



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF9140

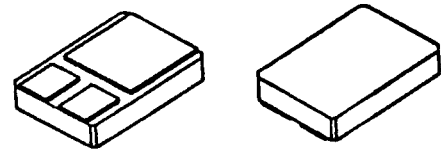
-18 AMP
-100 VOLTS
0.20Ω
P-CHANNEL
POWER MOSFET

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
- TX, TXV and Space Level Screening available
- Replaces: IRF9140 Types

MILPACK



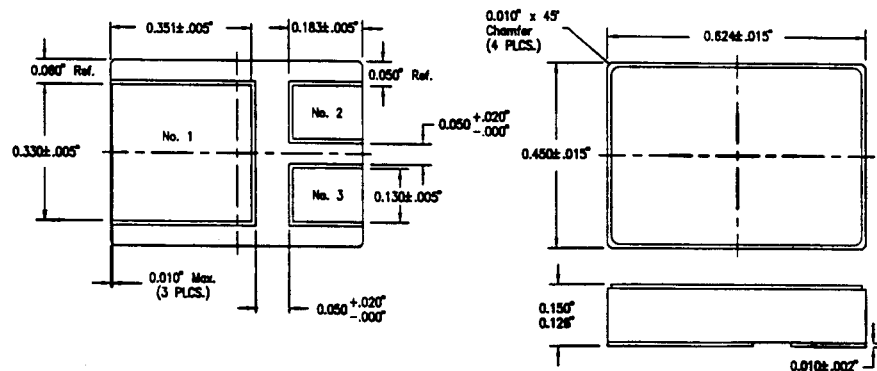
MAXIMUM RATINGS

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	18 11	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	1.7	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	74 56	Watts
Single Pulse Avalanche Energy	E _{AS}	500	mJ
Repetitive Avalanche Energy	E _{AR}	12.5	mJ

PACKAGE OUTLINE: MILPACK

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 #: FP0013 D

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SFF9140

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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 = 1mA)		BV_{DSS}	-100	---	---	V
Drain to Source on State Resistance I _D =11A (V _{GS} = -10 V) I _D =18A		R_{DS(on)}	---	0.15 ---	0.20 0.23	Ω
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta T_j}$	---	-0.087	---	V/°C
Gate Threshold Voltage (V _D =V _G , I _D = -250μA)		V_{GS(th)}	-2.0	---	-4.0	V
Forward Transconductance (V _D ≥ 15V, I _D =11 A)		g_{fs}	6.2	8	---	S(Ω)
Zero Gate Voltage Drain Current (V _D =80% max rated voltage, V _{GS} =0 V) (V _D =80% rated V _D , V _{GS} =0 V, T _A =125° C)		I_{DSS}	---	---	25 250	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 50% rated V _D I _D =18 A	Q_g Q_{gs} Q_{gd}	31 ---	50 3 25	70 13 45	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _D =50% rated V _D rated I _D R _G =9.1Ω	t_{d(on)} t_r t_{d(off)} t_f	---	15 8 35 20	35 85 85 65	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25° C)		V_{SD}	---	---	-4.2	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}	---	170 ---	280 3.6	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _D = -25 Volts f= 1 MHz	C_{iss} C_{oss} C_{rss}	---	1400 600 200	---	pF

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