Solid State Devices, Inc.
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SFF9140J

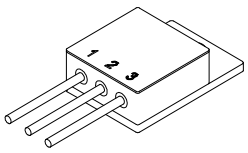
Designer's Data Sheet

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
- Replaces: IRF9140 Types
- TX, TXV, and Space Level Screening Available. Consult Factory.

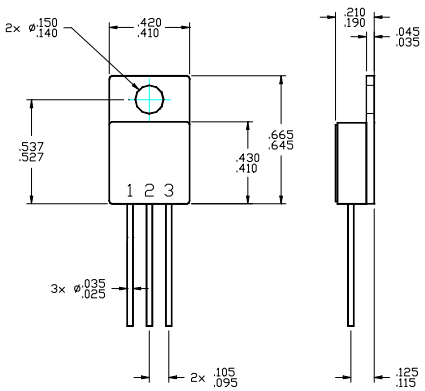
-18 AMPS
-100 VOLTS
0.20 W
P-CHANNEL
POWER MOSFET

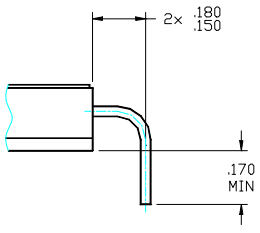
TO-257



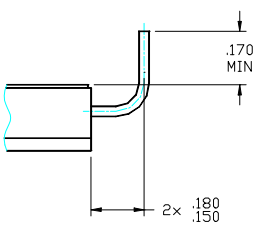
MAXIMUM RATINGS		Symbol	Value	Units
Drain to Source Voltage		V_{DS}	-100	Volts
Gate to Source Voltage		V_{GS}	±20	Volts
Continuous Drain Current	T_C = 25°C T_C = 100°C	I_D	-18 -11	Amps
Operating and Storage Temperature		T_{OP} & T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case		R_{qJC}	2.0	°C/W
Total Device Dissipation	T_C = 25°C T_C = 55°C	P_D	63 48	Watts
Single Pulse Avalanche Energy		E_{AS}	500	mJ
Repetitive Avalanche Energy		E_{AR}	12.5	mJ

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 #: FP0015G | **DOC**

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ELECTRICAL CHARACTERISTICS		Symbol	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage (V_{GS} = 0 V, I_D = 1 mA)		ΔBV_{DSS}	-100	—	—	**Volts**
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{T_J}$	—	0.087	—	**Volts**
Drain to Source ON State Resistance (V_{GS} = -10 V)	I_D = 11A I_D = 18A	$R_{DS(on)}$	— —	0.15 —	0.20 0.23	Ω
Gate Threshold Voltage (V_{DS} = V_{GS}, I_D = 250µA)		$V_{GS(th)}$	-2.0	—	-4.0	**Volts**
Forward Transconductance ($V_{DS} \geq$ 10V, I_{DS} = 11A)		**gfs**	6.1	8.0	—	**S mho**
Zero Gate Voltage Drain Current (V_{DS} = 80% rated V_{DS}, V_{GS} = 0 V) (V_{DS} = 80% rated V_{DS}, V_{GS} = 0 V, T_A = 125°C)		I_{DSS}	— —	— —	25 250	**mA**
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} I_D = -18 A)	Q_g Q_{gs} Q_{gd}	31 — 7	50 3 25	70 15 45	**nC**
Turn ON Delay Time **Rise Time** **Turn OFF Delay Time** **Fall TIme**	(V_{DD} = 50% of rated V_{DS} rated I_D R_G = 9.1 Ω)	$t_{d(on)r}$ t_r $t_{d(off)}$ t_f	— — — —	15 8 35 20	35 85 85 65	**ns**
Diode Forward Voltage (IS = rated ID, VGS = 0 V, T_J = 25°C)		V_{SD}	—	—	-4.2	**Volts**
Diode Reverse Recovery Time **Reverse Recovery Charge**	T_J = 25°C I_F = rated I_D di/dt = 100 A/µsec	t_{rr} Q_{RR}	— —	170 —	280 3.6	**ns** **mC**
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	V_{GS} = 0 Volts V_{DS} = -25 Volts f = 1 MHz	C_{iss} C_{oss} C_{rss}	— — —	1400 600 200	1650 740 260	**ns**