



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF044J

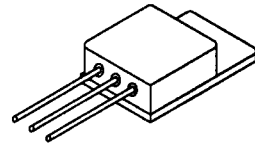
Designer's Data Sheet

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: IRFY044 Types

35 AMP
60 VOLT
0.035 Ω
N-CHANNEL
POWER MOSFET

TO-257



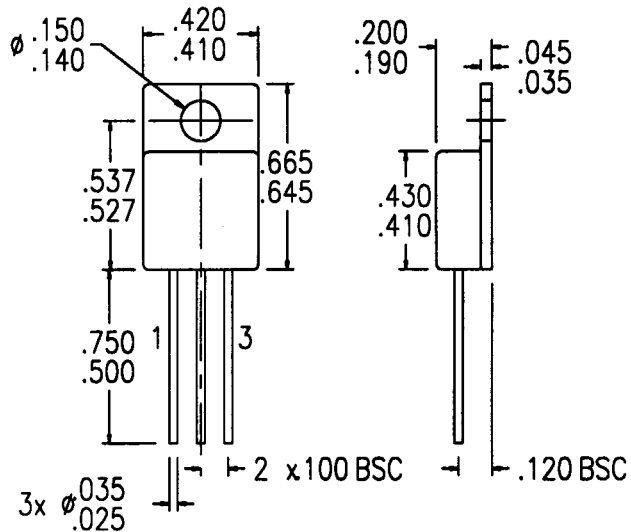
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	60	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	35	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +175	°C
Thermal Resistance, Junction to Case	R _{θJC}	2	°C/W
Total Device Dissipation @ TC=25°C	P _D	63	Watts
Total Device Dissipation @ TC=55°C		48	

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 #: F00031 A

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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}	60	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D = 33 A)		R_{DS(on)}	---	0.028	0.035	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I_{D(on)}	35	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V_{GS(th)}	2.0	2.5	4.0	V
Forward Transconductance (V _{DS} ≥ 50V, I _{DS} = 33 A)		g_{fs}	15	25	---	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 80% rated V _{DS} Rated I _D	Q_g Q_{gs} Q_{gd}	---	69 14 39	100 21 58	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} rated I _D R _G = 9.1Ω	t_{d(on)} t_r t_{d(off)} t_f	---	21 140 50 88	32 210 75 130	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V_{SD}	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated I _D di/dt=100 A/ sec	t_{rr} Q_{RR}	54 0.23	110 0.53	250 1.2	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}	---	2500 1200 310	---	pF

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