

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

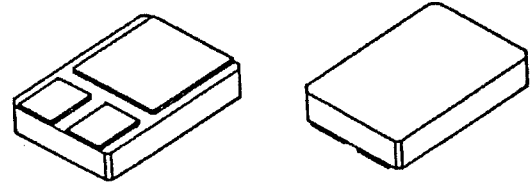
**Designer's Data Sheet**

**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 surface mount power package
- TX, TXV and Space Level screening available
- Replaces: IRF340 Types

**4.5 AMP  
 1000 VOLTS  
 2Ω  
 N-CHANNEL  
 POWER MOSFET**

**MILPACK**



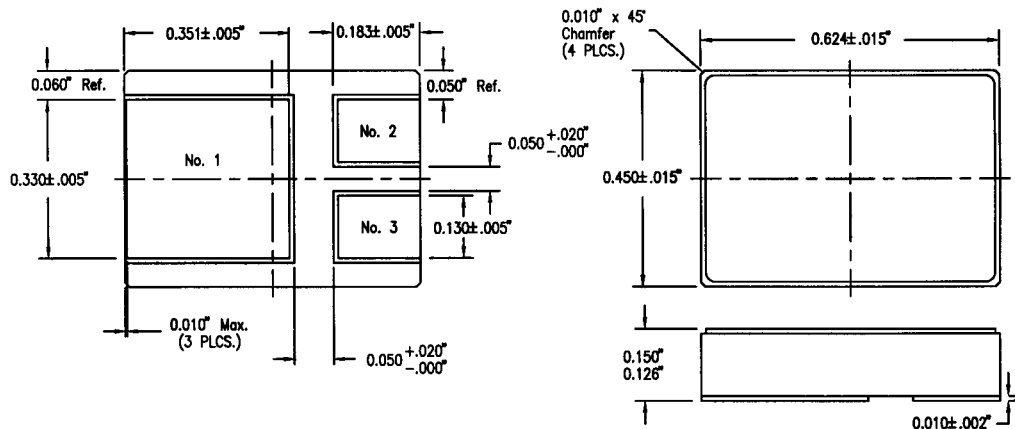
**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	1000	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current @ 25°C @ 100°C	I <sub>D</sub>	4.5 2.8	Amps
Operating and Storage Temperature	T <sub>op</sub> & T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.25	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P <sub>D</sub>	100 76	Watts
Single Pulse Avalanche Energy	E <sub>AS</sub>	860	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 #: F00301 B**

**MED**

**SFF6N100**

PRELIMINARY

**SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25° C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=1mA)		BV <sub>DSS</sub>	1000	---	---	V
Drain to Source on State Resistance (VGS=10 V)	ID = 2.8 A ID = 4.5 A	R <sub>DS(on)</sub>	---	---	2.0 2.25	Ω
Temperature Coefficient of Breakdown Voltage (VGS=10 V)		$\frac{\Delta BV_{DSS}}{\Delta T_j}$	---	1.4	---	V/°C
Gate Threshold Voltage (VDS=VGS, ID=250μA)		VGS(th)	2.0	---	4.0	V
Forward Transconductance (VDS ≥ 50V, IDS=2.8A)		g <sub>fs</sub>	3	---	---	S(V)
80% Gate Voltage Drain Current (VDS=80% rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)		I <sub>DSS</sub>	---	---	25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS	I <sub>GSS</sub>	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS=10 Volts VDS = 400 V ID= 4.5A	Q <sub>g</sub> Q <sub>gs</sub> Q <sub>gd</sub>	---	---	200 20 110	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD= 400 V ID= 4.5 A RG=6.2 Ω	t <sub>d(on)</sub> t <sub>r</sub> t <sub>d(off)</sub> t <sub>f</sub>	---	---	30 44 210 60	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T <sub>J</sub> =25° C)		VSD	---	---	1.8	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25° C IF=rated ID di/dt=100 A/μsec	t <sub>rr</sub> QRR	---	---	1200 8.4	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	C <sub>iss</sub> C <sub>oss</sub> C <sub>rss</sub>	---	2400 240 80	---	pF