

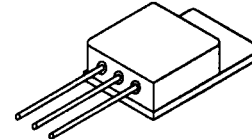


PRELIMINARY

SOLID STATE DEVICES, INC14849 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

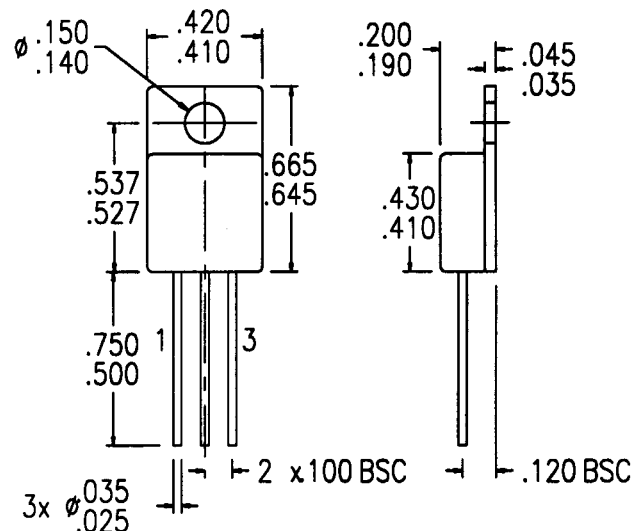
**35 AMP
60 VOLT
0.035 Ω
N-CHANNEL
POWER MOSFET**

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	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	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**MED**

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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(V)
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	At rated V _{GS}	I _{GSS}	---	---	100	nA
Gate to Source Leakage Reverse			---	---	-100	
Total Gate Charge	V _{GS} =10 Volts	Q _g	---	69	100	nC
Gate to Source Charge	80% rated V _{DS}	Q _{gs}	---	14	21	
Gate to Drain Charge	Rated I _D	Q _{gd}	---	39	58	
Turn on Delay Time	V _{DD} =50% rated V _{DS}	t _{d(on)}	---	21	32	nsec
Rise Time	rated I _D	t _r	---	140	210	
Turn Off Delay Time	RG= 9.1Ω	t _{d(off)}	---	50	75	
Fall Time		t _f	---	88	130	
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	T _J =25° C	t _{rr}	54	110	250	nsec
Reverse Recovery Charge	I _F =rated I _D di/dt=100 A/ sec	Q _{RR}	0.23	0.53	1.2	μC
Input Capacitance	V _{GS} =0 Volts	C _{iss}	---	2500	---	pF
Output Capacitance	V _{DS} =25 Volts	C _{oss}	---	1200	---	
Reverse Transfer Capacitance	f= 1 MHz	C _{rss}	---	310	---	

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