

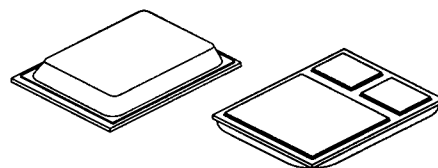


PRELIMINARY

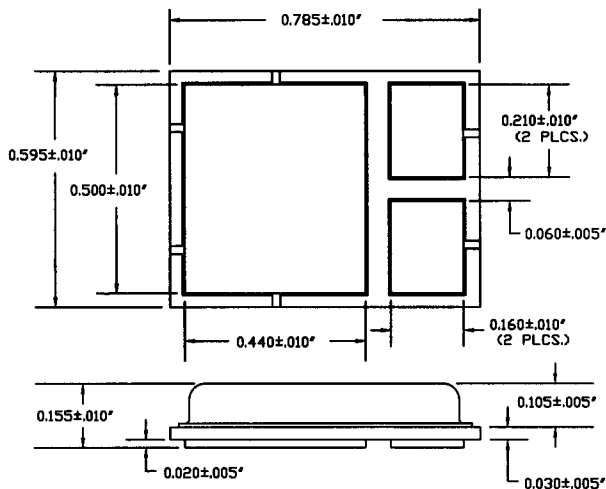
SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**SFF75N10B****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 surface mount power package
- TX, TXV and Space Level screening available
- Replaces: IXTH75N10 Types

**75 AMP
100 VOLTS
0.025 Ω
N-CHANNEL
POWER MOSFET****MILPACK 2****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	I_D	75	Amps
Operating and Storage Temperature	$T_{op} \text{ \& } T_{stg}$	-55 to +150	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.5	$^{\circ}C/W$
Total Device Dissipation @ $T_C=25^{\circ}C$ Total Device Dissipation @ $T_C=55^{\circ}C$	P_D	250 190	Watts
Repetitive Avalanche Energy	E_{AR}	30	mJ

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 #: F00161 C

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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}	100	---	---	V
Drain to Source on State Resistance I _D =37.5A (V _{GS} =10 V) ID=75 A		R_{DS(on)}	---	---	0.025 0.030	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I_{D(on)}	75	---	---	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 I _D)		g_{fs}	25	30	---	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 Gate to Source Leakage Reverse	At rated V _{GS}	I_{GSS}	---	---	+200 -200	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} =10 Volts 50% rated V _{DS} 50% Rated I _D	Q_g Q_{gs} Q_{gd}	---	160 16 50	260 70 160	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} 50% rated I _D R _G =6.2Ω V _{GS} =10V	t_{d(on)} t_r t_{d(off)} t_f	---	30 35 100 40	40 100 120 80	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V_{SD}	---	1.3	1.75	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =10 A di/dt=100 A/μsec	t_{rr} Q_{RR}	---	120 ---	200 ---	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 1600 800	---	pF