



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF140J

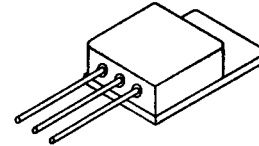
28 AMP
100 VOLT
0.077 Ω
N-CHANNEL
POWER MOSFET

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 package
- TX, TXV and Space Level screening available
- Replaces: IRF140 Types

TO-257



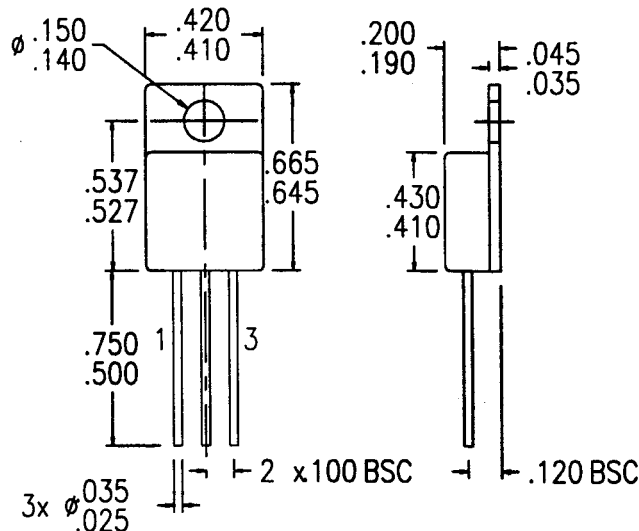
MAXIMUM RATINGS:

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	100	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	28	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +175	°C
Thermal Resistance, Junction to Case	R _{θJC}	2	°C/W
Total Device Dissipation @ TC=25°C	P _d	62.5	Watts
Total Device Dissipation @ TC=55°C		47.5	

PACKAGE OUTLINE: TO-257

PIN OUT:

PIN 1 : DRAIN
PIN 2: SOURCE
PIN 3: GATE



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

DATA SHEET #: F00029 B

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SFF140J

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**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}	100	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =60% Rated ID)		R _{DS(on)}	---	0.067	0.077	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I _{D(on)}	28	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	2.0	2.4	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =60% rated ID)		g _{fs}	8.7	13	---	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 =150° 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 50% rated V _{DS} Rated ID	Q _g Q _{gs} Q _{gd}	---	40 8 19	60 12 28	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} rated ID R _G = 9.1Ω	t _{d(on)} t _r t _{d(off)} t _f	---	15 72 40 50	23 110 60 75	nsec
Diode Forward Voltage (I _S =rated ID, V _{GS} =0 V, T _J =25° C)		V _{SD}	---	1.3	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C I _F =10A di/dt=100 A/μsec	t _{rr} Q _{RR}	70 0.44	150 0.91	300 1.9	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}	---	1500 500 90	---	pF

SAFE OPERATING AREA (S.O.A.)
T_C = 25° C, D.C. CONDITION