



PRELIMINARY

SOLID STATE DEVICES, INC

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

SFF20N60B

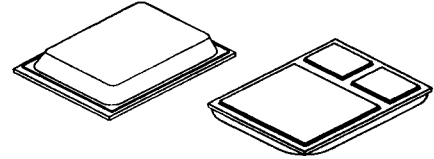
**20 AMPS
600 VOLTS
0.35 Ω
N-CHANNEL
POWER MOSFET**

Designer's Data Sheet

FEATURES:

- Rugged construction with polysilicon 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
- Ceramic Seals for improved hermeticity
- Hermetically sealed surface mount power package
- TX, TXV and Space Level screening available
- Replaces: IXTH20N60 Types

MILPACK 2



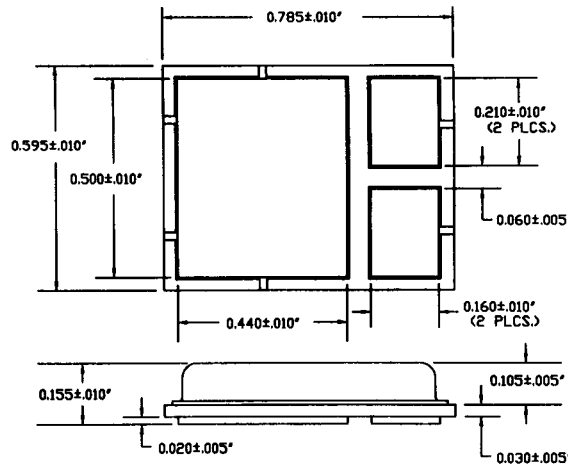
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	600	Volts
Gate to Source Voltage	V _{GS}	±20	Volts
Continuous Drain Current	I _D	20	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +175	°C
Thermal Resistance, Junction to Case	R _{θJC}	0.5	°C/W
Total Device Dissipation @ TC=25°C	PD	250	Watts
Total Device Dissipation @ TC=55°C		190	

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 #: F00209 C	MED
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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}	600	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D =60% Rated ID)	R_{DS(on)}	---	0.35	0.35	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)	I_{D(on)}	20	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)	V_{GS(th)}	2.0	---	4.5	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =60% rated ID)	g_{fs}	12	18	---	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}	---	---	200 1000	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 80% rated V _{DS} 50 %Rated ID Q_g Q_{gs} Q_{gd}	---	150 29 60	170 40 85	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% rated ID R _G =6.2Ω t_{d(on)} t_r t_{d(off)} t_f	---	30 30 110 30	40 60 150 60	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)	V_{SD}	---	---	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =10A di/dt=100 A/μsec t_{rr} Q_{RR}	---	600 ---	800 ---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _{DS} =25 Volts f = 1 MHz C_{iss} C_{oss} C_{rss}	---	4500 420 140	---	pF

SAFE OPERATING AREA (S.O.A.)
 T_C = 25 °C, D.C. CONDITION

