sub> =max rated voltage, V <sub>GS</sub> =0 V) (V <sub>DS</sub> =80% rated V <sub>DS</sub> , V <sub>GS</sub> =0 V, T <sub>A</sub> =125°C)	I <sub>DSS</sub>	---	---	-250 -1000	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	V <sub>GS</sub> = ±20V I <sub>GSS</sub>	---	---	-100 100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V <sub>GS</sub> = -10 Volts 80% rated V <sub>DS</sub> I <sub>D</sub> = -11 A Q <sub>g</sub> Q <sub>gs</sub> Q <sub>gd</sub>	---	38 8.0 21	90 ---	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V <sub>DD</sub> = -100 V I <sub>D</sub> = -7 A R <sub>G</sub> = 9.1Ω t <sub>d(on)</sub> t <sub>r</sub> t <sub>d(off)</sub> t <sub>f</sub>	---	13 45 29 29	35 85 85 65	nsec
Diode Forward Voltage (I <sub>S</sub> = -11 A, V <sub>GS</sub> =0 V, T <sub>J</sub> =25°C)	V <sub>SD</sub>	---	---	-4.6	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25°C I <sub>F</sub> =-11 A di/dt=100 A/μsec t <sub>rr</sub> Q <sub>RR</sub>	---	270 2.0	---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V <sub>GS</sub> =0 Volts V <sub>DS</sub> = -25 Volts f= 1 MHz C <sub>iss</sub> C <sub>oss</sub> C <sub>rss</sub>	---	1100 375 150	1300 450 250	pF

SAFE OPERATING AREA (S.O.A.)  
 T<sub>C</sub> = 25°C, D.C. CONDITION

