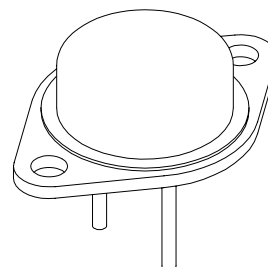




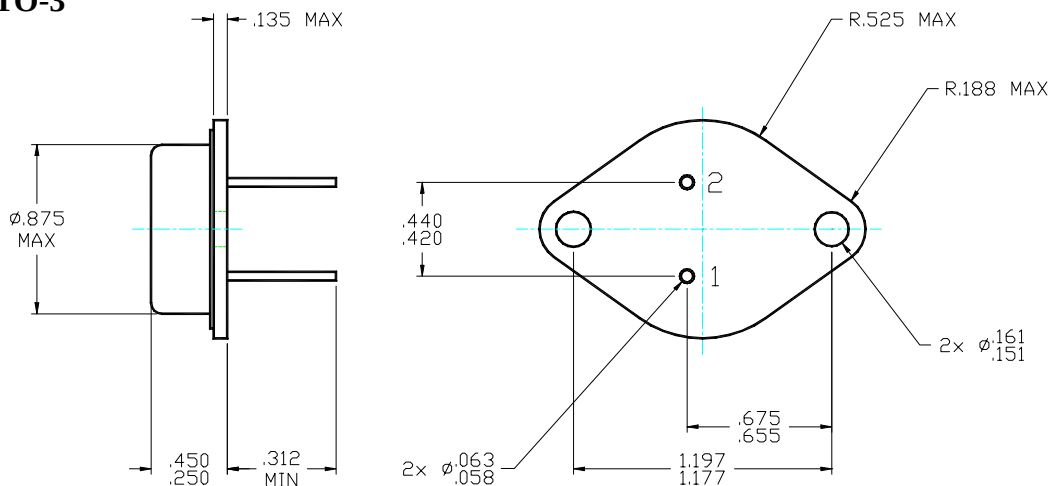
PRELIMINARY

SOLID STATE DEVICES, INC.14830 Valley View Av. * La Mirada, Ca 90670
Phone: (562) 404-7855 * Fax: (562) 404-1773**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
- Hermetically sealed package
- TX, TXV, and Space Level screening available
- Replaces: SMM40N20 Type

SFF1310M**SFF1310Z****40 AMPS****200 VOLTS****0.050 Ω** **N-CHANNEL****POWER MOSFET****TO-3****MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V_{DS}	200	Volts
Gate to Source Voltage	V_{GS}	± 20	Volts
Continuous Drain Current	I_D	40	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	P_D	250 190	Watts

PACKAGE OUTLINE: TO-3**PINOUT:**DRAIN: **PIN 1**
SOURCE: **PIN 2**
GATE: **PIN 3****NOTE:** All specifications are subject to change without notification.
SCDs for these devices should be reviewed by SSDI prior to release.**DATA SHEET #: FT0004A**

SFF1310M

SFF1310Z

PRELIMINARY



SOLID STATE DEVICES, INC.

14830 Valley View Av. * La Mirada, Ca 90670

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}	200	-	-	V
Drain to Source ON State Resistance I _D = 37.5A (VGS = 10 V, 60% of Rated ID)		R _{DS(on)}	- -	- -	0.050	Ω
ON State Drain Current (VDS > ID(on) x RDS(on) Max, VGS = 10 V)		ID(on)	50	-	-	A
Gate Threshold Voltage (VDS =VGS, ID = 4mA)		VGS(th)	2.0	-	4.0	V
Forward Transconductance (VDS > ID(on) x RDS (on) Max, IDS = 50% rated ID)		gfs	20	25	-	S(Ω)
Zero Gate Voltage Drain Current (VGS = 0V) VDS = max rated Voltage, TA = 25°C VDS = 80% rated VDS, TA = 125°C		IDSS	- -	- -	250 1000	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 50% rated VDS 50% rated ID	Qg Qgs Qgd	- - -	190 35 95	220 50 120	nC
Turn on Delay Time Rise Time Turn off DELAY Time Fall Time	VDD =50% rated VDS 50% rated ID RG = 6.2 Ω	td(on) tr td(off) tf	- - - -	28 38 110 30	35 40 130 35	nsec
Diode Forward Voltage (IS = rated ID, VGS = 0V, TJ = 25°C)		VSD	-	-	1.50	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ =25°C IF = 10A di/dt = 100A/μsec	trr QRR	- -	- 1.5	225 -	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS =0 Volts VDS =25 Volts f =1 MHz	Ciss Coss Crss	- - -	4400 800 285	- - -	pF

NOTES: