



SOLID STATE DEVICES, INC.

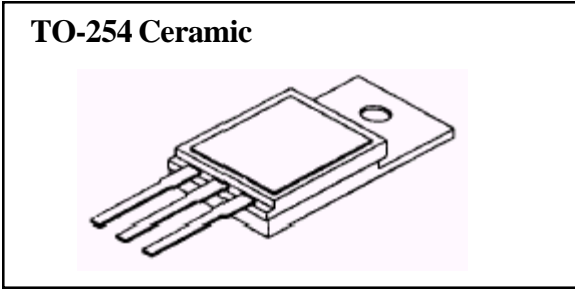
14830 Valley View Blvd * La Mirada, Ca 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773

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**

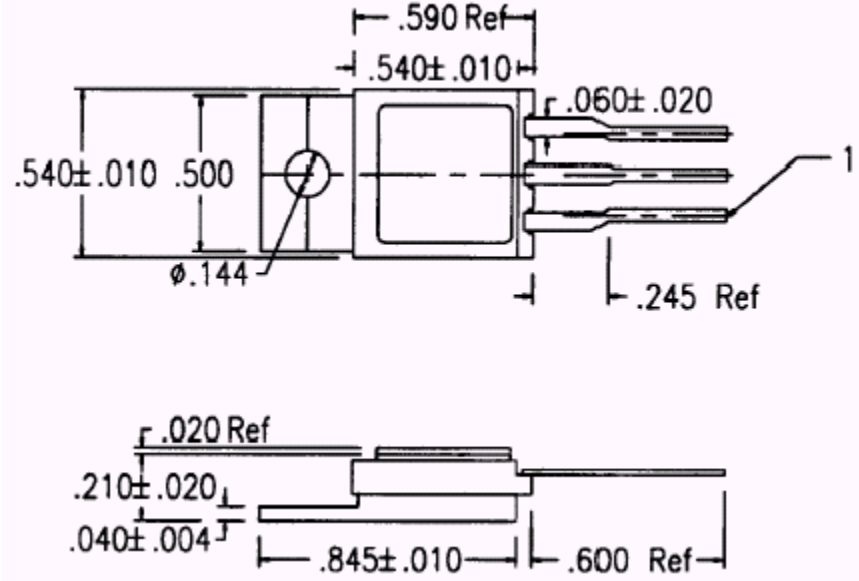


MAXIMUM RATINGS

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 ^{AL}	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{ηJC}	.83	°C/W
Total Device Dissipation	@ TC = 25°C	150	Watts
	@ TC = 55°C	114	

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 @ $T_J = 25^\circ\text{C}$ (Unless Otherwise Specified)

RATING	SYMBOL	MIN	TYP	MAX	UNIT	
Drain to Source Breakdown Voltage ($V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$)	BV_{DSS}	100	-	-	V	
Drain to Source on State Resistance ($V_{GS} = 10\text{ V}, I_D = 45\text{ A}$)	$R_{DS(on)}$	-	0.025	0.03	Ω	
On State Drain Current ($V_{DS} > I_D(on) \times R_{DS(on)}$ Max, $V_{GS} = 10\text{ V}$)	$I_{D(on)}$	70	-	-	A	
Gate Threshold Voltage ($V_{DS} = V_{GS}, I_D = 250\mu\text{A}$)	$V_{GS(th)}$	2.0	-	4.0	V	
Forward Transconductance ($V_{DS} > I_D(on) \times R_{DS(on)}$ Max, $I_{DS} = 45\text{ A}$)	g_{fs}	20	40	-	Smho	
Zero Gate Voltage Drain Current ($V_{DS} = 80\%$ rated voltage, $V_{GS} = 0\text{ V}$) ($V_{DS} = 80\%$ rated V_{DS} , $V_{GS} = 0\text{ V}, T_A = 125^\circ\text{C}$)	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	$V_{GS} = 10\text{ V}$ 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} $I_D = 70\text{ A}$ $R_G = 8\Omega$ $V_{GS} = 10\text{ V}$	$t_d(on)$ t_r $t_d(off)$ t_f	- - - -	25 15 80 15	40 180 100 40	nsec
Diode Forward Voltage ($I_S = \text{rated } I_D, V_{GS} = 0\text{ V}, T_J = 25^\circ\text{C}$)	V_{SD}	-	1.0	1.8	V	
Diode Reverse Recovery Time Reverse Recovery Charge	$T_J = 25^\circ\text{C}$ $I_F = I_D$ $di/dt = 100\text{ A}/\mu\text{sec}$	t_{rr} Q_{RR}	-	125 0.3	200 -	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	$V_{GS} = 0\text{ Volts}$ $V_{DS} = 25\text{ Volts}$ $f = 1\text{ MHz}$	C_{iss} C_{oss} C_{rss}	- - -	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.