Solid State Devices, Inc.
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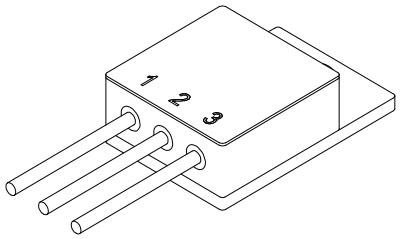
SFX9130J

DESIGNER'S DATA SHEET

TO-257



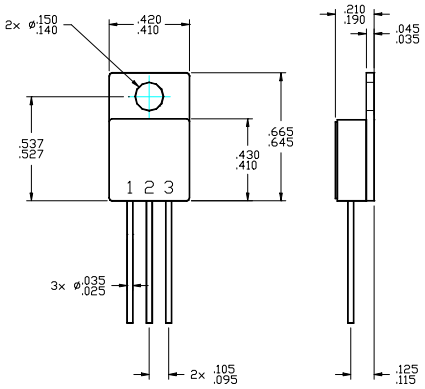
10 AMP /100 Volts
300 mW
P-Channel MOSFET

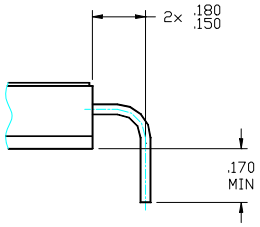
Features:

- Rugged construction with polysilicon gate
- Low ON-resistance and high transconductance
- Excellent high temperature stability
- Hermetically Sealed, Isolated Package
- Low Total Gate Charge
- Fast Switching
- replacement for IRF9130 types
- TX, TXV, S-Level screening available

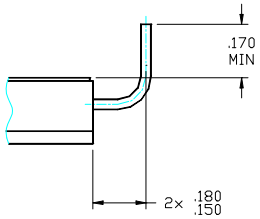
Maximum Ratings		Symbol	Value	Units
Drain - Source Voltage		V_{DSS}	-100	**V**
Gate – Source Voltage		V_{GS}	±20	**V**
Max. Continuous Drain Current (package limited)	**@ T_C = 25ºC** **@ T_C = 100ºC**	I_{D1} I_{D2}	10 7	**A**
Max. Avalanche current	**@ L= 5.0 mH**	I_{AR}	9.8	**A**
Repetitive Avalanche Energy	**@ L= 5.0 mH**	E_{AR}	5.2	**mJ**
Single Pulse Avalanche Energy	**@ L= 5.0 mH**	E_{AS}	320	**mJ**
Total Power Dissipation	**@ T_C = 25ºC**	P_D	75	**W**
Operating & Storage Temperature		T_{OP} & T_{STG}	-55 to +150	**ºC**
Maximum Thermal Resistance (Junction to Case)		$R_{\theta JC}$	1.65	**ºC/W**

PACKAGE OUTLINE:
TO-257 (J)
PINOUT:
PIN 1: DRAIN
PIN 2: SOURCE
PIN 3: GATE





SUFFIX JDB



SUFFIX JUB

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

DATA SHEET #: FT0013A DOC

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Electrical Characteristics [4/]		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage	V_{GS} = 0V, I_D =0.25 mA	$\mathbf{BV_{DSS}}$	-100	—	—	V
Drain to Source Breakdown Voltage Temperature Coefficient	V_{GS} = 0V, I_D =0.25 mA	$\mathbf{dBV_{DSS}/dT}$	—	-0.1	—	V/°C
Drain to Source On State Resistance	V_{GS} = 10V, I_D = 5A, Tj= 25°C V_{GS} = 10V, I_D = 10A, Tj= 25°C	$\mathbf{R_{DS(on)}}$	— —	240 300	300 —	mΩ
Gate Threshold Voltage	V_{DS} = 5 V, I_D = 250µA	$\mathbf{V_{GS(th)}}$	-2.0	—	-4.0	V
Gate to Source Leakage	V_{GS} = ±20V	$\mathbf{I_{GSS}}$	—	5	±100	nA
Zero Gate Voltage Drain Current	V_{DS} = -100V, V_{GS} = 0V, T_j = 25°C V_{DS} = -80V, V_{GS} = 0V, T_j = 125°C	$\mathbf{I_{DSS}}$	— —	0.01 1	10 100	µA µA
Forward Transconductance	V_{DS} = 40V, I_D = 5A, T_j = 25°C	$\mathbf{g_{fs}}$	4	5.2	—	Mho
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	V_{GS} = 10V V_{DS} = 80V I_D = 10A	$\mathbf{Q_g}$ $\mathbf{Q_{gs}}$ $\mathbf{Q_{gd}}$	— — —	30 5.5 1.5	38 — —	nC
Turn on Delay Time **Rise Time** **Turn off Delay Time** **Fall Time**	V_{GS} = 10V V_{DS} = 50V I_D = 10A R_G = 12Ω	$\mathbf{t_{d(on)}}$ $\mathbf{t_r}$ $\mathbf{t_{d(off)}}$ $\mathbf{t_f}$	— — — —	15 25 45 25	35 55 100 60	nsec
Diode Forward Voltage	I_F = 10A, V_{GS} = 0V	$\mathbf{V_{SD}}$	—	2.00	4.00	V
Diode Reverse Recovery Time **Peak Reverse Recovery Current** **Reverse Recovery Charge**	I_F = 10A, di/dt = 100A/usec	$\mathbf{t_{rr}}$ $\mathbf{Q_{rr}}$	—	120 0.55	350 2.5	nsec µC
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	V_{GS} = 0V V_{DS} = 25V f = 1 MHz	$\mathbf{C_{iss}}$ $\mathbf{C_{oss}}$ $\mathbf{C_{rss}}$	— — —	800 160 60	1035 240 90	pF

NOTES:

* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C.