



SOLID STATE DEVICES, INC

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

Designer's Data Sheet

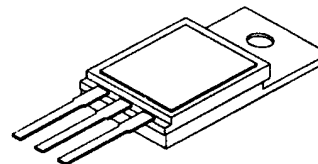
FEATURES:

- Rugged construction with poly silicon gate
- Ultra 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 package
- TX, TXV and Space Level screening available
- Replaces: SMM70N10 Types

SFF70N10C

**70 AMP
600 VOLT
0.030 Ω
N-CHANNEL
POWER MOSFET**

TO-254 CERAMIC



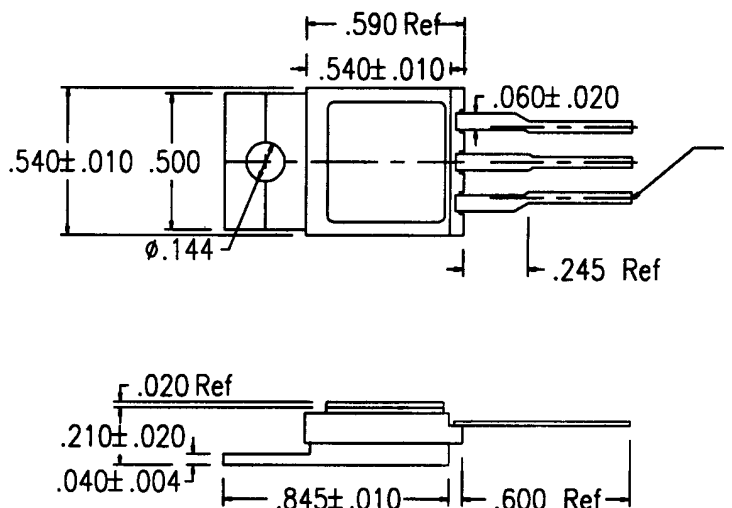
MAXIMUM RATINGS

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	70	Amps
Operating and Storage Temperature	Top & Tstg	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	1.0	°C/W
Total Device Dissipation @ TC=25°C	P _D	125	Watts
Total Device Dissipation @ TC=55°C		95	

PACKAGE OUTLINE: TO-254 CERAMIC

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 #: F00245 A

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HIGH FREQUENCY

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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 (V _{GS} =10 V, I _D =45 A)		R_{DS(on)}	---	0.025	0.03	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)		I_{D(on)}	70	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V_{GS(th)}	2.0	---	4.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =45 A)		g_{fs}	20	40	---	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}	---	---	250 250	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 80% rated V _{DS} Rated I _D	Q_g Q_{gs} Q_{gd}	---	110 30 50	140 40 80	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V _{DD} =50% rated V _{DS} I _D =70 A R _G =8Ω V _{GS} =10 V	t_{d(on)} t_r t_{d(off)} t_f	---	25 15 80 15	40 180 100 40	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25°C)		V_{SD}	---	1.0	1.8	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25°C I _F =rated I _D di/dt=100 A/μsec	t_{rr} Q_{RR}	---	125 0.3	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}	---	4100 1200 310	---	pF

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