



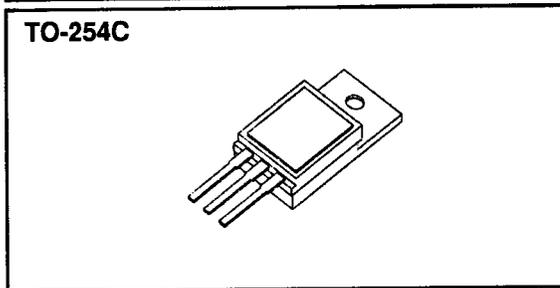
PRELIMINARY

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638  
 Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

**SFF150C**

**40 AMP  
 100 VOLTS  
 0.040Ω  
 N-CHANNEL  
 POWER MOSFET**



**Designer's Data Sheet**

**FEATURES:**

- Rugged construction with poly silicon 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 ceramic power package
- Flat leads for high frequency applications
- TX, TXV and Space Level screening available
- Replaces: IRF150 Types

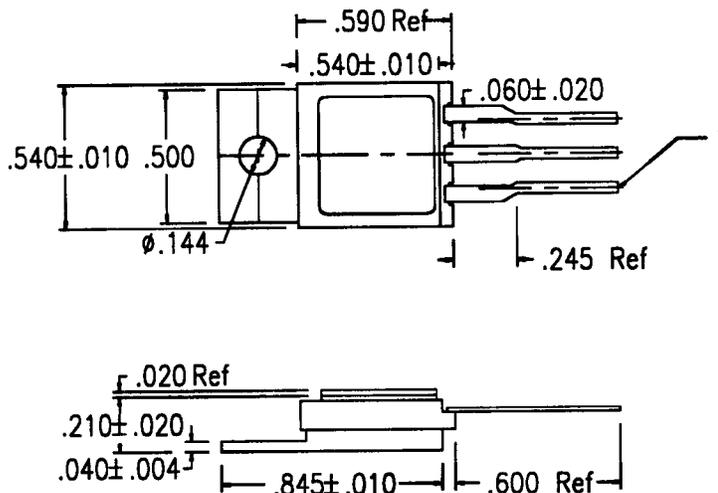
**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DS</sub>	100	Volts
Gate to Source Voltage	V <sub>GS</sub>	± 20	Volts
Continuous Drain Current	I <sub>D</sub>	40	Amps
Operating and Storage Temperature	Top & Tstg	-65 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.0	°C/W
Total Device Dissipation @ TC=25°C Derate 1 W/°C above 25°C	P <sub>D</sub>	125	Watts

**PACKAGE OUTLINE: CERAMIC TO-254**

**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 #: F00069 A	MED
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**SFF150C**

PRELIMINARY

**SSDI****SOLID STATE DEVICES, INC**14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25 °C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250μA)		BVDSS	100	---	---	V
Drain to Source on State Resistance (VGS=10 V, ID=25A)		RDS(on)	---	---	0.040	Ω
On State Drain Current (VDS > ID(on) X RDS(on) Max, VGS=10 V)		ID(on)	---	---	---	A
Gate Threshold Voltage (VDS=4.5V, ID=1mA)		VGS(th)	2	---	4	V
Forward Transconductance (VDS ≥ 15 V, IDS= 60% rated ID)		gfs	10	25	---	S(τ)
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V, TA=25°C) (VDS=max rated voltage, VGS=0 V, TA=100°C)		IDSS	---	---	200 1	μA mA
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 Volts 80% rated VDS rated ID	Qg Qgs Qgd	---	100 75 30	120 100 50	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=25 V ID=12.5 A RG= 50Ω	td(on) tr td(off) tf	---	17 80 40 20	50 300 150 100	nsec
Diode Forward Voltage (IS= rated ID, VGS=0 V, T <sub>J</sub> =25°C)		VSD	---	1	2	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25°C IF=rated ID di/dt=100 A/ sec	trr QRR	---	120 0.3	250 ---	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	Ciss Coss Crss	---	3000 750 150	5000 2500 1000	pF

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