



SOLID STATE DEVICES, INC

PRELIMINARY

SFF40N30B

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

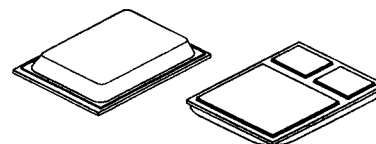
Designer's Data Sheet

FEATURES:

- Rugged construction with polysilicon gate
- Low $R_{DS(on)}$ 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
- Ceramic Seals for improved hermeticity
- Hermetically sealed power surface mount package
- TX, TXV and Space Level screening available
- Replaces: IXTH40N30 Types

**40 AMP
300 VOLTS
0.10 Ω
N-CHANNEL
POWER MOSFET**

MILPACK 2



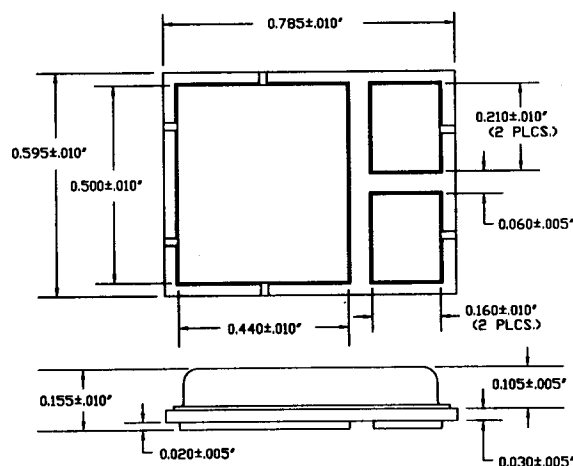
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	300	Volts
Gate to Source Voltage	V_{GS}	± 20	Volts
Continuous Drain Current	I_D	40	Amps
Operating and Storage Temperature	$T_{op} \& T_{stg}$	-55 to +150	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.5	$^{\circ}C/W$
Total Device Dissipation @ $TC=25^{\circ}C$ Total Device Dissipation @ $TC=55^{\circ}C$	P_D	250 190	Watts

PACKAGE OUTLINE: MILPACK 2

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 #: F00149 C

MED

SFF40N30B

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SSDI**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 =250μA)		BV_{DSS}	300	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =50% Rated ID)		R_{DS(on)}	---	---	0.10	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I_{D(on)}	40	---	---	A
Gate Threshold Voltage (V _{DS} ≥ V _{GS} , I _D =4mA)		V_{GS(th)}	2.0	---	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =50% rated ID)		g_{fs}	22	25	---	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =max rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125°C)		I_{DSS}	---	---	250 1000	μA
Gate to Source Leakage Forward	At rated V _{GS}	I_{GSS}	---	---	+100	nA
Gate to Source Leakage Reverse			---	---	-100	
Total Gate Charge	V _{GS} =10 Volts	Q_g	---	177	200	nC
Gate to Source Charge	50% rated V _{DS}	Q_{gs}	---	28	50	
Gate to Drain Charge	50% Rated ID	Q_{gd}	---	78	105	
Turn on Delay Time	V _{DD} =50% rated V _{DS}	t_{d(on)}	---	30	50	nsec
Rise Time	50% rated ID	t_r	---	60	90	
Turn Off Delay Time	R _G = 2.0 Ω	t_{d(off)}	---	175	250	
Fall Time	V _{GS} =10V	t_f	---	45	90	
Diode Forward Voltage (I _S =rated ID, V _{GS} =0 V, T _J =25°C)		V_{SD}	---	---	1.5	V
Diode Reverse Recovery Time	T _J =25°C	t_{rr}	---	---	325	nsec
Reverse Recovery Charge	I _F =rated ID di/dt=100 A/μsec	Q_{RR}	---	---	---	
Input Capacitance	V _{GS} =0 Volts	C_{iss}	---	4800	---	pF
Output Capacitance	V _{DS} =25 Volts	C_{oss}	---	745	---	
Reverse Transfer Capacitance	f= 1 MHz	C_{rss}	---	283	---	

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