PRELIMINARY

SFF130J

SOLID STATE DEVICES, INC

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

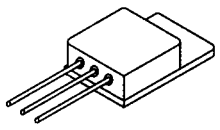
14 AMP
100 VOLTS
0.16 Ω
N-CHANNEL
POWER MOSFET

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: IRFY130 Types

TO-257



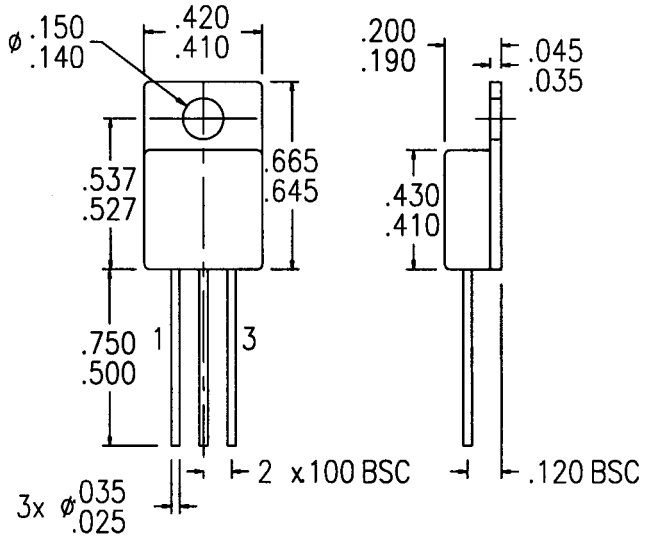
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	100	Volts
Gate to Source Voltage	V_{GS}	± 20	Volts
Continuous Drain Current @ TC=25°C @ TC=100°C	I_D	14 9	Amps
Operating and Storage Temperature	T_{op} & T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.5	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P_D	50 38	Watts

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 #: F00025 B	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 (VGS=0 V, ID=250µA)		BV_{DSS}	100	---	---	V
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta Tj}$	---	0.13	---	V/°C
Drain to Source on State Resistance (VGS=10 V)	ID = 9A ID = 14A	$R_{DS(on)}$	---	0.13 0.14	0.18 0.21	Ω
On State Drain Current (VDS >ID(on) X RDS(on) Max, VGS=10 V		$I_{D(on)}$	14	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250µA)		$V_{GS(th)}$	2	2.8	4	V
Forward Transconductance (VDS >ID(on) X RDS(on) Max, IDS=60% rated ID)		g_{fs}	4.6	7	--	S(℧)
Zero Gate Voltage Drain Current (VDS=80% rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		I_{DSS}	--- ---	--- ---	25 250	µA
Gate to Source Leakage Forward **Gate to Source Leakage Reverse**	At rated VGS	I_{GSS}	--- ---	--- ---	100 -100	nA
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	VGS=10 Volts 50% rated VDS Rated ID	Q_g Q_{gs} Q_{gd}	12 1.5 5	20 --- ---	35 10 15	nC
Turn on Delay Time **Rise Time** **Turn Off Delay Time** **Fall Time**	VDD=50% rated VDS ID = 14A RG=7.5Ω	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	--- --- --- ---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)		V_{SD}	---	1.15	1.5	V
Diode Reverse Recovery Time **Reverse Recovery Charge**	TJ=25°C IF=rated ID di/dt=100 A/µsec	t_{rr} Q_{RR}	--- ---	120 0.7	300 3	nsec µC
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f= 1 MHz	C_{iss} C_{oss} C_{rss}	--- --- ---	650 250 44	--- --- ---	pF

