



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

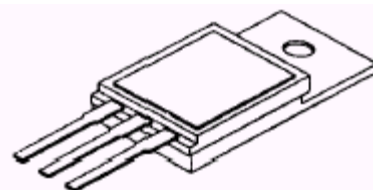
FEATURES:

- 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
0.030Ω
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	56 ^{1/2}	Amps
Operating and Storage Temperature	$T_{op} \& T_{stg}$	-55 to +150	°C
Thermal Resistance, Junction to Case	$R_{\eta JC}$	.83	°C/W
Total Device Dissipation	P_D	150 114	Watts
		@ TC = 25°C @ TC = 55°C	

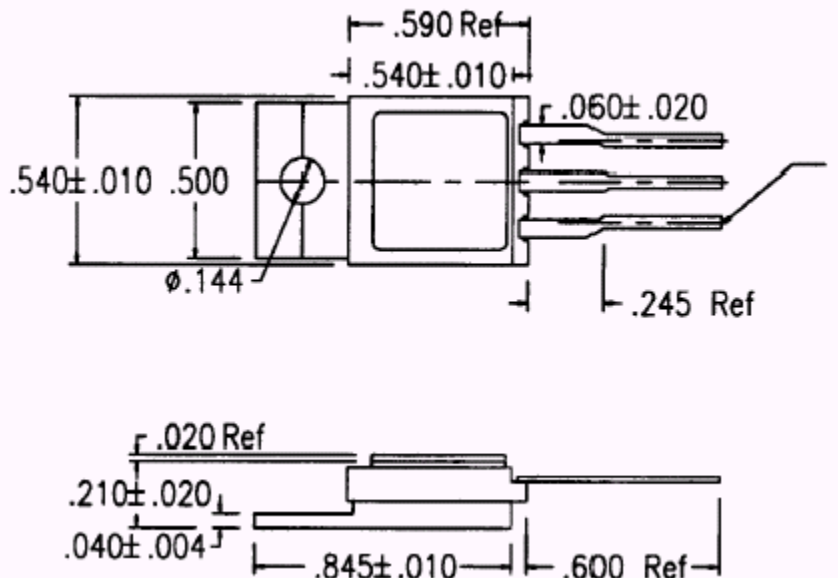
CASE OUTLINE: TO-254 Ceramic

Pin Out:

Pin 1: Drain

Pin 2: Source

Pin 3: Gate



NOTE: All specifications are subject to change without notification.
SCDs for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: F00245B

SFF70N10C



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638

Phone: (562) 404-7855 * Fax: (562) 404-1773

ELECTRICAL CHARACTERISTICS @ T_J = 25°C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS = 0 V, ID = 250μA)		BV _{DSS}	100	-	-	V
Drain to Source on State Resistance (VGS = 10 V, ID = 45 A)		R _{DS(on)}	-	0.025	0.03	Ω
On State Drain Current (VDS > ID(on) x RDS(on) Max, VGS = 10 V)		ID(on)	70	-	-	A
Gate Threshold Voltage (VDS = VGS, ID = 250μA)		VGS(th)	2.0	-	4.0	V
Forward Transconductance (VDS > ID(on) X RDS (on) Max, IDS = 45A)		gf _s	20	40	-	Smho
Zero Gate Voltage Drain Current (V _{DS} = 80% rated voltage, V _{GS} = 0V) (V _{DS} = 80% rated V _{DS} , V _{GS} = 0V, T _A = 125°C)		IDSS	- -	- -	250 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS	IGSS	- -	- -	+100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS = 10 V 80% rated VDS Rated ID	Qg Qgs Qgd	- - -	110 30 50	140 40 80	nC
Turn on Delay Time Rise Time Turn off DelayTime Fall Time	VDD=50% rated VDS ID=70A RG=8Ω VGS=10V	td (on) tr td (off) tf	- - - -	25 15 80 15	40 180 100 40	nsec
Diode Forward Voltage (IS = rated ID, VGS = 0V, TJ = 25°C)		VSD	-	1.0	1.8	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ =25°C IF = ID di/dt = 100A/μsec	t _{rr} QRR	-	125 0.3	200 -	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS = 0 Volts VDS = 25 Volts f = 1 MHz	Ciss Coss Crss	- - -	4100 1200 310	- - -	pF

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

NOTES:

1/ Maximum current limited by package, die rated at 75A.