



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFFC40-28

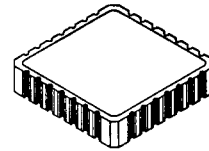
**4.2*AMP
600 VOLTS
1.2Ω
N-CHANNEL
POWER MOSFET**

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
- Low inductance leads
- TX, TXV and Space Level screening available
- Replaces: IRFC40 Types

28 PIN CLCC



MAXIMUM RATINGS

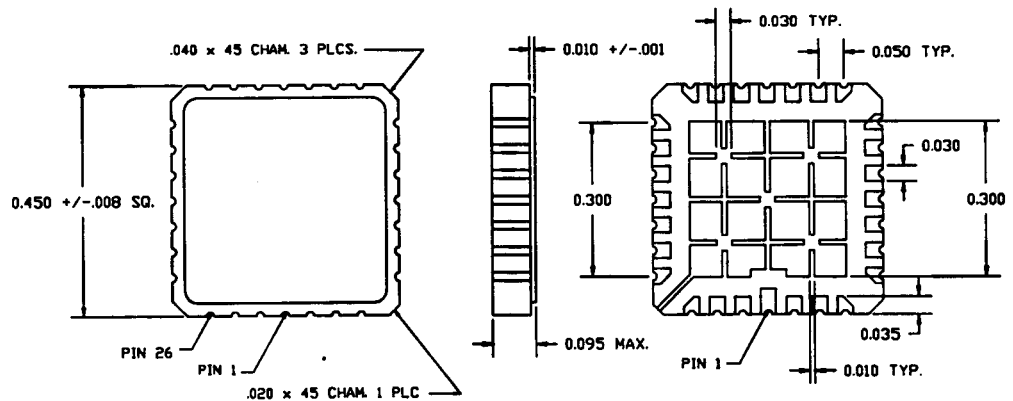
CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	600	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	4.2*	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	6.0	°C/W
Total Device Dissipation @ TC=25°C	P _D	21	Watts
Total Device Dissipation @ TC=80°C		11	

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)



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

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

DATA SHEET #: F00343 D

SFFC40-28

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}	600	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =3.7A)		R _{DS(on)}	---	0.72	1.2	Ω
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	2.0	---	4.0	V
Forward Transconductance (V _{DS} ≥10V, I _{DS} =3.7A)		g _{fs}	4.9	7.4	---	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}	---	---	100 500	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 V _{DS} =360V I _D =6.2A	Q _g Q _{gs} Q _{gd}	---	42 6 22	60 8.3 30	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} I _D =6.2A R _G = 9.1Ω R _D =47Ω	t _{d(on)} t _r t _{d(off)} t _f	---	13 18 55 20	20 27 85 30	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V _{SD}	---	---	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =6.2A di/dt=100 A/μsec	t _{rr} Q _{RR}	---	470 4.0	940 7.9	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}	---	1300 180 75	1400 400 200	pF

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